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# THE PHYSICAL AND FINANCIAL STATUS OF THE ERIE CANAL

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## HEARING

BEFORE THE  
COMMITTEE ON WATER RESOURCES  
OF THE  
COMMITTEE ON  
ENVIRONMENT AND PUBLIC WORKS  
UNITED STATES SENATE

NINETY-FIFTH CONGRESS

SECOND SESSION

AUGUST 17, 1978

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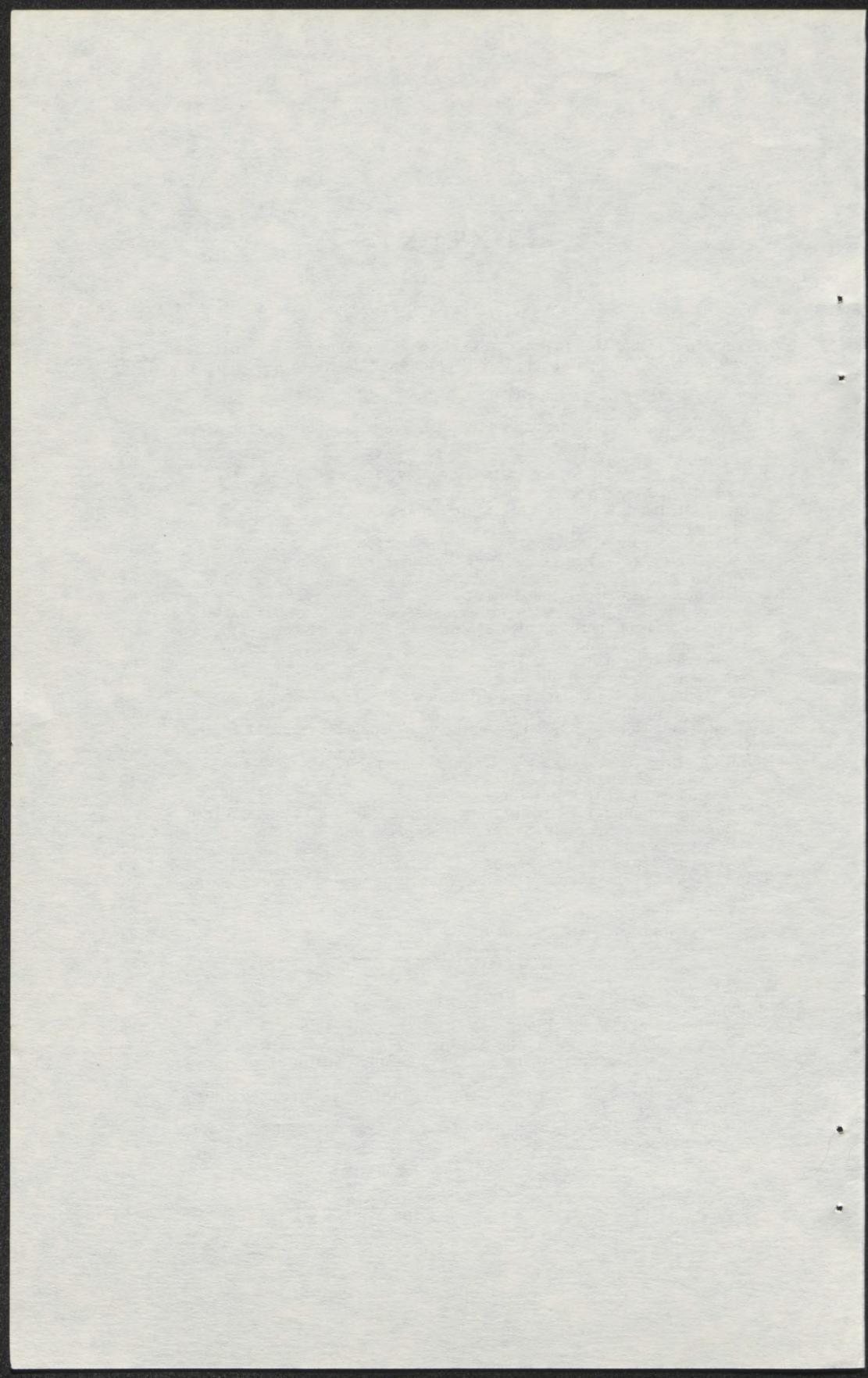
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# THE PHYSICAL AND FINANCIAL STATUS OF THE ERIE CANAL

THURSDAY, AUGUST 17, 1978

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
SUBCOMMITTEE ON WATER RESOURCES,  
*Washington, D.C.*

The subcommittee met at 11:16 a.m., pursuant to call, in room 4200, Dirksen Senate Office Building, Hon. Daniel Patrick Moynihan presiding.

Present: Senator Moynihan.

## OPENING STATEMENT OF HON. DANIEL PATRICK MOYNIHAN, U.S. SENATOR FROM THE STATE OF NEW YORK

Senator MOYNIHAN. May I say good morning to our guests, and first ask their indulgence for what was a much longer session of the full committee than we had expected. You have been very reasonable about it all.

I think it is perhaps symbolic and useful to note the symbolism of the fact that consideration of the Erie Canal waits until everything else gets done here in the Nation's Capital. You have seen what we are doing with Union Station and the rail traffic, transit, and airlines enterprises, and you will see that the subject of those hearings contrasts with the subject of this one. That, of course, is the inland waterway through the Appalachian Gap via the Erie Canal.

If I am not mistaken, it was President Jefferson who had to deal with this subject. He turned down the State of New York on a Federal share of canal construction costs. We resume where Madison left off.

May I first say that this subcommittee is chaired by Senator Mike Gravel of Alaska, who was very courteous and asked that we go ahead and hold this hearing even though he can't be here. He has a statement which he would like put in the record. I would like that to be done.

I also have statements from Congressman Novak, Congressman LaFalce, Congressman Stratton, and Congressman Kemp, and I would like them to be included in the record.

[The statements referred to follow:]

(1)

STATEMENT OF SENATOR MIKE GRAVEL  
CHAIRMAN, SUBCOMMITTEE ON WATER RESOURCES  
HEARINGS ON THE PHYSICAL AND FINANCIAL CONDITION  
OF THE ERIE CANAL

AUGUST 17, 1978

This morning the Subcommittee on Water Resources is conducting hearings to consider the physical and financial condition of the Erie Canal and other components forming the New York State Barge Canal System.

Construction of the Erie Canal was a major feat which played a considerable role in the opening of the American West. For a hundred years and more it was an important segment of our transportation system. This is no longer the case. Its condition precludes the use of modern shipping equipment.

This hearing today will provide us with current information on this canal system and its present and future role in a modern navigation network. We will attempt to ascertain the need for, and advisability of, Federal assistance in the modernization, operation and maintenance of the canal.

I look forward to working with Senators Moynihan and Javits on this important issue.

STATEMENT OF REP. HENRY J. NOWAK  
before the  
Water Resources Subcommittee  
Senate Environment and Public Works Committee  
August 17, 1978

Mr. Chairman, and members of the Subcommittee, I appreciate very much having the opportunity to contribute testimony to your hearing on the "Physical and Financial Status of the Erie Canal" and I want to commend Senator Moynihan for setting up this forum to lay valuable groundwork for appropriate legislative action.

The New York waterway system - the old Erie Canal - has enjoyed an important role in our nation's historical and commercial development. It opened up development not only of the Port of Buffalo, but fostered development of ports throughout the Great Lakes system.

It became so successful after it began operating in 1825 that it eventually served as the prototype for a frenzy of canal-building around the country. Even though the waterways modeled on the New York system were built with federal support, not a single dollar of federal money went into the original construction, major reconstruction or maintenance and improvement of the barge canal until after 1930.

The Corps of Engineers is currently involved with a series of studies--one initiated by the Senate in 1973 and another by the House in 1977--to identify possible improvements to the waterway system. In the interests of comprehensive and coordinated planning and efficient government investment, we proposed to consolidate the substantive aspects of the two studies under one

Nowak Statement-2

authority and one appropriation. That consolidation has been accomplished and funding for the fiscal year beginning October 1 has been recommended by Congress at \$200,000.

I am hopeful that this higher level of funding--requested in hearings on the Corps' budget this year--will enable the Corps to accelerate the tempo of the study and proceed in a timely, energetic manner to complete this important work expeditiously. Study results are crucial to determining the feasibility of an expanded use of the canal and the extent of federal interest in the transportation system.

And there should be a strong federal interest in seeing that the barge canal remains in operation. The canal is truly interstate; estimates I have received show nearly one-half of the system's tonnage last year originating or destined for states other than New York.

Through the next decades, the canal has the potential for providing an important link between the abundant resources of low-sulfur coal in the western states and the energy-dependent consumer states of the northeast, using the Port of Buffalo as the transshipment point. The canal could play an important role in such a system, if it is given the support that other waterway systems throughout the country receive.

The New York canal is the only improved commercial waterway in the nation whose operating, maintenance and rehabilitation costs are not paid with federal tax dollars.

Nowak Statement-3

I will not argue that the cost of operating the New York waterway should be borne by the federal government simply because the costs of construction and reconstruction were paid by residents of New York; but I will join with my fellow New Yorkers in asserting that we can no longer afford the luxury of maintaining water resources independent of federal assistance, while paying taxes for the construction and operation of waterway systems throughout the rest of the country.

Mr. Chairman, I am confident of your interest and concern for the canal and I pledge to work closely with you and my other New York colleagues to develop a strong and convincing record to support appropriate action by the federal and state governments.

STATEMENT BY THE HONORABLE JOHN J. LaFALCE  
MEMBER OF CONGRESS  
36th DISTRICT OF NEW YORK

AUGUST 17, 1978

BEFORE THE ENVIRONMENT AND PUBLIC WORKS COMMITTEE  
UNITED STATES SENATE

Mr. Chairman, I welcome the opportunity to appear before you today and testify on the question of the physical and financial status and future of the Erie Canal. My Congressional District includes some sixty miles of the Canal's length, from its western terminus in Tonawanda to the Village of Brockport in Monroe County, so it is a question of special interest and concern to me, as it has been for some time.

Governor DeWitt Clinton and the other leaders of New York State took an enormous risk early in the 19th Century when they developed the Erie Canal and created what became the primary route between the East Coast and the then unsettled industrial midwest. Many of the place names in my District derive their names from their location along the canal -- Lockport, Brockport, Gasport and Middleport fit this definition.

But times have changed considerably since Clinton's day. At that time the federal government was not in the business of building and maintaining canals and inland waterway systems. Now, however, almost every canal and inland waterway in the nation was built by and is maintained by the federal government. New York is the only state which built and maintains an inland waterway system as extensive as the Barge Canal.

I think it is entirely proper to ask whether there ought to be a greater federal involvement in maintenance and modernization of New York's network of canals. The Barge Canal is, in almost every sense of the word, part of a national system of inland waterways including the Great Lakes, the Mississippi River and its tributaries, and hundreds of other channels. Shippers do not ask who owns canals or maintains them; shipments from Duluth or Chicago heading for

New York City use the Barge Canal not because of who built it or keeps it open but because it constitutes a link in a transportation system. What shippers do worry about, however, is whether or not a given link in the transportation system they choose to use is properly maintained and whether it can accommodate modern shipping techniques.

It is in this regard that I worry about New York's canals, for the state is finding it increasingly difficult to keep the Barge Canal system up to modern standards. Physical wear and tear is setting in at some points along the canal, making it a less reliable part of the overall system. And the State's financial resources may not be sufficient, by themselves, to prevent further deterioration despite the best of intentions.

I think that a joint study by the state and federal governments should be undertaken to ascertain the options and to recommend further action on this issue. I would emphasize, however, that many different parties and government agencies have to be involved, in a fully coordinated fashion, for this approach to succeed. There have been a vast number of studies on this issue or closely related issues in the past, but none have had the kind of coordination which is necessary to result in a definitive recommendation and an agreed upon plan of action.

I hope, Mr. Chairman, that today's hearings will help bring about a consensus on what needs to be done and how that action ought to be carried out.

STATEMENT OF REP. JACK KEMP OF NEW YORK BEFORE  
THE SENATE HEARINGS ON THE ERIE BARGE CANAL  
OF NEW YORK STATE, THURSDAY, AUGUST 17, 1978

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Mr. Chairman, the House and Senate Conferees on the Public Works Appropriations bill, H.R. 12928, have just reported out a recommendation to the Congress that the Lake Erie to Eastern Seaboard Study (otherwise known as the All American Transportation System Study) be funded in the amount of \$200,000 for FY 1979. This is the first commitment by the Federal government to a comprehensive study of the possibilities of rehabilitating and rejuvenating the Erie Barge Canal that runs through New York State, and that was the catalyst for the economic development of the Empire State during the formation of a fledgling United States.

At this time I would like to commend the efforts of my colleagues from Western New York for their fine work in helping to obtain the funding for this study; and I would especially like to commend Mr. Nowak for the excellent work has done in the Public Works Committee on behalf of Western New York and the Niagara Frontier.

The purpose of this newly-funded study is to examine the possibilities available to us in developing a comprehensive,

multi-modal transportation system from Lake Erie to the Eastern Seaboard. The City of Buffalo is especially interested in this proposal because of its efforts to obtain a Port of Buffalo transshipment center for western low sulphur coal. Coal

is already being transported 1700 miles from Decker, Montana to Superior, Wisconsin, by 110 car unit trains and then from Superior to St. Clair, Michigan by specially designed super colliers. The entire movement from Montana to Michigan takes only a little over four days. It is a highly automated and sophisticated system that has effectively demonstrated that the delivered price of Western coal in terms of BTUs can be very competitive to Eastern coal in addition to its environmental advantages. Several private companies have expressed their interest to me in developing just such a coal transshipment center at Buffalo, the easternmost point of Lake Erie, and it is most important that an efficient method of transporting the large quantities of bulk commodities this center would necessitate is available from Buffalo to the Eastern Seaboard.

There are a number of questions that these hearings must address, and there are no easy answers to many of them. The most pressing of these is the economics involved in expanding and improving the New York State Barge Canal System. The ideal solution to the financial problems posed in modernizing the Barge Canal System would be to seek private investment capital

to invest in the expansion of the canal system as an inexpensive method of transporting goods across New York State. Realistically, however, New York State's tax laws are so discouraging to this kind of entrepreneurial activity that it will be extremely difficult to raise sufficient funds from the private sector to meet the budgetary demands envisioned here.

The alternative to private funding is, of course, government funding. We must be careful here to weigh all the consequences of inviting federal funds into our barge canal system, especially if such funds are contingent on a degree of Federal takeover of the barge system. Such a transference would necessarily entail a loss of control over the operation of the canal system by state and local governments, as well as citizen groups and private interests.

Other vital questions which must be answered in the coming months include:

\*How much of the barge canal must be rebuilt, versus how much of New York's projected needs can be met by other methods of transportation such as rail and truck transport.

\*How deep a draft an enlarged barge canal should reach -- this is in large part dependent upon whether the New York City ICONN project for an LNG island built out of the dredge

materials from a 27 foot barge canal is approved.

\*What would be the consequences of not rehabilitating the canal system at all, with specific reference to the economic consequences for those towns that border the canal and have lost significant numbers of jobs in recent years.

\*What will be the environmental, social, and recreational ramifications of either expanding or not expanding the usage of the barge canal system.

\*What are the possible identifiable markets that an expanded canal system could generate for New York State.

There is no question in my mind that the fullest possible expansion of the barge canal system is needed to provide a much needed shot in the arm for the City of Buffalo, and for the many towns that line the present barge canal system, whose economic lifelines have been endangered by a massive exodus of businesses that no longer have any incentive to remain in a state with a declining economic base. The restoration of a booming transportation system along the Erie Canal will provide new revenues to the entire state of New York as it adds a new dimension to commercial navigation.

I am very glad that the Congress has seen fit to fund the study for the All American Transportation System so that the answers to these questions can be pursued. Until this

study is completed, I think it would be premature to endorse any form of Federal control over our unique barge canal system. I support every effort to obtain adequate funding for the completion of expansion when the Corps' study is completed, however, and I believe we should move ahead rapidly on that front to ensure the swiftest possible implementation of the Corps' final recommendations.

The New York State Barge Canal System is a unique transportation system which has limitless possibilities to link the Great Lakes with the Atlantic Seaboard cheaply, swiftly, and efficiently to the enormous benefit of the citizenry of New York State. The possibilities of developing this system to its fullest potential are exciting ones, and I am confident that the Members of the New York delegation here in the Congress will all work together to lend their full support to the rehabilitation of the Erie Canal.

Senator MOYNIHAN. It is a pleasure to see that my distinguished colleague, Senator Javits, is here. We welcome you to this committee.

**STATEMENT OF HON. JACOB K. JAVITS, U.S. SENATOR FROM THE STATE OF NEW YORK**

Senator JAVITS. Mr. Chairman, I just came in to support the efforts of my colleague, the acting chairman holding this hearing.

In respect to the New York State Barge Canal, it has a very long and very illustrious history. And it has been a tremendous gratification to me, Senator Moynihan, how you have fitted into the details of your own responsibilities as a legislator and have felt with great sensitivity the basic issues of our State in their historic development and the economic and social importance to our people. It was very gratifying, and part of what looks to me like a very creative partnership between us.

So, I am here simply to hold up your arms, as the Old Testament says, in what has been a very long and rather frustrating struggle respecting this historic ditch, as it was called in its day.

Five years ago, I offered a resolution asking the Corps of Engineers to review the existing reports on the Great Lakes, the Hudson River waterway, with a view to modernizing and rehabilitating the barge canal.

That study has been ongoing. It is now promised for 1983. Our colleagues in the House, Congressmen Nowak and Kemp, have come along with an added request for study. The 1979 appropriations now contain \$200,000 for the combined work on my resolution and the Kemp-Nowak resolution.

We know what the struggle is very well, Mr. Chairman. The struggle is between State control, or shared State and Federal control, or exclusive Federal control.

I would like to call to the attention of the Chair as part of this record that when I came to the Senate in 1957, we had a similar ongoing struggle. It was a struggle over power from Niagara.

And our very distinguished, revered—Senator Moynihan often speaks of me in that way, which is unjustified, but in this case is justified—Herbert Lehman had a tremendous fight, Mr. Chairman, with a Senator here from Oklahoma.

I am trying to think of his name. It is the name of a large oil company.

Senator MOYNIHAN. Senator Robert Kerr?

Senator JAVITS. Bob Kerr, exactly.

The argument was over how much of this power—mind you, they argued for 7 years—would be wheeled for municipal purposes.

Having been a lawyer and knowing you only earned money when you settled the case, I found from time immemorial no municipal use would exceed 25 percent. So, I made a deal with Bob Kerr for 25 percent. And we got the bill and the power, and everything went.

Now there is something here that has to be settled. And, Senator, I would strongly encourage you, and will support you to the full on this committee, to find some pragmatic basis of settlement which can be handled by special statute to settle this question.

This could be a very useful thing for New York. New York is now something of a client State in terms of its economic problems. And I hope very much that you will apply yourself and our colleague from the Corps of Engineers to thinking through some pragmatic way in which a seemingly irreconcilable difference in policy attitude can be simply settled pragmatically.

No precedent, just for this particular 1825 ditch. And let New York get on with other business.

Senator MOYNIHAN. I know you have to be at another committee meeting. But this hearing picks up and continues the work which you began in 1973 with the appropriation for this study. And we are going to hear from General Robinson where we are and precisely where we are going.

I want to thank you for coming, and thank you for starting 5 years ago.

[Senator Javits' prepared statement follows:]

STATEMENT OF HON. JACOB K. JAVITS, U.S. SENATOR FROM THE STATE OF  
NEW YORK

I want to thank my colleague, Senator Moynihan, for inviting me to join him as a guest of the Environment and Public Works Committee. The last time I appeared here was for the very reason that we are here today: the fate of the New York State Barge Canal. In 1973 I authored a resolution which authorized the Corps of Engineers to review the existing report on the Great Lakes to Hudson River Waterway and other reports with a view to modernizing or rehabilitating the Barge Canal. That study is currently underway, and as I understand it, the Corps intends to issue a final report in 1983.

The New York State Barge Canal was a legend in its time. It was financed 100 percent by the people of New York and for the most part continues to be maintained and operated by the State. In fiscal year 1978 less than 1 percent of the Corps \$2.4 billion Operation and Maintenance Budget went to New York. At the same time New York paid about 10 percent of the taxes for the building of dams, canals and improvement to water resources throughout the rest of the country. Although the state bears the financial burden, the canal is actually an interstate canal with 46 percent of the tonnage handled by the system in 1977 originating from or destined to shippers in other states.

Today, New York can no longer afford to maintain the canal without some form of federal assistance. The system is rapidly deteriorating as most of the locks and equipment which were built over 60 years ago are still in operation.

A recent report by the NYS Task Force on Critical Problems entitled "Which Way for Our Waterway?" quotes the Corps as stating that if the deterioration continues at the present pace the canal may have to be closed to commercial use within ten years.

That statement troubles me deeply. The canal was a major commercial waterway responsible for the development of our port cities and I am convinced that with the proper support it has the potential to offer the Northeast an economical and efficient method of transporting bulk products from the Great Lakes, particularly low sulfur coal from the west, and most importantly, offers the very real prospect of revitalizing the ports and creating new jobs.

Some major decision must be made on the future of the New York State Barge Canal and I look forward to discussing the options with you.

Senator MOYNIHAN. We also have the honor to have with us Congressman Donald J. Mitchell, a distinguished colleague from the House side and a person who has been more than active in this field for a long time.

Congressman Mitchell, if you have a statement, you might read it, or put it in the record, as you wish. We welcome you to this committee.

STATEMENT OF HON. DONALD J. MITCHELL, A REPRESENTATIVE  
IN CONGRESS FROM THE STATE OF NEW YORK

Mr. MITCHELL. Mr. Chairman, I appreciate and welcome the opportunity to appear here today for the purpose of endorsing the concept of Federal financing of up to 100 percent of the annual costs of operation, maintenance and rehabilitation of any inland waterway not operated and/or maintained by the U.S. Corps of Engineers.

At the outset, I readily acknowledge that while I have a general interest in our Nation's critical inland waterway system—for reasons which I will enumerate in a moment—I have a particular interest in the New York Barge Canal, both for historical reasons and for its present and potential impact on commerce and our national security.

The New York Barge Canal, which traverses the State through the heart of my congressional district, has, as its antecedent, the original Erie Canal which was started in Rome, N.Y., which is also in my congressional district, on July 4, 1817. That was a significant date in our Nation's history because it was the beginning of the opening of our Western frontier.

Eight years later, on November 26, 1825, the Erie Canal was officially opened to traffic, linking the Great Lakes to the Atlantic. Few chapters in the annals of American history are as exciting and as dramatic in terms of impact on future generations as that of our westward expansion and the role of the Erie Canal. Walter Edmund's novel, "Rome Haul," colorfully and accurately describes life in the early days of the Erie Canal.

Some people maintain the heyday of the Erie and later the Barge Canal has long since passed. While I concede we have a hard act to follow, I remain convinced the canal's future could well rival its past in terms of significance to the Nation if we respond in a manner that demonstrates our determination to take maximum advantage of this outstanding national resource.

For this reason, I am enthusiastic and strong in my endorsement of the amendment being advanced by my distinguished colleagues, Senators Javits and Moynihan. It is my understanding they seek a \$15 million authorization to do the job we agree needs to be done—provide Federal financing for operation, maintenance and rehabilitation costs of our barge canal system. I am told by our Commissioner of the New York State Department of Transportation that this amount is adequate.

There is no more cost and energy efficient mode of transportation for so many of our goods than our inland waterways. Testimony provided the subcommittee documents this.

For these reasons alone, as we sit here today in the midst of a continuing energy crisis during a period of excessive inflation, we should be proceeding with dispatch to honor the request embraced in the Javits-Moynihan proposal. It is in the interest of the people, not just New Yorkers, but the people of our Nation, from one coast to the other.

Also there is no doubt our national security interests are involved. We cannot—certainly we should not—be exclusively dependent upon the St. Lawrence Seaway as a sole source of east-west waterway transport.

In view of the fine relationship we enjoy with our Canadian neighbors to the north—our partners in the St. Lawrence Seaway—the odds are heavily in favor of a continued cooperative and coordinated working relationship that serves our mutual interests. But there are no guarantees. We must be on the alert constantly for alternatives.

On the surface, it would appear that any Federal assistance approved for the barge canal system would represent what might be referred to as “special interest legislation,” since New York would come out the major beneficiary to the extent of the dollars which would flow from Washington to the New York State Capital in Albany.

But those who probe a little deeper will quickly discover New York and New Yorkers would be sharing the benefits with sister States and their residents. Look at the numbers.

The barge canal’s impact is felt far beyond our borders. This is not a one-State or even a regional issue. Last year, 1977, nearly 48 percent—almost half—of the tonnage handled by the system originated from or was destined to shippers in States other than New York. Almost 10 percent of the 1.8 million tons of goods flowing on the system had both shipper and receiver located in other States.

The overall tributary area placing a demand for waterborne commerce on the barge canal system embraces all of the States bordering on the Great Lakes and the Hudson River.

This area represents about 40 percent of the population of the United States. The New England States on the East and the Dakotas, Nebraska, Iowa, Kansas, and Missouri in the West are sufficiently close by rail or truck to be benefited by the canal.

Since there are no tolls charged, New York State’s taxpayers were in effect subsidizing benefits derived by businesses and people in other States. Over the past decades, New Yorkers have always paid far more into the U.S. Treasury than they have received in return.

In the past, when our claim to truly being the Empire State was unchallenged, this basic fact posed no real problem. We were richly endowed and seldom gave a second thought to the ultimate destination of our tax dollars, providing, of course, that the overall programs they supported were deserving.

As a result, other sections of the country, less fortunate than ours who were faced with serious problems and lacked the financial resources to adequately address and solve them, were assisted greatly by New York tax dollars earmarked for Washington and redirected elsewhere.

That is all part of history, but it is fair to claim that when others needed help, we gave it generously and as a result the South and West prospered. Their rapid rise up the ladder of success in terms of economic development and enhancement occurred virtually simultaneously with the economic decline of New York and the Northeast.

There is an abundance of evidence to document the contention that these other areas of the country are now in better shape than we are in terms of the strength and stability of local economies. Now we are the ones who can make a good case for being termed “disadvantaged” and in need of special attention from Washington.

In this instance, the special attention we seek is for a common good which, as I said earlier, extends far beyond our borders.

The commercial and recreational potential of the New York Barge Canal has never been fully realized. In large measure, this is due to the limitation of our resources.

With the exception of a limited amount of money provided by the Federal Government for capital improvements under the provisions of the Rivers and Harbors Act of 1935, New York has continued to pay for the operation and maintenance of one of the State's and Nation's finest resources.

This is a unique situation. There is none other like it in the United States. In every other case involving our inland waterway network, so important to us, the Federal Government is paying its way. We are the exception and now is the time to eliminate that exception. The future of the canal is at stake. Our Nation cannot afford to lose this national resource.

Thank you.

Senator MOYNIHAN. We thank you, sir.

I wonder if I can engage you in a bit of semantic conspiracy here. Somewhere in our past there was a bureaucrat, who, as my grandfather might say, had the soul of a butler, who changed the name of the Erie Canal to the New York State Barge Canal. That name has become our enemy now.

Where in the devil did the word "Barge Canal" come from?

Mr. MITCHELL. I suppose from the boats on Long Island.

Senator MOYNIHAN. That man did indeed have the soul of a butler. The canal, at the very least, is the Erie Canal. You may remember those wonderful stories of Samuel Hopkins Adams, the *Grandfather Stories*—his grandfather actually worked on the canal. It was known in the early days as the Great Western Canal.

I assume the name Champlain carries that tradition. Lake Champlain, later part of the Finger Lakes, is just south of the canal.

The important fact that you bring out so clearly is that this is a unique situation. It is the only inland waterway in the country that is not, in fact maintained by the Federal Government. It is singular. It has a long history.

Efforts were originally made to engage the Federal Government in canal construction. Jefferson was sure the canal would be a disaster, but he lived to be on hand for its opening. He was President when first approached, and didn't die until 1826, 1 year after the opening of the canal.

The canal first came into national prominence for its role in transporting supplies during the War of 1812. The point is, however, that New York has this facility and that we can't now maintain it, and that the Federal Government is not now maintaining it. We need continued Federal assistance, and in 1959, we amended the State constitution to make possible the kind of measure we are talking about here.

Is it your view that the canal should be transferred as a property to the Federal Government?

Mr. MITCHELL. No, Senator, I don't hold that view. I would like it to be controlled by New York State.

When I was in the State legislature, I think on two separate occasions that issue was brought up. And I dimly recall there may have been a referendum and the people voted down a transfer to the Federal Government.

Senator MOYNIHAN. In 1959, we adopted an amendment to our constitution that makes it possible to transfer the canal to the Federal Government.

Mr. MITCHELL. I was thinking of my district, and they voted it down.

I liked your commentary on the individual who named the canal the Barge Canal. I think if he were naming the Thomas E. Dewey New York State Thruway at the time, he would have called it the "car road."

It points up one more example of the largesse of New York State, the fact that we have been willing to share our resources with the Nation through the years. But with the major city and financial general difficulty, and billion and billions of tax dollars flowing south and west through the years, we can no longer afford to shoulder this burden alone.

And the point I would like to leave with you, Senator, is that this is a national resource. I was talking with State Senator Farley this morning—and he is going to testify later—who informed me that it needs great capital improvement and the canal is in jeopardy. And it would be a shame to lose it for want of less money than the cost of repairing one of the buildings mentioned earlier in the previous hearing.

Senator MOYNIHAN. Improvement of the canal costs less money than it costs to fix the roof of Union Station. You are quite right.

Sir, you have been generous to wait and come here. Your testimony makes it possible that we will do something. In your congressional career I know you have been steadfast in this matter, and we want to thank you.

Mr. MITCHELL. Thank you. Good luck with your important work.

Senator MOYNIHAN. Before going further, I would like to state that we have two marvelous essays on this subject written by Jocelyn Samuels, an associate of mine, on the social and political history of the Erie Canal.

These are very elegantly, concisely stated summaries, which I would like to have included in the record. (See p. 107.)

We have with us Brigadier General Robinson, Deputy Director of Civil Works of the Corps of Engineers. You, sir, are a familiar figure in this committee room, and we welcome you and look forward to your testimony.

#### **STATEMENT OF BRIG. GEN. HUGH G. ROBINSON, DEPUTY DIRECTOR OF CIVIL WORKS, U.S. ARMY CORPS OF ENGINEERS**

General ROBINSON. Mr. Chairman and members of the committee, I am Brig. Gen. Hugh G. Robinson, Deputy Director of Civil Works, U.S. Army Corps of Engineers. It is a pleasure for me to appear today to discuss the "Physical and Financial Status of the Erie Canal."

The New York State Barge Canal System is owned and operated by the State of New York and consists of four interconnected canals—The Champlain Canal, the Erie Canal, the Oswego Canal, and the Cayuga-Seneca Canal. The system totals 512 miles in length. Navigation depth is 12 feet and minimum widths are 75 feet in earth, 94 feet in rock, and from 100 to 200 feet in river and lake sections.

As a long-term trend, commercial traffic has been declining in the system and use of the waterway by recreational craft has also been decreasing. Recreational craft lock passages decreased from 116,000 in 1968 to 91,000 in 1970. Commercial traffic through the Federal lock at Troy, N.Y., has also decreased from 6,867 trips in 1968 to 3,250 trips in 1976.

The severe impact of the continuing escalation of crude oil prices on the economy of New York State has created interest in western low-sulfur coal. Much of the energy imported to New York is in the form of oil products derived from OPEC crude oil. Crude oil prices quintupled by OPEC in 1973. OPEC increases are expected to equal world inflation through 1982 and to increase at rates above inflation after 1985.

Access to western coal would reduce New York's dependence on OPEC crude oil and is possible since about 85 percent of the 2,200-mile distance between New York and the coal reserves of the Northern Great Plains is already developed.

Senator MOYNIHAN. Could I ask you, sir, by "developed," you mean rail or water?

General ROBINSON. Yes.

The 750 to 800 miles of railroad system from the Powder River Basin in Wyoming and Montana to Duluth in Minnesota, is undergoing expansion.

Approximately 900 miles on the Great Lakes between Duluth and Buffalo, N.Y., is already open to 27-foot-draft traffic for an average of about 9 months of the year.

Approximately 160 miles on the Hudson River is capable of handling ships up to 32 feet draft. Only about 350 miles of the Erie Canal need modernization in the form of deepening, widening, and bridge relocations to complete the coal transportation system.

In addition, improvements would be necessary on the Niagara River between Lake Erie and the point where the Erie Canal enters the Niagara River. This would include improvements to the Black Rock channel and lock to three bridges spanning the river.

Numerous prior reports and studies on the canal, dating from 1964, have been issued. The most recent completed study dates from 1973 when the Secretary of the Army transmitted our navigation report on the Great Lakes to Hudson River Waterway to the Congress.

We found during that study that the State of New York did not desire major modification of the New York State Barge Canal System at that time and transfer of ownership of any portion of the New York State Barge Canal System to the Federal Government also was not desired.

Senator MOYNIHAN. Could I interrupt you? You are used to being interrupted in this committee.

You say that the State of New York did not desire major modification. What does that mean? Did the department of transportation say to you, "We don't want you to do anything"?

General ROBINSON. I don't know exactly what form that took, Senator. But essentially, we did check the State agencies and determined the necessity for expansion and the desire for expansion. And at the time, at least, the answer was to leave it out.

Senator MOYNIHAN. I see. It was considered by the State legislature in 1968.

We will ask Commissioner Hennessy of our department of transportation when he testifies later in this hearing.

But it has been a State problem. I think the Federal Government is scarcely to be blamed for the collapse of the system. We have a State department of transportation that wants to make sure that the parallel to the canal is a great interstate highway system which has

tolls on it. The department of transportation would be appalled if anybody took those tolls off the highway system.

The department of transportation insists that the canal has disappeared. We have a real conspiracy to return upstate New York to the condition in which Fenimore Cooper found it. The effort is going well, I must say.

But go ahead, sir.

General ROBINSON. I am sure, too, Senator, conditions have changed considerably since then.

Senator MOYNIHAN. Bankruptcy tends to indicate the prospect of it.

General ROBINSON. Further, with respect to possible Federal participation in rehabilitation of the waterway, the value of the estimated commercial transportation and recreational boating benefits appeared to be below the level that is required to justify implementation of the improvements and maintenance and operation of the waterway.

Therefore, the Chief of Engineers' report recommended that no action be taken toward making waterway modification improvements to the New York State Barge Canal System, and toward transfer of any portion of the waterway at that time. The Chief noted, however, that there are many intangible benefits which derive from continuing State operation of the canal.

At the present time, two studies are authorized, the Great Lakes to Hudson River Waterway study, now underway, and the Lake Erie to Eastern seaboard study, which we proposed to initiate with funds contained in the fiscal year 1979 budget.

Senator MOYNIHAN. What was that?

General ROBINSON. \$200,000.

The Great Lakes-Hudson River Waterway study was authorized by Senate Public Works Committee resolution adopted 8 August 1973. The purpose of the study is to determine the feasibility of modernizing or rehabilitating the New York State Barge Canal System.

The Lake Erie to Eastern Seaboard study was authorized by House Public Works and Transportation Committee resolution adopted 10 May 1977. The purpose of the study is to determine the feasibility of constructing a deep draft all-American transportation system connecting Lake Erie to the Eastern seaboard with emphasis on development of waterborne commerce and Great Lakes ports.

The two studies have been combined for accomplishment by our North Atlantic Division Office. The combined study is estimated to cost \$15.7 million and requires 7 to 8 years to complete.

The position of the corps is that no basis exists for making a determination regarding Federal aid for the operation and maintenance of the system in the absence of appropriate studies to determine the Federal interest in the system, the need for modernization, the environmental effects related to increased traffic, and the economic justification for such an investment. Legislation would be necessary to provide such aid should it be determined as being in the Federal interest.

Mr. Chairman, this concludes my statement. I will be pleased to respond to any questions that you or other members of the committee may have.

Senator MOYNIHAN. Thank you, General.

It is going to take \$15 million and some 7 or 8 years to complete this study. It will take 7 or 8 years to complete this combined study. Isn't that a very long time?

General ROBINSON. Mr. Chirman, that is quite a long time but it is quite a comprehensive study that we are talking about.

The deep draft use of the Erie Canal is certainly not the time frame we would require to determine the Federal interest, if there was a request to do so. We would certainly determine the Federal interest on a much shorter time frame than that.

Senator MOYNIHAN. I certainly am going to request that you do so.

There are two questions. One is the sort of Federal interest in maintenance and modernization of existing systems that we can expect. The second is a question of really cutting yourself a deep draft system.

Couldn't you do the first one first?

General ROBINSON. Yes, sir, Mr. Chairman. And we would anticipate in a study of this length we would divide it into parts.

Senator MOYNIHAN. Could you in your study get on that first subject first so we would have an interim report on that?

[General Robinson nodding.]

Senator MOYNIHAN. Can't you go forward and deal with that aspect of the question in a fairly direct way?

General ROBINSON. Mr. Chairman, if you are requesting, we certainly can.

Senator MOYNIHAN. I do request it, if that is agreeable to you.

General ROBINSON. A separate resolution that we do that would be preferable.

Senator MOYNIHAN. I will try to get you a separate resolution.

Would you need a congressional resolution?

General ROBINSON. Committee.

Senator MOYNIHAN. You will have your committee resolution. We have a lot of regard for the corps and will have that resolution for you.

But you have a 1973 study already there on this, I think. This first subject to bring it up to date really must involve changing energy prices and things like that; isn't that the real question?

General ROBINSON. The real question is looking at the current operation and maintenance cost and comparing it to the actual benefits.

Senator MOYNIHAN. To update a 1973 study isn't that complex a matter. The subject of cutting a truly deep draft system is the problem.

General ROBINSON. That is the problem.

Senator MOYNIHAN. Does it ever occur to the corps that you ought to really pay attention to the canal? No one would have paid any attention to it if they had had a study of it beforehand.

It was only because the canal builders ran the damned thing all the way over from Syracuse; it was going on fine and they couldn't stop. That is the reason why they got to the Montezuma Swamps; had they studied it before, they would never have gotten through. It was from the digging of the canal that the observation was first made that it wasn't until the wheelbarrow was invented that the Irish learned to walk on their hind legs.

As you know, there are some rather elegant gambles here of a kind that are certainly not as large a proposition as the canal itself. Two of them concern taking the spill from the deep draft canal and building offshore islands. What do you think of this?

General ROBINSON. As an engineer, it is an attractive prospect. I don't know if that is exactly feasible. It is an interesting prospect.

And, of course, it has other benefits besides just providing the harbor space. It takes the energy offshore.

Senator MOYNIHAN. That is the point. Does the canal system have plenty of natural water to run a deep draft operation?

General ROBINSON. I don't know that we can make that determination at this time. But I would say yes, as a short answer.

Senator MOYNIHAN. It would surprise you if you couldn't?

General ROBINSON. Yes.

Senator MOYNIHAN. How is western coal getting to market now? Does it go by rail? Where are the markets?

General ROBINSON. I don't know. I understand it is coming in through the Detroit port and traveling by rail for consumption in the various States it would cross.

Senator MOYNIHAN. I suppose the point is that most eastern power facilities have converted to oil anyway. They will later reconvert, an initiative which was part of the President's energy program.

It wouldn't make a lot of sense to have a program and no transportation facilities to make it possible. If we are planning to use coal, then we must get coal to the points where it is needed. Otherwise, we could all move to Wyoming.

All right, sir. The point here is that the corps is engaged, and you will get your resolution. I ask you to do the more direct question as the first part of the study and go to the larger question later.

Can you really build a barge canal that would be a big public works project? What would that big affair cost? What are the round numbers that you gentlemen throw around?

General ROBINSON. I don't think we have any handle at all.

Senator MOYNIHAN. I will bet you it wouldn't cost much. There is recreational use.

Let me say, we are interested, in this committee, in this subject.

Is this a serious thing we ought to do? Congressman Mitchell spoke of our relations with Canada, which are the very best, to be sure. But you are a member of the corps, which has always been, and I am sure still is, the brains of the Army.

I think all Americans know that the study you are conducting is a reasonable one. One of the original attractions of the Erie was that it would bring western-born commerce through America and what were then British ports.

But, General, thank you very much. I hope you would take back to your colleagues the thought that we are generally interested in this now, will pursue this, and would like to hear from you how you are doing. We expect this to be a line issue for you and for the corps.

We have the greatest respect for your work. We want to keep abreast of it.

There will be some questions other members of the committee, and particularly Senator Domenici, will submit for the record and you can send us written answers, too.

General ROBINSON. Thank you. Thank you very much.

[Written questions submitted to General Robinson follow:]

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
*Washington, D.C., August 22, 1978.*

Brig. Gen. HUGH ROBINSON,  
*Deputy Director of Civil Works,  
U.S. Army of Corps of Engineers,  
Forrestal Building,  
Washington, D.C.*

DEAR GENERAL ROBINSON: Enclosed are several questions that Senator Pete V. Domenici has asked me to send to you in connection with the Erie Canal hearing conducted last week. Although Senator Domenici was unable to attend the hearing due to a conflict in his schedule, he holds a considerable interest in the issue. Therefore, he has developed some questions on the issues involved and would appreciate your early response in order that your answers might be printed as a part of our hearing record.

Please send your answers to me and I will transmit them to the hearing record.

Sincerely,

HAROLD H. BRAYMAN,  
*Senior Professional Staff.*

Enclosures.

QUESTIONS TO GENERAL ROBINSON

1. What specific cost studies have been made by the Corps on projects for the renovation or expansion of the Erie Canal? What do these studies show?
2. How does the Great Lakes to Hudson River Study authority differ from the Lake Erie to Eastern Seaboard Study? Please provide a history of the various Corps studies and recommendations involving the NYSBC.
3. How much has the Federal government spent to date on capital improvements to the Canal and what specifically have those improvements involved?
4. Please provide an outline of how you intend to fulfill your existing study authorities on NYSBC improvements?
5. What are your department's estimates of costs on various alternatives for modernizing the canal, both on the size of the canal, the location, and the specific improvements?
6. How would you assess the impact of any major improvement to the New York State Barge Canal—and resulting traffic growth—on competing forms of freight transportation?
7. What would be the impact on the historic character of the canal of any upgrading into a major deep-draft waterway? Is there any way to maintain that character?
8. How would you assess the impact of the construction of a deep-draft Erie Canal waterway on the traffic of the St. Lawrence Seaway, taxpayer subsidies needed for the Seaway Corporation, and our relations with Canada?
9. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain.
10. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal?

[Responses to the above questions may be found at p. 136.]

Senator MOYNIHAN. Now we have the pleasure of hearing from the Honorable Stephen Shefler, who is the Deputy Assistant Secretary for Policy and International Affairs at the U.S. Department of Transportation.

I think it is notable that you have come from the international affairs section of your department, one that is very much part of our concerns.

Mr. Secretary, we will welcome you to this hearing.

STATEMENT OF HON. STEPHEN A. SHEFLER, DEPUTY ASSISTANT  
SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS, U.S.  
DEPARTMENT OF TRANSPORTATION

Mr. SHEFLER. Thank you, Senator.

I would like to submit my written statement for the record (see p. 67.) and make a couple of comments.

General Robinson, who preceded me and with whom I have worked closely, stated the administration position on this proposal.

Senator MOYNIHAN. Why don't you restate it so we have heard it from both of you.

Mr. SHEFLER. The positions we commonly share on both the Government operation and maintenance, and separately on the second issue of deepening the canal into a deep draft canal is that we must make a study and look at the intermodal tradeoffs.

From our standpoint, the tradeoffs are of great importance. If you build a deep draft canal and are pouring billions into ConRail and an incredible amount of money into our Federal highway system, we want to know the intermodal impact.

Senator MOYNIHAN. What are you getting for the money you put in ConRail? At least we can give you a canal.

Mr. SHEFLER. Your question is extremely well taken and one we are asking ourselves.

What we need to do is conduct those studies, come up with answers, and then decide how best to invest our Federal dollars. We will provide whatever help the general needs. We are working with the corps in a whole series of ways in improving working relationships on the project.

Senator MOYNIHAN. You do see, I hope, that the State of New York has a pretty low energy level on these things. Our department of transportation has been moribund and our State politics are in much conflict. We have politics that are not without precedent in other States. I think we should let the Federal Government pay the cost. They want the State to expand the use of the canal with no adverse impact on the environment. Good. This is very common in your work. But there is the fact that the State of New York, obviously, does not do much for the State; it is letting its transportation system die. Is it a moribund system at this point?

What did General Robinson tell us? He noted that passages through the Federal lock at Troy, which is more or less the beginning of the system at its eastern end, numbered 3,250 trips in 1976.

Well, that describes a moribund system, doesn't it?

Mr. SHEFLER. It does.

Senator MOYNIHAN. It is just not going to be there. It may be something you don't want to lose.

While we put endless millions into lock and dam 26 and the Tombigbee and this and that, I wonder if we could talk about that a little bit.

Mr. SHEFLER. I hear you. You raised the issue of western coal and how to move it to the market. The DOT Assistant Secretary for Policy and International Affairs heads a task force on coal transportation movement.

In January 1978, we put out a report looking at the movement between 1978 and 1985, and now are looking into the longer term.

One of the things we will need to take a look at there is whether the canal can help this movement. Is this a cheap form of transportation, comparatively, that can help coal?

Senator MOYNIHAN. What is the most waterborne traffic in this country? We have a lot of it. We alswys did.

One of the things that I remember from college history courses is that by the time of the American Civil War the tonnage on inland waterways in the United States was greater than the tonnage of the British merchant fleet.

Mr. SHEFLER. Grain down the Mississippi, and ore to steel mills.

Senator MOYNIHAN. That, of course, includes ore movement in the Great Lakes system.

Mr. SHEFLER. Yes.

Senator MOYNIHAN. Do the barges carry primarily oil and coal?

Mr. SHEFLER. A tremendous amount of grain moves on barges.

Senator MOYNIHAN. Does the barge movement go down to New Orleans?

Mr. SHEFLER. Yes.

Senator MOYNIHAN. What are your feelings about this, Mr. Secretary? Does it interest you, seriously?

Mr. SHEFLER. The Erie Canal, per se?

Senator MOYNIHAN. Yes; tell us. You know, you won't break our hearts.

Mr. SHEFLER. Frankly, as I see all of the things on our agenda, it is not of that great an interest. But given your interest, we will give you a report on it.

Senator MOYNIHAN. It doesn't really interest you?

Mr. SHEFLER. No; it doesn't.

Senator MOYNIHAN. You think there are things more important and more interesting?

Mr. SHEFLER. Yes.

Senator MOYNIHAN. Name one. In terms of development.

Mr. SHEFLER. Of a specific development?

Senator MOYNIHAN. In terms of development of a transportation system. Does the Tombigbee interest you more than the Erie Canal?

Mr. SHEFLER. Yes, I think it has a much larger significance. And Gallipolis and lock and dam 26. Each of them has tremendous repercussions.

Senator MOYNIHAN. State them again. The Tombigee—

Mr. SHEFLER. Lock and dam 26 and Gallipolis.

Senator MOYNIHAN. Where is Gallipolis?

Mr. SHEFLER. I think it is Gallipolis, Ohio. It is near the West Virginia-Ohio border.

Senator MOYNIHAN. Is it up river from West Virginia? Quite a ways up river?

Mr. SHEFLER. I was just told it is 30 miles upstream from Huntington, W. Va.

Senator MOYNIHAN. Does the Erie Canal come fourth? I don't think it comes fourth.

Mr. SHEFLER. I can't say. We will be responsive, and I think that is the most important thing.

Senator MOYNIHAN. Right. You know, I am not asking you to think things you don't think. We have a problem, though. That is, that we have an area of the country that may need your aid, which is an area of the country that may have a claim for it.

I wish you would be interested in those two possibilities. I hope your interest in the Tombigee does not simply reflect the fact that you may have been getting pressure on it. People have said unflattering things about it in the extreme. If this is to be a matter of regional balance, let there be regional balance, New York, too, needs aid.

Does the fact that this is the only inland waterway in the country not operated by the Federal Government interest you?

Mr. SHEFLER. Yes. You raised the issue, though, of the Federal Government financing the authorization and the corps taking over.

Senator MOYNIHAN. The corps does normally take over in every other place. How much does the corps take over? There is property there owned by the State. The corps takes that over.

Mr. SHEFLER. But, in effect, only the physical maintenance.

Senator MOYNIHAN. It doesn't necessarily require transfer of ownership. But the corps does take over and run the project. That is right.

If I were from other parts of the country, I would insist that States have been there for a long time and that therefore Federal Government should accommodate to them. I may yet refer to that position.

Mr. Secretary, thank you very much. Don't forget about us. Just remember, there is a much more important answer to the questions of the Nation than we ourselves have asserted.

Mr. SHEFLER. Thank you, Senator.

Senator MOYNIHAN. Now we have the honor to have Senator Hugh Farley, who distinguishes himself in the New York State Legislature in matter, and Assemblyman Keane.

#### STATEMENT OF HON. HUGH T. FARLEY, NEW YORK STATE SENATE

Mr. FARLEY. Assemblyman Keane was not able to make it.

Senator MOYNIHAN. Well, Senator, you will more than make up for his absence. Assemblyman Keane, of course, is from the western end of the State and you are from more the central part.

You have done an absolutely superb job over recent years in raising these issues, and we welcome you. I see you have a very detailed statement, which you are free to give us exactly or in whatever way you would like.

Mr. FARLEY. Thank you, Senator.

Senator MOYNIHAN. You are welcome.

Mr. FARLEY. I started off with "Good morning," and it is good afternoon, Senator Moynihan.

Senator MOYNIHAN. Good afternoon, yes.

Mr. FARLEY. I am State Senator Hugh T. Farley, chairman of the New York State Senate Subcommittee on Inland Ports and Waterways. One of our assignments is to evaluate our State's policies as they effect the Barge Canal. Inasmuch as your committee is charged with examining the Federal position on this subject, I hope that these hearings will promote close State and Federal cooperation.

I agree with you, Senator Moynihan, that we should return to the canal its original title of "Erie," and I will be referring to it today as the Erie Canal.

Senator MOYNIHAN. Why don't you introduce a bill to that effect? It wouldn't do any harm.

Mr. FARLEY. I have made a note.

The Erie Canal is truly a national resource, and one worth saving. Let me explain.

When the canal was originally constructed in the first quarter of the 19th century, it was part of the fulfillment of a national dream: Inexpensive, efficient transportation to open up the American West. We have to remember that "The West" at that time didn't extend much beyond the Ohio River Valley.

The canal was truly New York's contribution to the Nation of a facility which opened not only our State, but also much land beyond the State, to development.

Once New York had proven that it could be done, many other Americans constructed canals which helped to open even more of our great land to the people. America received two gifts from the people of New York: A canal to open up the Near West, and a technology to bring people and materials wherever a channel could be dug.

So it remains today. The State Department of Transportation has reported that in 1977, one-third of the goods traveling on the canal originated "off-canal" or, potentially, from other States and countries.

The Champlain section has served as a major distributor of fuel oil to the New England States. In fact, I am told that a marketing study conducted for the State, and soon to be published, will indicate that around 25 percent of the benefits of an aggressive State program to "sell" the canal to prospective users would accrue to other States of the region.

The Erie Canal also shows a great potential to meet future energy and defense needs of the Nation as a whole. The canal forms the backbone of a potential heavy transportation network which would be needed if national energy policy dictated the use of low-sulfur coal from the Midwest—actually, the West—to heat and power New England.

The right-of-way and water resources of the canal also form the logical base for an all-American water transportation route from the Great Lakes in the event that national security interests ever require such a project.

And, finally, I would like to mention the Federal Government's historic interest in water transportation throughout the country. The Erie Canal, is, in fact, the only inland waterway in the United States which is operated and paid for entirely by the people of one State. It has been national policy to treat all other American canals as national resources; we should, then, treat the Erie Canal in the same way.

There is a real and immediate danger that this important national resource may be forever lost to the people of the United States. You have seen the report, and you have the report which was prepared—

Senator MOYNIHAN. May I interrupt to say that I would like to have your report included in the record of this hearing as an appendix. It is a superb piece of work and ought to be one of our basic documents at this point.

Mr. FARLEY. Thank you very much, Senator.

This report, "Which Way for Our Waterways?" the New York State Senate Research Service documents drastic physical deterioration of the canal. Representatives from the Corps of Engineers have testified before our subcommittee that the canal may have to be closed in 10 years if at least patchwork repairs are not made.

Commercial users of the canal have testified to its condition as outmoded and unreliable. Shippers have simply stopped building barges to use on the canal; when the current fleet ages beyond repair, commercial navigation will cease and, with it, the major financial justification for continuing the canal will vanish.

Today, the State of New York spends \$10 million annually to support the canal. Our State also bears the sole burden of capital construction costs. This year, an additional \$11 million was appropriated for capital construction but this is only used to fund some of the larger patch-up projects. Frankly, Senator, I am afraid that New York State will not be able to shoulder all of the costs alone much longer.

For 150 years New York State taxpayers have invested millions of dollars in construction and maintenance of that portion of the national waterways system which passes through our State. We have paid our dues, in the cause of national unity, willingly—but now we need your help.

In addition to the potential values of the canal to our State and Nation in terms of commercial shipping and national defense, the Erie Canal provides a number of noncommercial benefits.

These include flood control, water supply, agricultural irrigation and transportation of farm products and recreation.

The mere existence of the canal as a potential competitor may be the only thing standing between us and the future escalation of the costs of transporting agricultural products in the Northeast.

The Federal Government has always been concerned for the safety of the people from floods, and for the well-being of our Nation's farmers. There is a very real national interest in these commercial uses of the Erie Canal.

Senator Moynihan, touring the Erie Canal is like stepping back into another era. Heroic efforts of our State's employees have combined with the great skill and care of its builders to make the canal a living museum of turn-of-the-century industrial craftsmanship.

Most of the equipment now operating the canal was installed between 1905 and 1918. Brass fittings, remnants of waterwheels, and even a blacksmith's shop make the canal's maintenance operation unique among State government operations. I am told that some of the electric motors which assist the operations of the locks are unique examples of early electric motor design, and some museums are hoping to obtain this equipment should it ever be retired from active service.

Even though we may not, for some reason, be able to justify continuation of the canal as a national commercial resource, we ought to preserve this living industrial museum as a national historical resource.

Senator MOYNIHAN. May I interrupt to say that the General Electric Co. did work on that canal, and also worked on locks in Panama at the same time. It was the first large contract GE did.

Mr. FARLEY. My home is Schenectady, the home of GE.

Senator MOYNIHAN. I know it.

Mr. FARLEY. Senator, there is clear precedent for Federal interest in the Erie Canal. Between 1935 and 1976 the Federal Government spent \$33.9 million of Federal funds to improve the navigation of the canal by raising the bridges along two of its sections. This investment, incidentally, came about as a result of the Rivers and Harbors Act of 1935.

The national government has demonstrated legitimate financial concern by providing assistance for all elements of our great national transportation system. We know that the national government operates and pays for all the rest of America's canals. But, we also have examples of other types of State-Federal cooperation to operate the transportation network which could serve as models for the Erie Canal. In the cases of both the Federal highway system and our national railroad systems, the national government provides construction and maintenance assistance to the States without assuming title to the facilities themselves. Such a program could prove instructive for future State-Federal cooperation in financing the Erie Canal.

Senator, as a representative for the people of New York State, I am asking the Federal Government to help us with the operation and maintenance of our canal. Our first step in seeking assistance should be in using the 1935 Rivers and Harbors Act and the Federal highway and rail assistance programs as models for a program of aid.

Next, we should undertake an immediate joint investigation of the future potential of the Erie Canal, with a goal of determining just what levels of expenditure are necessary to enable the Erie Canal to fulfill its role as a great national commercial, defense and historic resource. A comprehensive study of the entire issue might cost approximately \$2 million.

The Senate Research Report has suggested a model investigation. We cannot afford to wait the 5 to 10 years which the Corps of Engineers says it will take to complete their current studies.

Senator MOYNIHAN. Then, you would agree with the distinction we made with General Robinson, that between the question of operating and maintaining the basic system or creating an altogether new canal?

Mr. FARLEY. I was delighted with the comment you received from the Corps in that area. Because, quite frankly, Senator, there may not be a canal in 10 years.

Senator MOYNIHAN. Right.

Mr. FARLEY. I think it is terribly important that we bear in mind the cost-benefit ratio. This can be misleading. I am afraid we may come up with a low cost-benefit ratio which would discourage the Corps and the Federal Government from aiding us. Because so many of these things are intangibles which, in my judgment, do not fit into the formula and can distort the cost-benefit ratio.

We need to say this is a national resource. It truly is a national resource.

Finally, we should utilize the results of this study to determine an appropriate level of long-range joint State-Federal financial support of both maintenance and construction for the Erie Canal.

Senator, a national resource is fading away before our eyes. The people of one State have valiantly tried to preserve this resource, all alone, for many years, and would gladly continue to do so, if they could.

I look forward to a new era for the Erie Canal, one that is based on cooperation between New York State and the Federal Government. Together we can preserve this great asset for all of the people of the United States.

I would just like to add a couple of other notes. Assemblyman Keane, who is my counterpart in the assembly, and chairman of the Assembly Task Force on Navigable Waterways, joins me and supports this testimony.

I must also notice, as I was looking at the testimony of Assemblyman Keane and Commissioner Hennessy and, of course, yours and Congressman Mitchell, of course, the Irish had a great deal to do with constructing this canal, and let's all hope we can work hard toward saving this canal.

Senator MOYNIHAN. That is a very nice thought. As I say, if it wasn't for the canal we would all be walking on all fours.

What is the state of public opinion in New York, and particularly along the canal on this subject? What do they want us to do in Schenectady, in Rome, and in Utica?

Mr. FARLEY. I am delighted that you asked that question, because I held hearings this past year in Albany, Syracuse, and Buffalo on the canal and the inland ports.

Senator, the interest was overwhelmingly—in several places, you couldn't even get a seat in the hearing room. There was tremendous interest by the press, by the general public. There is a fascination, there is an affection, if you will, and a tremendous interest by the people of the State of New York in this canal and its welfare.

And everywhere we seem to get support for not letting this canal deteriorate and be lost.

Senator MOYNIHAN. You have made a nice point about the Federal highway system. Joint highways belong to the State of New York, and the Federal Government provides maintenance money and construction money. Highways solely in New York State, however, were built by New York State alone.

Mr. FARLEY. I support you in your point.

Senator MOYNIHAN. You know, if we were trying to devise and invent a way to kill the economy of upstate New York, we couldn't do better than the Department of Transportation has done, it seems to me.

The question is, would the State accept the transfer of the canal to the Federal Government?

Mr. FARLEY. That is a difficult question.

Senator MOYNIHAN. What is your judgment?

Mr. FARLEY. Personally, I think rather than to see this canal—we have some terrible financial problems in New York State, as you are well aware of, and you have worked so hard to help us. I would rather see it transferred than lost. There are problems in the city and problems of the highest taxed State.

I am wondering if the canal wouldn't fall through the cracks on priorities. It seems to me the first to be cut and the last to be funded. I was very concerned as chairman of the subcommittee when I looked at the canal and saw the antiquated conditions. The Department of Transportation in New York deserves a medal keeping it operating.

I think rather than lose it, personally, I wouldn't mind turning it over. I think you are going to run into inherent opposition that the people of the State of New York do not want to give up control of their canal. But I don't think that should be an irreversible point. I think we should at least consider we need Federal help here.

Senator MOYNIHAN. The operating costs of the canal run about \$10 million or \$11 million a year?

Mr. FARLEY. Yes.

Senator MOYNIHAN. Would you have an idea of what it would cost to fix up the existing system so that it would be at the peak of performance? What would the capital cost of such repairs be?

Mr. FARLEY. About \$260 million. The Corps of Engineers put the cost at \$130 million back in 1969, and they say the cost has about doubled since then.

Senator MOYNIHAN. We are going to put \$130 million into Union Station, and what we will have is Union Station back.

Senator, we thank you very much. Following your good example, we are going to take this subcommittee and have hearings along the canal in the course of the next year.

The canal traffic west of Rochester is getting to be very low.

Mr. FARLEY. It is not practical commercially.

Senator MOYNIHAN. Every time I cross the canal on a road, I look east and west and I never see a barge. You see traffic up in Syracuse, but not in Rochester anymore.

We have that extraordinary energy efficient system and we are just letting it deteriorate. There are the railroads that are half defunct. The canal is almost totally defunct. We have the toll roads instead.

The canal still works fairly well up to Oswego, doesn't it?

Mr. FARLEY. Yes.

Senator MOYNIHAN. So you could travel from the Great Lakes in that way.

But we have a problem with width and length. The locks just don't fit the size of the barges on the Ohio and St. Lawrence.

Well, we have something without equal in our own country. And to let this disappear just seems to me—as it must to you—madness. To let the canal go, especially in this time of increasing dependency on oil imports, seems shortsighted, to say the least. If it survives, we are going to have to name a lock after Farley, I will tell you that, because you have done a magnificent job.

I want to thank you, Senator, and thank you for your associates who did such a first-rate piece of work here.

Mr. FARLEY. This man is responsible.

Senator MOYNIHAN. What is your name?

Mr. FARLEY. David Whitehead.

Senator MOYNIHAN. Thank you, Senator.

Mr. FARLEY. Thank you, Senator. And I am so pleased with your interest in the Erie Canal, and more power to you.

[Responses to written questions follow:]



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THE SENATE  
STATE OF NEW YORK  
ALBANY 12247

LEGISLATIVE BUILDING  
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September 20, 1978.

Mr. Harold H. Brahman  
Professional Staff Member,  
United States Senate Committee  
on Environment and Public Works  
Washington, D.C. 20510

Dear Mr. Brahman:

I regret that Senator Domenici was unable to attend the Committee's hearing on the Erie Barge Canal, as it was most informative. However, we are appreciative of his interest in this matter which is of considerable importance to New York State.

Let me address the Senator's questions in the order in which they were raised in your letter:

1. The modifications to the Canal that I foresee are not "major" in nature. The aid New York is seeking would be used to repair the existing structures or possibly to replace the locks with new locks, which would be approximately half the size of the locks found on the federal waterway system. We are not requesting funds for a deepdraft canal. The effect a revitalized Canal would have on other sectors of the transportation industry is of concern to me. This is one of the reasons I have requested funds for a comprehensive State-Federal study in which I requested that this question be examined.
2. I would like to reemphasize that I am not proposing a deep draft barge canal as an alternative for the Erie Canal. This possibility has been brought up and is being studied by the U.S. Army Corps of Engineers at the direction of the Senate Committee on Environment and Public Works. I do not know if enough traffic exists to justify another deep draft route from the Great Lakes to the Eastern Seaboard, and I assume the Corps' study will answer this. While I would not want to antagonize our fine neighbors to the North, in view of the Quebec separatist movement, it may be in the best interests of the United States to keep a viable alternative to the St. Lawrence Seaway available, even if it is not fully developed.
3. My statement that barges are an energy-efficient mode of transportation is based on data found on page 1 of a publication put out by the American Waterways Operators in 1973 entitled "Big Load Afloat." I am aware that disagreement exists over which mode is most energy-sufficient. As barges and rails seem to be very close in terms of energy efficiency, the most efficient mode is probably determined by the commodity being hauled and the distance it must

travel. The problem in New York is that without a competitive waterway, our rail rates are extremely high. Farmers in the Northeast pay the highest rail rates in the country to have their crops and farm products transported.

4. Upon review of my testimony, I can find no reference to the cost savings estimates referred to. The New York State Department of Transportation (NYS DOT) is completing a marketing study of the Erie Canal which does include such estimates. I would be happy to send you a copy if you are interested. However, many of the benefits of the Erie Canal are non-commercial, such as recreational boating, fishing, tourism, and water supply factors which are often given little consideration by the Corps of Engineers when calculating the benefits associated with the Erie Canal.

5. It is extremely difficult to answer this question because in all competing modes there is the relative factor of subsidy in their operating costs which I am unable, at this moment, to calculate. I can speak on behalf of the New York State Senate and express an important point that we would not be averse to a user's fee on a revitalized canal. In addition, at a public hearing I held in January, the NYS DOT expressed the same feeling toward user fees on a revitalized canal.

6. The physical deterioration of the Canal is due to the State's lack of funds to maintain the canal system. Because of the age, condition and size of the locks presently, there is insufficient commercial traffic to provide funds for canal repairs, even if a user's fee were imposed.

7. First, let me state that we in New York are not certain that a federal take-over of the Canal is a solution. The NYS DOT maintains the Canal on a cost much lower per mile than the federal system. New York is requesting funds to aid in the revitalization of the Canal, not necessarily federal assumption of all the Canal operation. Regardless of who runs the Canal, if federal funds were provided to modernize the Erie Canal, a user's fee would be reasonable if one is used at other federal waterways. At the Committee hearing, several New York barge operators said they would not be opposed to a user's fee on a commercially viable Erie Canal. A user's fee on the Canal in its present condition would only serve to drive away the remaining commercial users.

Once again, we appreciate the Senator's interest in this project and if he has further questions, I would be more than happy to try to answer them. My best regards.

Cordially,

*Hugh T. Farley*  
Hugh T. Farley  
Senator

HTF:MBK  
Encs.

Senator Farley

Erie Canal Questions

1. How would you assess the impact of any major improvement to the Canal -- and resulting traffic growth -- on competing forms of freight transportation?
2. How would you assess the impact of the construction of a deep-draft Erie Canal waterway on the traffic of the St. Lawrence Seaway, taxpayer subsidies needed for the Seaway Corporation, and our relations with Canada?
3. You have suggested that barges are more energy efficient than railroads. In light of the fact that most unbiased studies show little difference or slightly more efficiency for rail, could you please cite the sources for your statement?
4. You have suggested various cost-saving estimates in transportation resulting from canal improvements. What is the basis of your estimates?
5. Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?
6. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayer's? If you disagree, please explain.
7. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal? If not, please explain why the Erie Canal should be exempted, even though commercial users of other waterways would be paying such a charge or tax?

Senator MOYNIHAN. And now the much abused Hon. William C. Hennessy, the commissioner of the New York State Department of Transportation.

Would the Commissioner come forward? I see we also have with us Mr. Joseph Stellato, who is director of the Waterways Maintenance Division.

Mr. Stellato, we welcome you, sir, as a person whose quality we have already heard, who with string and glue keeps this canal together when all others would let it fall apart.

Commissioner, you have a statement and you do exactly as you wish.

**STATEMENT OF HON. WILLIAM C. HENNESSY, COMMISSIONER, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY JOSEPH STELLATO, DIRECTOR, WATERWAYS MAINTENANCE DIVISION**

Mr. HENNESSY. I would like to submit this statement and go in and out to avoid some of the repetition that has already been given to you this morning.

Senator MOYNIHAN. Without objection. It will be so included. (See p. 84.) And you go ahead.

Mr. HENNESSY. I think you would like to know, a couple of weeks ago we were in Albion, N.Y. on the 150th anniversary celebration of Albion and the barge canal, and it was a glorious day. And there were a hundred boats lined up. And we spent the whole day in the spirit of the canal and in the spirit of friendliness, and it was pure recreation that day. Perhaps not in keeping with the economy, as we like to think that the barge canal traffic does, but it was a glorious day and you would have enjoyed being there.

And these people asked me today to say hello and wished me well in my testimony because they are very interested in what we want to do.

But it is my purpose today, and the one point I want to make, is that we consider what levels of maintenance and what is proper for assistance today of the Federal Government. And, Mr. Chairman, when you broached that subject of Federal support for New York's canal on May 4, you referred to the infinite dreariness of the bureaucratic mind that transferred the New York State Barge Canal system. That was well placed shot.

We really think that we are entitled to it. And the overwhelming competition that the canal has been subjected to without the modernization that it deserves. So in reality, I think that real buck shot that would take aim at many, many people who are involved in that whole program would be appropriate.

Now, insofar as the history of the Federal refusal is concerned, we say that is kind of curious and inconsistent. Because in 1860 when these other States were building their canals, public lands were given to Ohio, Michigan, Indiana, Illinois, and Wisconsin, and \$3 million company stock was purchased.

And in 1868, the State of Minnesota was granted 200,000 acres of Federal land.

This history is only to raise the issue of equity. In those days, we were well able to afford to build the canal. We were probably doing

very well. But we can't continue in that fashion any longer. And there isn't any reason why we should because the precedents are there, as Senator Farley just mentioned.

The \$32 million was appropriated in the Federal funds. We used that money, and you just mentioned a route that could be taken from the Great Lakes. That money was used to achieve a 14-foot canal and 20-foot overhead from the Oswego to the Hudson River. That money was used then and did indeed bring that portion of the Erie Canal to where we still have commercial traffic on it today.

There isn't any reason we can't have that traffic all the way to Buffalo if we have that clearance.

Senator MOYNIHAN. You don't have commercial traffic west. Where does commercial traffic stop?

Mr. HENNESSY. Three Rivers. It goes up to the Great Lakes.

And when I mentioned this investment that the Federal Government has already made in that improvement program that Senator Farley mentioned, over a long period of time, I mentioned that only insofar as capital improvement program is concerned.

But there is still precedent for operation and maintenance funding in this country. And I would like to just mention that.

Senator MOYNIHAN. For instance where?

Mr. HENNESSY. Yes. They are doing it in the Mississippi, Ohio, and the other rivers. And the States own right out to the middle of those rivers.

Senator MOYNIHAN. Right. They draw a line down and one side is Kentucky and the other side is Indiana. There is no middle part that belongs to the Corps of Engineers.

Mr. HENNESSY. That is exactly right. And days when the Federal Government actually agreed to this construction.

And they have locks. The Black Rock lock at Buffalo. And the Hudson River lock at the other end. Two Federal locks that are enjoying the pleasure of the traffic. So there is that precedent of Federal involvement in this whole canal operation.

Senator MOYNIHAN. Would you give us the dates on those agreements and submit the documents, if you can dig them out? When were the Federal locks built?

Mr. HENNESSY. I will have to submit that, Mr. Chairman.

Senator MOYNIHAN. Get that for us. That is part of our case down here.

Mr. HENNESSY. I will do it. And I have asked for the studies you have just completed from your pretty, young associate. I want to read those.

The second point is that there is a third point I am at now, the strong legal interests in the canal. The Federal Government is involved now through the Federal Aviation Regulations. They are involved with the protection of navigable waters and the rivers and parks for improvements.

And I guess I don't have to tell you how many permits and things we have to do every time we want to do a little dredging in the canal. Right now they are telling us to do an environmental impact statement to have a dredging program, and that will cost \$500,000.

Senator MOYNIHAN. Who is doing that? You are protected from physical harm. No harm can come to you.

Mr. HENNESSY. The Corps of Engineers.

Senator MOYNIHAN. And are they giving you the \$500,000?

Mr. HENNESSY. They have the privilege for asking for these environmental statements, and I am not quarreling with them. I could ask for an environmental statement every time I drive to work. But the fact is, we have the PCB's and part of the canal, and problems of finding locations for the spill. It is OK for them to ask what we are going to do for this term, but to go into a whole environmental statement, we could have gone into an environmental assessment.

But the part of it that I am trying to impress you with today is that legal interest is there.

Senator MOYNIHAN. Right. They can tell you not to maintain it, but do they have an environmental impact study on letting this collapse?

Mr. HENNESSY. No.

Senator MOYNIHAN. I am glad you told us that. I am glad to know it.

Mr. HENNESSY. And we are also talking about—there is Federal interest in this thing. And you mentioned that in talking about your Canadian situation. That canal is a very valuable asset in a lot of ways.

And maybe right today, we have only seen the recreation use. But the fact is that it is there for that making. It is there for the taking. Even though it may not be the fourth priority of the general, by golly, if it was used today the way it should be used, if it was rehabilitated over the past years—let me tell you, when the general said this morning we refused to take the major rehabilitation, he didn't tell you they said you have to give the canal to us if you do that.

And Governor Rockefeller said get lost, no way. That could happen back then. It wasn't the fact that we said we didn't want that.

Senator MOYNIHAN. Governor Rockefeller insisted that the canal, that type of canal, stay with the State of New York. Is that Governor Carey's position?

Mr. HENNESSY. I don't think that Governor Carey has taken an adamant position on that one way or another until all of the studies are in and say where we are going.

In my own mind, and those of us who have been in the Department for 30 years and fallen in love with this thing, we know that New Yorkers built this and New Yorkers are buried in the towpath along the canal. And we don't think we ought to have to give it up to obtain the carrot from the Federal Government. We will do everything they want us to do. We have maintained it through generations of our people. We can do it.

But the only thing we ask is for them is just give us a little bit of credit there. And as far as this fourth item is concerned, my paper also makes reference to the fact that there are significant transportation savings here for other States.

Vermont saves \$2.5 million by using the canal.

Senator MOYNIHAN. Two cents a gallon on heating oil. People know that.

I might interject to say for the record and for those of our guests who are unfamiliar with it, that the canal system includes the Champlain Canal that moves into Lake Champlain.

Mr. HENNESSY. Taking the risk of the butler, I will say, when I talk about the canal, I talk about the Erie Canal when I am talking about between Buffalo and Albany.

When I am talking about a program or system, we talk about the barge system. And the butler did that for a purpose.

There is a big group of people. There is the Barge Association that loves it that way. So tread tenderly in that area, if you would.

Senator MOYNIHAN. You have Oswego and Erie and Champlain and a barge system, and we get along fine.

Mr. HENNESSY. Great.

Now, I don't know exactly where I am in this mess right now.

Senator MOYNIHAN. You are making a very strong historical case for the Federal participation in the cost of operating the canal. Your statement says that in fiscal year 1978, \$7.8 billion was distributed to State governments for improvement of 3.8 million miles of highways, none of which are operated by the Federal Government.

Mr. HENNESSY. And \$2 billion of public transportation, which I think is fantastic. We need it. I fight every day for more public transit money. And even airport money.

My goodness, we don't ask local airports to convey to us, nor does the Federal Government. We have grants to airports, to railroads. And the Government is making an investment in private railroads. And God bless them, we need it.

And the precedent is there. And I think it is the corps generally that has opposed this traditionally.

Senator MOYNIHAN. The corps opposes it?

Mr. HENNESSY. In my mind, the corps is reluctant to come to Congress and fight for this. This study that started in 1973, they are funded at \$25,000 a year. There is no great deal of progress.

And that study is to tell us what we need to do to the canal. We haven't had any guidance in the past 5 years. The corps is just a great friend of ours. We work with them day after day after day. But brothers can fight, and this is one of my fights I have with my brothers in the corps.

I don't think they are really serious about our canal. And until they get their hands on it, they are not going to be serious about it.

Senator MOYNIHAN. Mr. Shefler was not serious about it.

Mr. HENNESSY. No.

Senator MOYNIHAN. They don't respond to congressional interest. I think that they haven't had many indications of interest from us. No Democratic and no Republican convention, no platform ever says we want the canal looked after.

As you know, I also feel strongly about the way in which we are going to let the New York State thruway remain a toll road for a time lasting into the 21st century. That too shows a lack of Federal interest.

Mr. HENNESSY. It wasn't a question whether you would bring it up, it was just when.

Senator MOYNIHAN. We have a bankrupt railroad and toll roads, and we wonder that our taxes are the highest in the land.

Mr. HENNESSY. You know, Mr. Chairman, we want to put tolls in on the canal, too. We had a bill in for that. That is our aim.

Senator MOYNIHAN. How are you going to put tolls on the canal?

Mr. HENNESSY. I am saying that just so that I don't get cross ruffed in this.

Senator MOYNIHAN. Fair point. That will make the record clear.

Mr. HENNESSY. Insofar as the thruway is concerned, we have no problem with the tolls coming off. We would like to see them come off, too.

Senator MOYNIHAN. Commissioner, we know your distinguished record of service to the State of New York over many decades. But it is not enough for the thruway authority to say that they are willing to have the tolls taken off the highway. They should be kicking and screaming and yelling and trying to get the tolls taken off. They should not be sitting there living a comfortable life with a certain knowledge that whatever else happens, those tolls will be on until the 21st century. That is a costly arrangement.

Perhaps north and south along the thruway a vast industrial desert might grow up. Nonetheless, the salaries of the commissioners would continue to be paid. This kind of bureaucracy obviously is not in the interests of the State.

It is not for nothing that our tax base goes down. It is not for nothing therefore that we have the highest taxes in the Nation. Transportation is the essence of our economy. We have never had an economy based upon natural resources.

Our commerce is based on what is probably the best natural harbor in the world, and on the most extraordinary water route to the Middle West. That is why we are there.

If you let the harbor fill up, the canal fall apart, and the railroads go bankrupt, and then charge tolls on the roads, don't be surprised to find that you are bust.

You have to have people with fire in their bellies to take the tolls away. There is a certain megalomania rampant in Albany that makes it hard for them to recognize the best interests of the State. You know my feeling.

Mr. HENNESSY. Yes, I do.

Senator MOYNIHAN. I don't see it shared by the people in Government. They don't share it. They are content to let me try to correct the situation. What do you do? Nothing.

Here you have 3,200 passengers through a tunnel and lock last year. What will you have if you put tolls on? We have to get you some Federal money.

Mr. HENNESSY. I would be the happiest person alive if we don't have to put tolls on the canal. It would make my life much easier. Even collecting them is hardly worthwhile.

Senator MOYNIHAN. The canal authority would install a full-time toll booth, full around the clock, every 15 miles of length and breadth of the canal. My God, the Republican and Democrat county chairmen would have fun with those collections, wouldn't they?

Mr. HENNESSY. But, nonetheless, we still have to face realities that the canal has to be kept up. There is a lot of traffic on that canal in recreational use today.

Senator MOYNIHAN. You are trying, and you ought to be encouraged. Let me thank you.

We have a panel of persons who actually operate these barges, and want to talk to them.

Mr. HENNESSY. Toll plans?

Senator MOYNIHAN. We won't ascribe it to Governor Carey at this moment.

We thank you and Mr. Stellato very much for coming, sir.

[Responses to written questions follow:]

NEW YORK STATE  
**DEPARTMENT OF TRANSPORTATION**  
 William C. Hennessy, Commissioner

1220 Washington Avenue, State Campus, Albany, New York 12232



SEP 14 1978

Hon. Peter V. Domenici  
 405 Russell Bldg.  
 1st and C Streets, N.E.  
 Washington, D.C. 20510

Dear Senator Domenici:

I appreciate your interest in the recently conducted hearings on the New York State Barge Canal System. As you are aware, New York is the only state which, in addition to paying the full capital costs of construction, is required to pay the full costs of operation and maintenance for a major commercial inland waterway.

I am sure that when you reflect upon the interstate nature of the commerce using the waterway, the national defence potential and the potential for achievement of national goals such as energy conservation and protection of the environment, you will join with Senators Moynihan and Javits to support the legislation which they have proposed. Their proposal would not require any Federal participation in modernization or enlargement of the present system, but would provide the Federal funds needed to pay for the routine operation and maintenance of the only link in our national system of inland waterway which does not receive such Federal support.

Attached are my answers to the nineteen questions relating to the New York State Barge Canal System enclosed with Mr. Brayman's letter of August 22, 1978. Should you have any further questions or require clarification on any particular point, I will be happy to provide you with additional information.

Sincerely,

Original Signed By  
 W. C. Hennessy

W. C. HENNESSY  
 Commissioner

cc: Hon. Daniel Patrick Moynihan  
 Hon. Jacob K. Javits  
 Mr. Harold H. Brayman ←

Att.

## NEW YORK STATE DEPARTMENT OF TRANSPORTATION

ANSWERS TO QUESTIONS ON NEW YORK STATE BARGE CANAL

1. How would you assess the impact of any major improvement to the Canal -- and resulting traffic growth -- on competing forms of freight transportation in New York?

The Corps of Engineers, and a consultant are presently engaged in studies to determine the feasibility of any major improvements to the Canal. These studies will assess the impact of various canal improvements upon the competing modes of transportation. The State's position on the desirability of such improvements will be based upon the results of these studies. Pending such definitive study results New York has no intention to advocate or proceed with any major improvements to the State Barge Canal System. Our desire is simply to receive Federal assistance to help us to continue operation and maintenance of the Canal System in its present configuration.

2. What would be the impact on the historic character of the canal of its upgrading into a major deep-draft waterway? Is there any way to maintain that character?

If the Economic studies being made recommend upgrading the Canal into a major deep-draft waterway, further effort will be made to determine methods to mitigate the effect of such upgrading upon the historic character of the Canal.

3. How would you assess the impact of the construction of a deep-draft Erie Canal waterway on the traffic of the St. Lawrence Seaway, taxpayer subsidies needed for the Seaway Corporation, and our relations with Canada?

The impact of construction of a deep-draft Erie Canal waterway on St. Lawrence Seaway, and our relations with Canada should be taken into account by the Corps of Engineers in determining the feasibility of such construction.

4. It is sometimes suggested that barges are more energy efficient than railroads. In light of the fact that most unbiased studies show little difference or slightly more efficiency for rail, would you please comment and cite the sources for your opinion?

Following is a tabulation of sources and reported efficiencies of rail and barge traffic. While there is disagreement on acceptable factors, the preponderance of the data available to us seems to indicate that barges are more energy efficient than rail.

## 4. continued

<u>Study Group</u>	<u>Date</u>	<u>Energy Efficiency</u>	
		<u>Measurement</u>	<u>Barge</u> <u>Rail</u>
Rand Corporation	1973	BTU/ton-mile	500   750
Case Western Reserve U.	1970	gal/1000ton-mi	3.00   4.69
U.S. Secretary of Transportation	1974	ton-miles/gal	306   178
Upper Mississippi Waterway Assoc.	1975	ton-miles/gal	419   204
National Science Foundation	1970	BTU/ton-mile	680   670

## 5. What are the size of the locks at various sections of the NYSBC?

The size of all locks on the Barge Canal are 45' wide and 300' long. The depth over the sills is 13' on the Great Lakes to Hudson federal waterway project (Waterford to Oswego) and 12' over the sills in all other sections.

## 6. What are the commodities moved commercially on the N.Y.S.B.C.? What portions of the canal carry various types of traffic? What is the size of the various portions of the canal?

Attachment A is a report detailing the tonnage, origin and destination of the various commodities carried by the Canal System in 1977. Attachment B is a map of the Canal System which shows the typical channel cross-sections for the various portions of the System.

## 7. What specifically would be done with the \$130,000,000 to upgrade the canal?

The 1969 Army Engineer Report on the Barge Canal, issued March 1971, stated the total estimated first cost for full rehabilitation of the Barge Canal was approximately \$130 million. Corps estimate of rehabilitation included:

- (1) Rehabilitation of all 57 locks. Rehabilitation would include replacement of all deteriorated concrete, resurfacing lock walls and replacement of lock machinery.
- (2) Guide wall rehabilitation.
- (3) Installation of small boat mooring aids.
- (4) Rehabilitation of canal structures including dams, gates and spillways.

## 8. Please describe the specific purposes on which \$10,000,000 is spent yearly on canal operations?

For State Fiscal Year 1977-78, about \$10 million was appropriated for maintenance and operation of the Canal System. About \$8.9 million of the amount was used to pay the salaries and fringe benefits of the 1061 full

and part-time workers needed to operate the 57 locks and dams and maintain the structures and dredge the channels comprising the 512 mile system. The remainder is used for the fuel, supplies and equipment needed to maintain and operate the system.

9. If \$10,000,000 is sufficient for New York State's operational work, why is \$15,000,000 needed annually for Corps maintenance?

As indicated above, about \$10 million per year is required for the routine maintenance and operation of the Canal System by State forces. In addition, each year emergency repairs and deferred maintenance are performed by contract with capital construction funds. The average amount appropriated for such purposes has been about \$5 million annually. It should be noted that the total annual cost per mile for operation and maintenance of the New York State System is well within the ranges experienced by the Corps of Engineers for waterways such as the Illinois Waterway and the Arkansas River System.

10. Does your proposal contemplate that Corps employees would operate the system, and that Corps bidding and procurement procedures would govern all contract work on the canal?

This Department has made no specific proposal on how the canal would operate with federal participation. We have requested funds and suggest that the canal be jointly managed by both the State and the Federal government with ownership remaining with the State as it does with other inland waterways. It appears that the practical method would be for the State to continue operation of the canals with State employees with costs reimbursed by the Federal government. Of course, the reimbursement would be subject to federal audit and approval.

Past Federal improvements to the Barge Canal were expended in accordance with federal procedures and regulations. Any future improvements to which the Federal government contributes would, of course, follow Army Engineers practices on bidding and procurement.

11. Please describe the precise work that has been undertaken with the \$33,900,000 in Federal funds that has been committed to the NYSBC in recent years?

The improvements initially authorized by the 1935 Rivers and Harbors Act for the Great Lakes to Hudson River Waterway Project were completed in 1969, at a cost of \$33.9 million. Following is a summary of the

improvements financed with these Federal funds:

- 26 locks had sills lowered
  - 55 bridges were either replaced, raised or removed
  - 173 miles, approximately, of canal channel were deepened and widened
  - 43 miles of bank protection (including both banks) was replaced
  - 7 guard gates were either raised or replaced.
  - 1.54 miles of canal channel was realigned
  - 1 spillway was raised.
12. Please provide the basis for your statement that transportation through the canal of petroleum products to Vermont has produced a \$2.3 million "savings" or 2-cents a gallon. How much petroleum was involved? What percentage of the fuel utilized in Vermont did this represent?

About 70% of the petroleum products consumed in Chittenden County, Vermont (Burlington) are delivered via the New York State Barge Canal. It is estimated that the citizens of Vermont save about \$2.3 million per year over the cost of shipping 123 million gallons of needed petroleum products by rail or truck. This works out to 1.87 cents saving per gallon.

13. Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?

The Barge Canal is a multi-purpose system which, in addition to commercial navigation, has a large number of other uses. Even if the system were abandoned for commercial navigation, the system would have to be operated and maintained to provide water supply for 26 municipalities, and 49 industries located along the Canal System; irrigation for agriculture; flood control; hydro-electric power and recreational purposes. Consequently, the avoidable costs which can be attributed to the operation of the Canal as a commercial waterway is a relatively small factor in the computation of the total unit cost of barge traffic.

14. Is it not true that the highway and the airport programs are financed by user taxes, and that the Federal freight rail program consists of either loans or stock investments rather than outright subsidy grants?

Yes.

15. Please explain your Department's position and the history of the State's position regarding your statement that "we want to put tolls on the canal." Do you believe that tolls are fair as a way to improve transportation balance?

The New York State Department of Transportation is on record favoring removal

of the State's Constitutional prohibition on charging a fee for the use of the Barge Canal. However, with every other inland waterway in the country operated by the Corps of Engineers at no cost to the users, it would be inconsistent for New York State to unilaterally impose tolls.

16. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal? If not, please explain why the Erie Canal should be exempted, even though commercial users of other waterways would be paying such a charge or tax?

See Question 15 above.

17. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain.

User charges did not contribute one cent to the construction, operation, maintenance and modernization of the 25,000 mile inland waterway system. Yet traffic on the system is projected to grow by 40% in the period 1975 to 1990. Obviously, the lack of user charges are not related to the decline or success of the inland waterway system financed by the Federal government. If New York's waterways were treated as all others, the absence of user charges would not be a constraint on the modernization and use of the System.

18. What are your department's estimates of costs on various alternatives for modernizing the canal, both on the size of the canal, the location, and the specific improvements?

We estimate that it will cost about \$15 million annually to operate and maintain the Canal System in its present condition. The Corps of Engineers in their comprehensive studies will estimate the costs of the various alternatives for modernization of the canal.

19. How are the annual costs on the Canal currently divided between such items as lock operation, dredging, mechanical maintenance, etc.?

The \$10 million spent each year on routine operation and maintenance is divided about evenly among lock operation, dredging and structural repairs. An additional \$5 million per year is spent on contract maintenance for refurbishment of locks, bank reinforcement and other major maintenance projects.

STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
NEW YORK STATE BARGE CANAL SYSTEM

ORIGIN AND DESTINATION REPORT

1977

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Gasoline</u>			
	Albany	Rome	2 630
	"	Fort Edward	12 948
	"	Glens Falls	1 505*
	"	Ogdensburg	7 169
	"	Plattsburgh	101 036
	"	Westport	8 119
	"	Burlington, Vt.	88 757
	Bayway, N.J.	Burlington, Vt.	2 200
	Linden, N.J.	Plattsburgh	11 877
	Newark, N.J.	Plattsburgh	2 221
	New York City	Plattsburgh	25 201
	" " "	Port Henry	1 046
	" " "	Burlington, Vt.	11 998
	Ogdensburg	Albany	547
	Perth Amboy, N.J.	Ogdensburg	17 469
	" " " "	Plattsburgh	14 709
	Rensselaer	Plattsburgh	2 427
	"	Port Henry	1 428
	"	Burlington, Vt.	5 517
	"	Shelburne, Vt.	2 334

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Gasoline</u> (Cont'd)			
	Sewaren, N.J.	Plattsburgh	16 985
	" " "	Burlington, Vt.	23 255
	Staten Island	Port Henry	1 934
	<u>Total Gasoline</u>		<u>363 312</u>
 <u>Kerosene</u>			
	Albany	Rome	801
	"	Fort Edward	803
	"	Glens Falls	565
	"	Plattsburgh	12 496
	"	Westport	471
	"	Burlington, Vt.	2 862
	Carteret, N.J.	Plattsburgh	2 047
	" " "	Burlington, Vt.	2 100
	Linden, N.J.	Plattsburgh	1 900
	Newark, N.J.	Burlington, Vt.	1 366
	Sewaren, N.J.	Fort Ann	3 982
	" " "	Ogdensburg	2 798
	" " "	Sackets Harbor	5 545
	" " "	Plattsburgh	8 140
	" " "	Burlington, Vt.	3 602
	Staten Island	Plattsburgh	2 083
	" " "	Port Henry	585
	" " "	Burlington, Vt.	6 286
	<u>Total Kerosene</u>		<u>58 432</u>

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Jet Fuel</u>			
	Albany	Ogdensburg	746
	"	Plattsburgh	277
	New York City	Plattsburgh	2 150
	Port Reading, N.J.	Port Douglas	108 545
	" " " "	Burlington, Vt.	11 013
	Rensselaer	Port Douglas	1 757
	Sewaren, N.J.	Burlington, Vt.	5 814
	Staten Island	Port Douglas	2 288
	<u>Total Jet Fuel</u>		<u>132 590</u>

Fuel Oils Nos. 2 & 3

Albany	Belgium	7 919
"	Marcy	10 344
"	Rome	14 473
"	Dunham's Basin	4 538
"	Fort Edward	11 915
"	Glens Falls	2 279
"	Ogdensburg	2 960
"	Plattsburgh	62 618
"	Westport	6 443
"	Burlington, Vt.	38 245
Bayway, N.J.	Plattsburgh	10 438
" " "	Burlington, Vt.	11 765
Carteret, N.J.	Burlington, Vt.	8 377
Cold Spring	Ogdensburg	25 181
" "	Sackets Harbor	33 160

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Fuel Oils Nos. 2 &amp; 3</u>			
<u>(Cont'd)</u>			
	Linden, N.J.	Sackets Harbor	3 135
	" " "	Plattsburgh	1 983
	" " "	Burlington, Vt.	4 143
	Newark, N.J.	Rome	2 569
	" " "	Burlington, Vt.	13 852
	New York City	Sackets Harbor	2 619
	" " "	Plattsburgh	8 413
	" " "	Burlington, Vt.	17 060
	Perth Amboy, N.J.	Ogdensburg	2 089
	" " ""	Sackets Harbor	5 115
	" " ""	Plattsburgh	8 630
	" " ""	Burlington, Vt.	35 883
	Port Reading, N.J.	Burlington, Vt.	6 434
	Rensselaer	Fort Ann	4 076
	"	Plattsburgh	55 263
	"	Burlington, Vt.	47 047
	Schuylerville	Albany	914
	Sewaren, N.J.	Plattsburgh	17 938
	"	Burlington, Vt.	12 750
	Staten Island	Plattsburgh	2 026
	"	Port Henry	4 460
	"	Burlington, Vt.	6 023
	Tremley Point, N.J.	Ogdensburg	2 587
	" " " "	Sackets Harbor	2 436
	" " " "	Burlington, Vt.	7 220
	Weehawken, N.J.	Plattsburgh	<u>2 111</u>
	<u>Total Fuel Oils Nos. 2 &amp; 3</u>		527 431

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Fuel Oils Nos. 4 &amp; 6</u>			
	Albany	Belgium	91 002
	"	Rome	47 265
	"	Syracuse	9 301
	"	Three Rivers	15 156
	"	Plattsburgh	4 242
	"	Ticonderoga	1 859
	Bayonne, N.J.	Utica	24 484
	Newburgh	Rome	2 368
	New York City	Rome	5 163
	" " "	Syracuse	2 571
	" " "	Utica	20 289
	" " "	Ticonderoga	1 817
	Perth Amboy, N.J.	Syracuse	5 119
	" " " "	Ticonderoga	1 885
	Port Reading, N.J.	Rome	2 558
	Rensselaer	Erewerton	21 583
	"	Rome	21 048
	"	Syracuse	21 053
	"	Plattsburgh	68 788
	"	Ticonderoga	71 933
	"	Burlington, Vt.	15 202
	Staten Island	Utica	2 644
	" "	Ticonderoga	1 865
	Syracuse	Rome	1 322
	Woodbridge, N.J.	Syracuse	<u>10 101</u>
	<u>Total Fuel Oils Nos. 4 &amp; 6</u>		470 618

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Lubricating Oils</u>			
	Bayonne, N.J.	Toronto, Can. (0)	7 868
	Marcus Hook, Pa.	Toronto, Can. (0)	<u>5 532</u>
	<u>Total Lubricating Oils</u>		13 400
<u>Asphalt</u>			
	Albany	Three Rivers	67 806
	Bayonne, N.J.	Three Rivers	5 905
	Bayway, N.J.	Three Rivers	8 901
	Buffalo (0)	New York City	2 400
	" "	Kearney, N.J.	<u>13 087</u>
	Carteret, N.J.	Three Rivers	5 497
	Lackawanna (0)	Kearney, N.J.	2 549
	New York City	Lyons	18 004
	" " "	Three Rivers	<u>11 742</u>
	Perth Amboy, N.J.	Lyons	14 002
	" " " "	Three Rivers	<u>2 895</u>
	<u>Total Asphalt</u>		152 788
<u>Cement, Lime</u>			
	Picton, Can. (0)	Rome	86 414
<u>Molasses</u>			
	New York City	Hamilton, Can. (0)	2 425

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Machinery - New</u>			
	Montreal, Can. (O)	Providence, R.I.	306
	Norwalk, Conn.	Niagara Falls (O)	100
	Philadelphia, Pa.	Buffalo (E)	<u>105</u>
	<u>Total Machinery New</u>		511

Machinery - Used

	Albany	Crescent	50
	Belgium	Fulton	70
	Crescent	Burlington, Vt.	25
	Fulton	Belgium	70
	"	Brewerton	10
	Marinette, Wis. (O)	Norfolk, Vir.	80
	Oswego	Syracuse	200
	"	Three Rivers	150
	Sodus Point	Syracuse	<u>300</u>
	<u>Total Machinery Used</u>		955

Ethyl Alcohol

	Montreal, Can. (O)	Philadelphia, Pa.	2 180
	Valleyfield, Can. (O)	Carteret, N.J.	<u>4 055</u>
	<u>Total Ethyl Alcohol</u>		6 235

<u>PRODUCT</u>	<u>ORIGIN</u>	<u>DESTINATION</u>	<u>TONS</u>
<u>Caustic Soda</u>			
	Wyandotte, Mich. (O)	New York City	2 625
<u>Stone</u>			
	Buffalo (E)	Lockport	1 320
	Lockport	Buffalo	<u>7 822</u>
	<u>Total Stone</u>		9 142
<u>TOTAL SYSTEM ORIGINATING TONNAGE</u>			1 826 878

Senator MOYNIHAN. And now to conclude the morning, we have the genuine pleasure of having some people who know something about this business.

Are Captain Bushey; Mr. William Cleary, president of the New York Towboat & Harbor Carriers Association; Mr. Barry Golomb, president, Federated Boatmen of New York; and Mr. Jack Tobin, general counsel, New York State Waterways Association, with us this morning?

Gentlemen, this is the first opportunity we have had this morning to hear from people who are actual consumers of this service. We welcome you, one and all.

We are happy that you had the patience and good manners to wait for us without showing impatience. But let me not keep you further.

Captain Bushey, you are first on this list that was drawn up by alphabetical order, so why don't you begin, sir.

**STATEMENTS OF FRANCIS B. BUSHEY, PRESIDENT, SPENTONBUSH TRANSPORT SERVICE, INC., NEW YORK, N.Y.; WILLIAM E. CLEARY, PRESIDENT, NEW YORK TOWBOAT & HARBOR CARRIERS ASSOCIATION, NEW YORK, N.Y.; BARRY GOLOMB, PRESIDENT, FEDERATED BOATMEN OF NEW YORK, INC., NEW YORK, N.Y.; AND JACK C. TOBIN, GENERAL COUNSEL, NEW YORK STATE WATERWAYS ASSOCIATION, INC., ALBANY, N.Y.**

Mr. BUSHEY. Thank you.

I think I will paraphrase my statement, because I would like to add comments at the end not in the statement.

Senator MOYNIHAN. Fine.

[Mr. Bushey's prepared statement appears at p. 89]

Mr. BUSHEY. My name is Francis B. Bushey. I am president of Spentonbush Transport Service, Inc., a firm engaged in the transportation of liquid bulk materials on the east and gulf coasts, the Caribbean area, inland waterways of the east coast, the New York State Barge Canal, and the Great Lakes.

We transport gasoline, home heating oil, industrial oils, petrochemicals, other liquid chemicals, vegetable oil, molasses, and lubricants.

In order to revitalize the canal systems in New York State, it is necessary to have assurance that the maintenance of the system will be taken care of by the Federal Government, and, therefore, not susceptible to budget problems that may arise in the State of New York.

It is obvious to all operators on this waterway that the lack of maintenance has caused breakdowns during the limited navigation season.

Senator MOYNIHAN. What kind of breakdowns?

Mr. BUSHEY. The last big breakdown was in the system leading to Rochester. The whole thing washed out, and it was gone for almost the whole season. You could not go to Rochester at all.

Senator MOYNIHAN. A bank collapse?

Mr. BUSHEY. That is right. We have had smaller breakdowns when we have had problems with locks, dams, gates, and that sort of thing.

This is intolerable to the operators because you just can't budget that into your freight. The minimum requirement, in our opinion, is rehabilitation.

The one place where we could quickly get a benefit would be to rehabilitate the draft for the Champlain Canal. That was a project of 12 feet, and it has not been to 12 feet in the last 25 years.

Senator MOYNIHAN. You don't have a 12-foot draft in Champlain?

Mr. BUSHEY. No, sir.

Senator MOYNIHAN. What have you got?

Mr. BUSHEY. About 10 feet.

We load barges depending upon the water level. And if we get it loaded to 10 feet 3, we are doing very well. This could be an immediate benefit.

The Erie Canal and the Oswego Canal, they need immediate rehabilitation. The problems that they have are the question of keeping these dams' gates and so forth in good shape.

I would just like to point out here that the original Erie Canal really developed New York Harbor, and Oswego, and Buffalo. However, because of limited financial resources, this waterway was not developed in the same fashion that were western rivers. So the commodities that used to go through our canal now go down through New Orleans.

We had a very big grain movement years ago on the New York State Barge Canal. Now there is no grain because the system in New York was never improved.

But the western rivers, they spend billions of dollars and the grain goes to New Orleans. All shipping is very important to us people who are operators. We feel that if the Federal Government is only going to contribute to the maintenance of this canal, we do not want to get in a position of being a waterway that would be designated to have user charges, presently being considered in Congress.

As you well know, we are talking about the famous discussion about lock and dam 26, which has really generated the whole idea. If that is the only thing that the Federal Government can do, and at the same time wants to tax us as operators, we would rather not have Federal aid.

Senator MOYNIHAN. Right. I couldn't agree more.

How do you feel about New York State tolls?

Mr. BUSHEY. I feel pretty much the same way. If New York State puts a toll on the canal in the present configuration, all we are going to do is shut out the commercial traffic.

The viability of this operation is so close that any tax will not get any income, they will just have less traffic.

Senator MOYNIHAN. It is like charging \$5 to ride the subway. No one would be on the subway.

Are they serious about a toll? I don't believe it.

Mr. BUSHEY. I don't think so.

Senator MOYNIHAN. Whenever a bureaucrat indicates that he might impose another tax, you should always take him seriously. If he can, he will.

Mr. BUSHEY. I would like to make some other remarks. I think there was discussion about making it a 27-foot canal from Buffalo to Albany. I don't think that is a viable situation. I think that most of the operators know that that is not the way to go.

Senator MOYNIHAN. Why is that?

Mr. BUSHEY. Well, because with much less money and a great deal faster, we can double the length of the locks and double the width of the locks and with some improvement in the canal channels be able to put tows in the system carrying 10,000 tons from Oswego to Albany. A 27-foot cut cost much more, and ships won't transport any more.

Senator MOYNIHAN. Why is that?

Mr. BUSHEY. Because it is a ship.

Senator MOYNIHAN. Oh, a ship as against a barge?

Mr. BUSHEY. Right.

Senator MOYNIHAN. That is a very important proposition. I think that should be part of panel consideration.

So you would double the length of the locks. What else would you do?

Mr. BUSHEY. And double the width.

Senator MOYNIHAN. The canal width is not adequate?

Mr. BUSHEY. Not completely.

Senator MOYNIHAN. It is the locks that you are concerned with right now?

Mr. BUSHEY. Right. But the point is that this has been studied by the Army engineers. They have a complete study. It is finished. I don't know why we can't take it out, dust it off.

Senator MOYNIHAN. I will buy that.

Mr. BUSHEY. This was finished in the late sixties or early seventies. And the situation, as I understand it, was a favorable situation except our Governor Rockefeller at the time decided it was not a go because he wouldn't relinquish the canal.

Senator Moynihan. The corps' position is that they will improve the canal if you give it to them.

Mr. BUSHEY. I believe that is very close to what the answer was.

[Written questions submitted to Mr. Bushey follow:]

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
Washington, D.C., August 22, 1978.

Capt. FRANCIS B. BUSHEY,  
President, Spentonbush Transport Service, Inc.,  
New York, N.Y.

DEAR CAPTAIN BUSHEY: Enclosed are several questions that Senator Pete V. Domenici has asked me to send to you in connection with the Erie Canal hearing conducted last week. Although Senator Domenici was unable to attend the hearing due to a conflict in his schedule, he holds a considerable interest in the issue. Therefore, he has developed some questions on the issues involved and would appreciate your early response in order that your answers might be printed as a part of our hearing record.

Please send your answers to me and I will transmit them to the hearing record.

Sincerely,

HAROLD H. BRAYMAN,  
Senior Professional Staff Member.

#### QUESTIONS FOR USER PANEL

1. What is a typical commercial trip now made on the New York State Barge Canal? What are the commodities carried? What is the barge configuration used? What is the typical freight charge for such a voyage?

2. It is often suggested that barges are more energy efficient than railroads. In light of the fact that most unbiased studies show little difference or slightly greater efficiency for rail, could you please express your views and cite the basis and source for your view?

3. What commodities are moved commercially on the Canal? What portions of the canal carry various types of traffic?

4. You have suggested various cost-saving estimates in transportation resulting from canal improvements. What is the basis of your estimates?

5. Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?

6. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain?

7. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal? If not, please explain why the Erie Canal should be exempted, even though commercial users of other waterways would be paying such a charge or tax?

8. Captain Bushey, did I understand the last paragraph of your statement to read that you would support user charges on the NYSBC if, in return, the Canal were upgraded to make it a more efficient waterway?

[Responses to the above questions were not received by publication time.]

### STATEMENT OF JOHN C. TOBIN

Mr. TOBIN. Senator, there was correspondence between General Duke of the Corps of Engineers and Rockefeller at that time, where they went into back and forth about the transfer. I don't have copies of that.

Senator MOYNIHAN. I will ask the corps to make that correspondence part of the record.

Mr. TOBIN. One point, and I will just submit my own statement (See p. 92), and go over the record with Mr. Bushey, if I may. Perhaps I can come up with points not covered but feel are significant to the canal.

Senator MOYNIHAN. Please.

Mr. Cleary and Mr. Golomb, we are breaking into the order, but we have all the time in the world. Go right ahead.

Mr. TOBIN. I do not think that the issue of transfer of title is that important. In the 1959 constitutional amendment, it provides in the language for the transfer or lease of the canal. I view that under the word "lease" that an arrangement can be worked out between the Federal Government and the State of New York that does not require this transfer.

Senator MOYNIHAN. That is good thinking.

Mr. TOBIN. This is a situation that satisfies both parties.

Senator MOYNIHAN. What was the history of that amendment? How did it get on the ballot? I remember arguing about it.

Mr. CLEARY. Might I speak to that question?

Senator MOYNIHAN. Please.

Mr. CLEARY. There was a vote in two successive sessions which authorized the referendum on the 1959 general election ballot. And the question was the repeal of the prohibition against the sale, lease, or transfer. And that was the referendum.

Senator MOYNIHAN. I was in Albany at that time as an assistant secretary to Governor Harriman, and was aware of this. But I can't remember whose idea it was. It wasn't ours. Whose idea was it?

Mr. TOBIN. It was the operators'.

Senator MOYNIHAN. You fellows?

Mr. TOBIN. I was not with them at that time.

Senator MOYNIHAN. It was the water associations then. And it was you gentlemen?

Mr. CLEARY. That is correct, Senator.

Senator MOYNIHAN. You had in mind that the canal wasn't being kept up?

Mr. CLEARY. That is correct. And, also, the same complaint that Mr. Bushey voices, that we need a modernization of the canal to accommodate tolls to make it a viable artery. Double the width.

I have a very short statement, if you want me to read it?

Senator MOYNIHAN. Please do.

Mr. CLEARY. That is contained in that and it only takes a few minutes to read it.

Senator MOYNIHAN. Take all the time you require.

### STATEMENT OF WILLIAM E. CLEARY

Mr. CLEARY. My name is William E. Cleary. I am the president of the New York Towboat & Harbor Carriers Association, a voluntary, nonprofit marine trade association with offices at 17 Battery Place, New York City.

This organization consists of over 40 firms owning and operating tugboats and liquid and dry cargo barges on all of the waterways of the State of New York, including the New York State Barge Canal System.

I first of all wish to thank the chairman and the members of this distinguished committee for the opportunity of appearing here today to very briefly present the viewpoint of the members of my association insofar as the infusion of Federal funds into the New York State Barge Canal System for the purposes of operation, maintenance, and modernization is concerned.

We endorse the use of Federal funds for the operation and maintenance of the canal system, provided, of course, that the New York State constitutional prohibition against the imposition of tolls on the canal is not endangered by the impending passage of H.R. 8309, which would impose a fuel tax on certain waterways upon which Federal funds are expended.

But far more importantly is the question of modernizing and improving a waterway which was designed 70 years ago and completed 60 years ago and has long since outlived its usefulness as a competitive, viable artery of transportation.

This is the real area in which Federal assistance is desperately needed if the canal system is to continue its much needed role as the vehicle to bring the benefits of low cost water transportation to the citizens of the State of New York.

Hopelessly outmoded and outdated, the canal system is slowly but surely retreating to an eventual point of extinction.

In our association, a number of our members, who for years operated very actively on the canal system, no longer have vessels running in the system. The simple reason for this being that when their canal equipment wore out, it simply was not economically feasible to replace the barges with vessels of the same dimensions to conform to the more than half-century old restrictive sizes of the locks.

A study by the U.S. Army Corps of Engineers is presently being conducted to determine the optimum dimensions of new locks to

accommodate modern-day barge tows. We respectfully suggest that this study be expedited and, hopefully, implemented with the use of Federal funds.

We are totally confident that the study will reveal a favorable benefit-to-cost ratio which will justify such use of Federal funds as may be necessary to produce a waterway capable of realizing its true potential as a money-saving artery of commerce redounding to the benefit of the taxpayers of the State of New York directly and to the entire Northeast indirectly.

And, Senator, may I reiterate Mr. Bushey's remarks. And I well remember, because I have been in this business, both as an operator and the last 27 years as a trade association executive.

The time my family's firm, Cleary Brothers, operated barges, we carried sulfur to Cleveland, and pig iron from Cleveland, and grain from Buffalo to New York.

All this traffic has disappeared. This is traffic we feel can be revived, and to say nothing of the potential of container ship work.

The canal, in our opinion, properly modernized, we can operate much more effectively and more efficiently than any other form of transportation except perhaps the pipelines, who can offer a lower rate.

But we can develop an energy-efficient form of transportation, including low sulfur, western coal, and grain feeds from the western States into the Northeast area.

Thank you.

Senator MOYNIHAN. Thank you, sir.

There is a little confusion in my mind. Has the Corps actually done the work of widening and lengthening the locks, or is it still being done?

Mr. TOBIN. That was done in 1969.

Mr. CLEARY. That was the one that Governor Rockefeller rejected.

Senator MOYNIHAN. That is the correspondence we ought to get hold of here.

Mr. CLEARY. We have a copy of that thing in our office.

Senator MOYNIHAN. I would like to make it part of the record.

Mr. TOBIN. Coming back to the 1973 resolution of Senator Javits, the Corps conducted one hearing in Schuylerville, N.Y., relative to what we were looking for in the Champlain section. That was 1976.

And we gave them a list of raising the drafts and getting the channel to the original, dimensions and creating passing areas, and also possibly permanent bouy markers. And they have had one other hearing, and that was in Syracuse last year, on the western section of the canal going from Waterford to Three Rivers.

And then they had a final hearing in Buffalo, relative to the question of the inland canal for ocean vessels.

We felt and feel strongly that my members are in the position where they have not been able to build new equipment for the canal system in quite a few years. If we are going to be delayed, as the General said, for 8 years on a study we believe should have been done a year ago, we can't build new equipment.

Senator MOYNIHAN. How many barges have you got operating on the canal right now?

Mr. BUSHEY. My guess is between 25 and 30.

Mr. CLEARY. A tug and barge unit together.

Senator MOYNIHAN. Are these barges designed to fit the locks?

Mr. CLEARY. Senator, they are like a cutout with a cookie cutter. They were built to fit the dimension 3 by 45 feet.

Senator MOYNIHAN. Are they never taken to the Hudson River or Great Lakes?

Mr. CLEARY. When the canal is closed, they are used at total capacity on the Long Island Sound or the Hudson River. But during the season, the old thinking was you had to have a barge to be used in the canal that could operate in the harbor in the winter. But they were not economic in the harbor.

And so what we are having here is a gradual diminution. I think, Mr. Bushey, you had four units in the last 4 years you did not replace?

Mr. BUSHEY. We took four units out. We just cannot afford to build a barge of this dimension. You can have one 15 years old, and then it cost \$300,000. Today a barge the same size costs about \$900,000. And you are carrying the same amount of cargo and your rates have not gone up a commensurate amount, but everything else has. So it is impossible to build new equipment.

Senator MOYNIHAN. Are your rates regulated?

Mr. BUSHEY. No, sir.

Senator MOYNIHAN. But they are regulated by competition.

Mr. BUSHEY. Yes, sir.

Senator MOYNIHAN. The point is that you must find a barge of economic size. You have the oil tankers. But it is your feeling that if the canal were lengthened and widened, you would have units economic to use in the old manner in the harbor in the winter and canal in the summer?

Mr. BUSHEY. It would approach it much better. It would be a viable barge in the harbor, and also in Long Island Sound. Because these barges would be at least twice as big as the present barges.

Senator MOYNIHAN. Twice as big would be what?

Mr. BUSHEY. Let me put it this way: present barges carry about 2,500 tons. The new configuration could carry 5,000 tons. It would double the size of the barge, and you have two of them in a tow, which would get us to 10,000 tons.

Senator MOYNIHAN. And that is about what the ship would be carrying?

Mr. BUSHEY. It is very close to what the ships would carry.

Senator MOYNIHAN. You want to go from a 2,500-ton barge to a 5,000-ton barge.

Mr. BUSHEY. That is right.

Senator MOYNIHAN. I should make it clear that I am not a bargee. I wouldn't mind being one, I don't think, but I am just not.

You obviously don't want to go from ship to barge and barge to ship as you move from the Great Lakes to the canal and back to the Hudson River. As I understand it, however, barges of this size can go up and down the coast. Is that right?

Mr. BUSHEY. Oh, yes.

Senator MOYNIHAN. Is containerization a possibility?

Mr. BUSHEY. Yes.

Senator MOYNIHAN. What is the hourly rate of movement on a canal of this kind?

Mr. BUSHEY. You mean the speed of the tow?

Senator MOYNIHAN. Yes.

Mr. BUSHEY. The maximum speed is 10 knots. There are other areas where you are restricted to 5 or 6 knots.

Senator MOYNIHAN. Is that because of the depth of the water?

Mr. BUSHEY. Because of the waterway.

[Questions submitted to Mr. Cleary follow:]

U.S. SENATE,  
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,  
Washington, D.C., August 22, 1978.

Mr. WILLIAM E. CLEARY,  
*President, New York Towboat & Harbors Carriers Association,  
New York, N.Y.*

DEAR MR. CLEARY: Enclosed are several questions that Senator Pete V. Domenici has asked me to send to you in connection with the Erie Canal hearing conducted last week. Although Senator Domenici was unable to attend the hearing due to a conflict in his schedule, he holds a considerable interest in the issue. Therefore, he has developed some questions on the issues involved and would appreciate your early response in order that your answers might be printed as a part of our hearing record.

Please send your answers to me and I will transmit them to the hearing record.

Sincerely,

HAROLD H. BRAYMAN,  
*Senior Professional Staff Member.*

#### QUESTIONS FOR USER PANEL

1. What is a typical commercial trip now made on the New York State Barge Canal? What are the commodities carried? What is the barge configuration used? What is the typical freight charge for such a voyage?

2. It is often suggested that barges are more energy efficient than railroads. In light of the fact that most unbiased studies show little difference or slightly greater efficiency for rail, could you please express your views and cite the basis and source for your view?

3. What commodities are moved commercially on the Canal? What portions of the canal carry various types of traffic?

4. You have suggested various cost-saving estimates in transportation resulting from canal improvements. What is the basis of your estimates?

5. Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?

6. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain.

7. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal? If not, please explain why the Erie Canal should be exempted, even though commercial users of other waterways would be paying such a charge or tax?

8. Why do you believe taxpayers across the nation should provide a free subsidy to the barge lines, while other forms of commercial traffic are either self-sustaining or are maintained by user taxes?

[Responses to the above questions were not received by publication time.]

Senator MOYNIHAN. Go ahead, Mr. Golomb.

#### STATEMENT OF BARRY GOLOMB

Mr. GOLOMB. Thank you, Senator, for the opportunity to speak. I will add a few things to my prepared text.

My name is Barry Golomb, and I am here as president of Federated Boatmen of New York, Inc., an organization consisting exclusively of people engaged in the sport and recreation of boating and of clubs

composed of such individual boatmen. Financial support comes solely from the dues of members and no compensation is paid to anyone for any purpose.

I am also vice president of its national parent body, National Boating Federation, which is an association of similar organizations representing in the aggregate approximately 1½ million boatmen throughout the United States, and their families.

I hold or have held various positions with other recreational boating-related bodies and organizations which, although I am not authorized to speak for them here, necessarily constitute part of my background and qualifications. Among others I am a member of New York State's Boating Advisory Committee; I am an officer of United States Power Squadrons at both the district and squadron level; I am a past commodore of the Polaris Yacht Club; and I have held leadership positions in the nautical branch of the Boy Scouts of America, the Sea Explorers, formerly called Sea Scouts. My personal involvement in boating spans 39 years.

I have been engaged in the full-time practice of law in New York City since 1951. At the same time, I have held various part-time positions in local government. Currently, I am acting village justice of the Village of Ardsley, in Westchester County, New York, where I live.

Senator MOYNIHAN. Your honor.

Mr. GOLOMB. Thank you.

In the narrowest possible sense, the financial status of the Erie Canal is a matter of accounting, while the physical status thereof is a matter of engineering. I assume that this hearing is not being held solely to obtain the technical opinions of accountants and engineers and, hence, I necessarily take a broader view of the subject matter.

Let me start by telling you what recreational boating is and who the boatmen are. The boating boom really acquired substantial momentum following the close of World War II.

At that time, if not earlier, yachting ceased to be a rich man's sport. And J. P. Morgan's famous dictum that, if you have to ask how much it costs, you can't afford it, became obsolete. Boating became the province of the average man.

According to the New York recreational survey prepared by Cornell University under the sea grant program of the National Oceanic and Atmospheric Administration of the Department of Commerce—NYSSGP-RS-77-015—the more than 400,000 pleasure boats in New York State are under 16 feet in length to the extent of 62 percent thereof, and under 26 feet to the extent of a full 94 percent. Only 6 percent exceeded 26 feet in length.

I might add, this morning I read the current Coast Guard boating safety report, and they gave comparable figures for 1977 on a national basis. Only 4 percent for boats exceeding 26 feet in length.

Senator MOYNIHAN. You still get 16,000 yachts?

Mr. GOLOMB. Yes.

The survey indicated that the typical New York boatowning family had an annual gross income of \$18,250. While far from poverty, this belies the notion that boatmen are rich. On the contrary, they are merely citizens who have made a choice which is more visible than those made by their fellow citizens who opted for summer travel or other of the available alternatives. Often they have made great sacrifices in other directions in order to pursue their chosen recreation.

Only about 28 percent of the New Yorkers owning boats are either professional or technical workers. Fully 58 percent of all boats purchased were used at the time of purchase. Of boats over 26 feet in length, 72 percent were purchased used, with average age at time of purchase being 8½ years.

Indeed, the survey reflected a fact, also brought to my attention in my capacity as a member of the advisory committee to the State Comprehensive Recreation Program Five Year Review for New York's report to the Heritage Conservation and Recreation Service of the U.S. Department of the Interior, to wit, that recreational boating is one of New York's largest participation outdoor recreational activities, involving an average of 400,000 persons on a summer weekend day, and ranking ahead of camping, skiing, golfing, hunting, and fishing.

The State projects an increase in participation of almost 27 percent by 1990, which far outstrips projections for other outdoor recreation pursuits.

In addition to all the commercial military, and other governmental users of the New York Canal System, these are the people who use it recreationally. While far from all of them utilize these particular waterways, many do, and these break down into two major categories.

One consists of those who use the canal system as a means of transiting from one area to another, particularly in order to take an extended boating vacation at a distance. In this, the Erie Canal in particular serves its traditional purpose of linking the Great Lakes with the rest of the State, its waterways, and its neighbors.

In this connection, let me emphasize that this use is not limited to residents of New York, but is availed of by boatmen from all over the east coast and the upper Midwest, a national constituency of users, largely in interstate travel.

The second and probably larger, but unmeasurable, category of users consists of that very substantial segment of the New York boating public which operates locally along some part of the canal system, including the interconnecting lakes.

Aside from their occasional longer vacation trips, these people use individual segments of the canal system as local bodies of water for local recreation. Indeed, they have been increasingly encouraged to do so, with New York State building miniature parks along the banks of the canals for their use.

There are some figures available on the extent of this use, but they must be examined with preliminary understanding of what they do and do not measure. The only available statistics are kept at the locks and measure, therefore, passage through the locks rather than use of any section of the canal system itself.

It is for this reason that I said a moment ago that local recreational boating in that system is unmeasurable, but the Cornell study does indicate that it is very large.

Lock usage figures involve a combination of those transiting the canal and those engaged in local use in a subarea encompassing both sides of a lock. It is obvious that this represents a minor part of the aggregate recreational usage of the canal system.

The 1977 total of such lock usage by recreational vessels was 87,004, according to the State's Department of Transportation. Since the Cornell survey indicates that the average recreational boat is

used only 41 days a year, simple division indicates, as an approximation, that 2,122 pleasure boats per day use the locks during the season.

Of course, such an average glosses over the fact that there is greater use in good weather and on weekends, and lesser use in bad weather and on business days. The total recreational use of the canal system, while it cannot be determined with precision, is several times the lock usage, at very least.

This use by the general public of the Erie and other canals and waterways of New York is part of the overall picture of the physical and financial status thereof.

General Robinson's comments on decreasing use by recreational craft was based on 1968 figures. That is the period of the Canadian Expo, a high point in users because of the additional use necessitated thereby, and the only period from which recreational use has decreased.

Let me touch briefly on policy considerations. While I have not made a study sufficient to enable me to use the word "all," it is readily apparent that almost all of the canals in the United States are maintained and operated at the expense of the Federal Government.

New York's canal system is operated and maintained at the expense of the New York taxpayers, whose Federal taxes support only the canals of other States. This flows largely from the historical fact that farsighted New Yorkers built their canals at their own expense to the benefit of the entire Northeast and much of the rest of the country. Indeed, to some extent, New York showed the way and the rest of the country followed—with Federal funds.

I want to emphasize that this is not the normal case of a State holding out its hand and seeking Federal funding of whatever expense happens to come to mind merely because it is politic to pass the buck for taxation.

This, in a legal and historic sense, is a special case. The maritime jurisdiction of the United States is peculiarly Federal in its nature and always had been recognized as such. There is room to argue about the propriety or validity of Federal expenditure in pursuance of various other purposes and projects under various clauses of the U.S. Constitution, but water projects are peculiarly appropriate for congressional action and not subject to the criticisms, which might be leveled at so many other expenditures, that they are not proper functions of the Federal Government.

Various congressional enactments, hallowed by time and usage, provide that navigable waters shall be forever free, public highways. I have not stopped to look up and list all of them, but a few happen to be readily available to me at the moment:

The famous ordinance of 1787 so provides with respect to the waters of the Northwest Territory. The act of May 24, 1928, imposed such a condition upon a grant of lands to the State of Ohio. The principle is stated in the act of May 18, 1980, chapter 95, and the act of July 5, 1884.

Presently, title 33 U.S.C. S 5, abolishes tolls on Federal waterways and provides for the maintenance thereof out of any unappropriated funds without even recourse to the Congress for authorization.

Incidentally, the organizations I represent adamantly oppose waterway user charges, which have been mentioned lovingly by a

Federal administration spokesman and a State commissioner here today. Less lovingly by the State commissioner, I might add. They desire the free public highway concept.

There is a philosophy, apparently, which I have elsewhere called the "orange juice syndrome," which reads semantically, if all else doesn't work, we will have to try X. No logic is ever offered why X would be helpful or why it is a last resort or has any better chance of working than A, B, C, and D.

So, I substitute for X in the illustration the concept that we will have to require every man, woman, and child in the United States to drink an extra quart of orange juice a day. We don't know that it will help, but we will try it.

I do not pretend that any constitutional provision or statute already mandates Federal assumption of the cost of maintenance and operation of the New York Canal System or any part thereof. I do say, however, that the underlying principle, namely, that it is the legitimate function of the Government of the United States to provide and maintain free public highways on the water is thoroughly imbedded in existing law and doctrine, and supplies the jurisprudential basis for differentiating this category of expense from all others, justifying Federal funding.

Let me conclude by referring to one additional factor which also constitutes part of the physical and financial status of the canal system. Recreational boating generates tremendous business activity and income.

I refer not only to the industries directly involved in boating itself—which is a multibillion-dollar industry in this country—but, more important, to the industries and businesses which benefit from tourism, intra and interstate travel and the mere presence of people.

These include luncheonettes, supermarkets, laundromats, and movie theaters at least as much as boat repair services. My point is that, in addition to the nearly half a million New York boatmen and their families, totaling perhaps 1½ million people, there are other millions whose business activities are affected, directly or indirectly, by the presence and healthy condition of recreational boating.

A very substantial minority of these millions of New Yorkers are affected in varying degrees by the successful and attractive operation of the canal and waterway system of New York. And it supplies part of a viable economy for the State of New York, both for its own benefit as a State and part of the region of the country which it serves interstate.

On behalf of that million and a third members of New York boating families, I thank you sincerely for your consideration of these views.

Senator MOYNIHAN. Thank you very much, sir.

I have to say that a vote has come up in the course of the morning. Well, it is not in the morning, it is in the afternoon, but when the five bells ring I am going to have to jump up and run.

We are in a filibuster and this is a test vote and I must be there.

So why don't you commence.

Mr. TOBIN. On the question of tolls, we are opposed to tolls. We feel it would be an economic disadvantage to our operators.

In conclusion, we feel Federal moneys are justified because New York taxpayers pay 20 percent of the revenues received by the

Federal Government. When the Federal Government spent a billion on the Ohio River, New York State paid \$200 million. And the same when they made Tulsa a seaport.

Senator MOYNIHAN. You have always had a way of putting things straight. I would like to have your statement put in the record.

I see Mr. Bushey is your vice president. You make a lot of sense to us. You have told me a lot of things I need to know.

I want to say to you, sir, that clearly quite the largest number of citizens in New York State involved in this are the pleasure boat people. If this system is in collapse, they could lapse and they won't be there.

I know my object is to get Federal support without Federal control. There will have to be some negotiations.

A hundred fifty years does, however, give you some rights in this thing.

And I want to thank you gentlemen for being very helpful. I want to thank you all, and conclude this hearing now.

We are going to continue in Upstate New York. Maybe we will see some of you there.

Until that time, I thank you, again.

[Whereupon, at 1:35 p.m., the subcommittee recessed, to reconvene subject to the call of the Chair.]

[Statements submitted by today's witnesses, statements from others, responses to written questions, and the essays by Jocelyn Samuels, referred to by Senator Moynihan follow:]

STATEMENT OF STEPHEN A. SHEFLER, DEPUTY ASSISTANT SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS, U.S. DEPARTMENT OF TRANSPORTATION, BEFORE THE SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE, WATER RESOURCES SUBCOMMITTEE, CONCERNING THE NEW YORK STATE BARGE CANAL SYSTEM, THURSDAY, AUGUST 17, 1978

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to present the views of the Department of Transportation at these oversight hearings on the physical and financial status of the New York State Barge Canal System. As we understand it, the purpose of the hearing is to consider the question of Federal financial aid for the operation and maintenance, estimated at \$15 million annually, of the New York State Barge Canal System, the only state-owned inland waterway system in the country.

DOT Statutory Authority

Let me say at the outset that, with the exception of the Saint Lawrence Seaway Development Corporation, the Department of Transportation has no authority or statutory responsibility with respect to inland waterways for financing transportation investments for improvement or rehabilitation of these waterways or for their operation and maintenance. Indeed, the Department has been specifically precluded by its enabling legislation from establishing investment criteria for waterway navigation projects. [See Section 4(b)(2) and Section 7 of the DOT Act as amended (P.L. 89-670).]

Having said this, however, let me also point out that my Department has a great interest in the efficient and safe operation of all transportation modes and in establishing a sound intermodal balance and complementarity among the different means of transport.

In particular, the Department, through the United States Coast Guard, does have statutory responsibility for ensuring the safety of the inland waterways which constitute the navigable waters of the United States. The Coast Guard presently also has authority and responsibility for marine environmental protection, bridge permitting, aids to navigation, maintenance, search and rescue, and domestic icebreaking in the navigable waters of the United States.

#### Corps of Engineers Studies

Financing through the U.S. Army Corps of Engineers has been provided for the improvement of the New York State Barge Canal System (a total of \$33.5 million between 1935 and 1968). However, none of this financing was for the operation and maintenance of the Canal System. We are aware that the Corps is presently conducting a general investigation with a view to modernizing or rehabilitating the New York State Barge Canal System and the Federal project for the Troy (N.Y.) Lock and Dam. I might note here that commercial and recreational traffic on the New York State Barge Canal System has been decreasing for the last ten years.

We would, of course, be happy to assist the Corps in any way we could with respect to this investigation. However, until it is completed, we feel it would be premature for us to make any judgment regarding the appropriateness of Federal financial aid for the operation and maintenance of the New York State Barge Canal System.

#### Impact on Other Transportation Modes

We also understand that monies may be appropriated in FY 1979 for the Corps to study the feasibility of deepening the Barge Canal System to a depth of 27 feet from its present depth of 13 feet. At its present 13-foot depth, the New York Barge Canal System appears to have little potential for significantly affecting the economic viability of the Saint Lawrence Seaway or railroads in the region. If, however, it were decided to deepen the System to 27 feet and provide an appropriate width to accommodate deep draft vessels, there almost certainly would be a significant negative impact on the Seaway (whose controlling depth is also 27 feet) and on competing railroads. However, a more detailed study would be required before final judgment could be made about such intermodal impacts and their significance for the desirability of the Canal improvement project itself.

This concludes my prepared statement, Mr. Chairman. I would be happy to answer any questions you or other members of the Subcommittee may have.



ASSISTANT SECRETARY

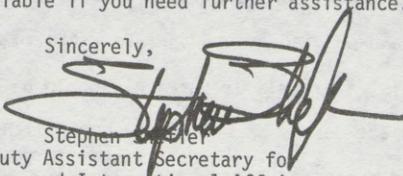
OFFICE OF THE SECRETARY OF TRANSPORTATION  
WASHINGTON, D.C. 20590

Mr. Harold H. Brayman  
Senior Professional Staff Member  
United States Senate  
Committee on Environment  
and Public Works  
Washington, D. C. 20510

Dear Mr. Brayman:

I am enclosing answers to the questions which Senator Pete  
V. Domenici raised concerning the Erie Canal. Duane Lougee  
of my staff will be available if you need further assistance.

Sincerely,



Stephen D. Ober  
Deputy Assistant Secretary for  
Policy and International Affairs

Enclosure

SENATOR DOMENICI'S QUESTIONS CONCERNING THE ERIE CANAL

- Q. 1. How would you assess the specific impact of any major improvement to the Canal--and resulting traffic growth--on competing forms of freight transportation?
- Q. 2. How would you assess the specific impact of the construction of a deep-draft Erie Canal waterway on the traffic of the St. Lawrence Seaway, taxpayer subsidies needed for the Seaway Corporation, and our relations with Canada?

A. 1. & 2.

Since these questions are related, the responses are combined. Continued operation of the Erie Canal, with its present capacity, is unlikely to impact the operations of either the railroads or the St. Lawrence Seaway substantially. However, a major improvement such as the construction of a deep-draft Erie Canal would have significant impacts on both Conrail and the St. Lawrence Seaway. As you suggest, to the extent that traffic was diverted away from the Seaway or the railroads, their finances would be hurt and the need for government subsidy increased.

However, the extent of the intermodal impact of a deep-draft Erie Canal requires further study. The Corps of Engineers has, apparently, the authority to conduct such a study.

This study should pay particular attention to the competitive impacts on future coal movements which is one of the important sources of potential growth traffic for Conrail.

- Q. 3. Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?
- A. 3. In some cases, the answer is "yes" and others "partly" and in still others, "no." While the Federal subsidies of water navigation rights-of-way do provide barge traffic with a competitive edge, barge transportation is and has been historically an efficient low cost way of moving goods. This is one reason for believing that waterway user charges will not cause substantial diversion of traffic from the existing waterways.
- Q. 4. Is it not true that highway and the airport programs are financed by user taxes, and that the Federal freight rail program consists of either loans or stock investments rather than outright subsidy grants?
- A. 4. Yes. The other modes do contribute to the cost of constructing or operating their rights-of-way.

- Q. 5. Do you think it would be fair to say that one of the factors in the decline of the Erie Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the Canal's costs, thus forcing the whole burden onto the taxpayers?
- A. 5. Originally, user charges in the form of tolls were collected on the Erie Canal. These tolls were later abolished largely because of the declining fortunes of the Canal in the face of competition from the other surface modes, initially the railroads and later the motor carriers. In the light of the history of this historic waterway, it seems most likely that a continuation of the tolls would have hastened the Canal's decline rather than retarded it. If the commercial beneficiaries did pay user charges, however, they would through their pocketbooks have a greater voice in any decision on whether the Erie Canal should be expanded.
- Q. 6. Statements were made at the Erie Canal hearing that barge traffic is unique in its ability to stimulate regional growth. Would you agree? Is it a cost-effective way to stimulate regional growth? Do you believe that emphasis on barge traffic may distort transportation balance?
- A. 6. Transportation development can have an important impact on regional growth, if other certain preconditions are present; barge traffic is not unique in this respect. The cost effectiveness of transportation in regional growth stimulation must, however, be evaluated on an individual project by project basis. The Cumberland Road, the transcontinental railroad and the Erie Canal have all in their day had positive impacts on regional growth. Sound investment analysis of any transportation project should ensure that regional growth possibilities are not overlooked.
- Q. 7. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal?
- A. 7. The purpose of waterway user charges is to recover from the direct commercial beneficiaries of Federal navigation expenditures at least a portion of the costs of constructing and maintaining these projects.

It seems only reasonable to assume that were the Federal Government to take over the burden of maintaining the Erie Canal, Federal user charges would apply if approved by Congress.

## DETAILED SUBMISSION OF

STATE SENATOR HUGH T. FARLEY  
CHAIRMAN, SUBCOMMITTEE ON INLAND PORTS & WATERWAYS  
August 17, 1978

HISTORY

Over 150 years ago, the Erie Canal, stretching from Albany to Buffalo, was opened for commercial navigation. The completed canal, 363 miles long, proved to be the catalyst which spurred the great westward migration which resulted in the settling of the West. As a result of the traffic moving on the canal, over 6 million tons by 1868, New York City became the largest in the nation; while former frontier towns such as Albany, Syracuse and Buffalo, due to their locations along the canal, emerged as cities and major trading centers.

During the 1840's, due to the extensive use of the Erie Canal, the system was enlarged. The original construction of the canal, its operation and maintenance and its subsequent enlargement were paid for by a toll on users of the canal. By 1880, the canal had generated \$42 million in revenue in excess of canal-related expenses. In fact, at the time, revenue from the canal was paying for all the expenses incurred by the operation of the State government. The advent of the railroad resulted in the canal being faced with competition for the first time in its existence. In order to counteract the loss of tonnage to competing railroads, the toll for using the canal was dropped in 1883.

Although the Erie Canal was one of the engineering wonders of its time, being larger and having a greater lift than other canals of that time, by the turn of the century it was becoming

outdated. Advancements in rail transportation resulted in a continuing loss of tonnage on the canal. At this time, the federal government considered the possibility of converting the system into a ship canal; however, the idea was not found to be feasible and federal attention was diverted to the St. Lawrence River. New York State decided to go it alone and floated the largest single bond issue in the nation at that time, \$101 million; this sum was eventually increased to \$154 million before the new Barge Canal was completed in 1918.

At the time of its completion the New York Barge Canal was the largest, most modern canal in the world. Despite this fact, the new Barge Canal has never carried as much tonnage in a single year as the Erie Canal did at its peak.

The Erie Canal and the Barge Canal occupy a unique place in American history, as they were both built, owned and operated by the State rather than the federal government. Federal participation in canal building began early in the United States until the activity became almost exclusively the domain of the federal government. Today, the New York Barge Canal is the only canal in the country owned and operated by a state government. All of the other canals in the country are owned, operated and paid for by the federal government; New York is the sole state which pays for the operation of an inland waterway.

New York has, on one occasion, received financial assistance from the federal government for improving the Barge Canal. In 1935, under the Rivers and Harbors Act of that year, Congress appropriated \$27 million for improvements to the Barge Canal including deepening of the channel, raising bridges and widening curves

in the canal. While the federal funds were contingent on certain qualifications, ownership and operation of the canal remained with the State.

#### PHYSICAL CONDITION

The physical condition of the canal can only be described as antiquated at best and delapidated at worst. This is despite the fact that the New York State Department of Transportation (NYSDOT) has done an excellent job with the limited resources available to them to run the canal. Old age is causing the Barge Canal to fall apart faster than NYSDOT can repair it.

The New York State Barge Canal is 527 miles long, stretching from New York up the Hudson to Albany and across the State to Buffalo; the system also includes the Champlain Canal, which runs from Albany north to Lake Champlain and the Oswego Canal, which starts at Three Rivers and connects the Barge Canal to Lake Ontario. The system includes 151 miles of artificial land cuts and 376 miles of canalized rivers. In terms of navigable depth, the Barge Canal is deeper than most of the other canals in the country; the Barge Canal is 12 to 14 feet deep while most of the federal inland waterways system is 9 feet in depth. Navigable channel widths vary from 200 feet in river and lake sections to 104 feet in earth cuts.

The combined lift at the Barge Canal's 57 locks is 1,024.9 feet. Installed over 60 years ago, the original mechanical equipment is still used to operate most of the locks; eight of the locks which were in the worst condition have been refitted with hydraulic systems. Locks on the Barge Canal are 328 feet long and 45 feet wide. While these may sound like large locks, they are small in comparison to the newer locks on the federal system, which are 1,200 feet long and 110 feet wide.

Perhaps the most visible indication of the Barge Canal's deteriorating condition is the concrete work. In many sections the concrete is the original pouring from the 1905-1918 construction period and is literally falling into the waters of the system. While NYSDOT has resurfaced 22 of the locks, others are in need of attention and the guidewalls leading to some locks have deteriorated to the point where the approach to the locks is slowed down and made more difficult.

There are numerous high spots in the channels of the Barge Canal which prevent the passage of fully loaded barges, resulting in higher operating costs to Barge operators. Currently there is a dredging backlog of approximately 2.5 million cubic yards which would have to be removed before the Barge Canal would be restored to its original depth. Although NYSDOT removes over 800,000 cubic yards annually, the problem becomes worse each year as the Department's dredging equipment becomes older and less reliable. Recently, NYSDOT was forced to retire four of its derrick boats, and the four hydraulic dredges which carry out the bulk of the dredging were originally built in the 1930's.

#### FISCAL ASPECTS OF CANAL OPERATIONS

To conduct its battle against the encroaching old age of the Barge Canal, NYSDOT has had an annual budget of between \$9.5 and \$11.5 million in the past ten years to operate and maintain the system. While the annual appropriation has remained steady in terms of absolute dollars, over the past ten years in relative terms, the Department has been faced with a constantly shrinking budget to operate the Canal. In addition to budget cutbacks, NYSDOT in the last eight years has had to reduce its Waterways Maintenance Subdivision

by 290 positions.

The State also provides capital construction funds for maintaining the Barge Canal; the annual appropriation for capital construction has run from \$550,000 to \$7.3 million since 1972. In general, capital construction funds have been allocated for refurbishing locks, bank reinforcement and machinery replacement; it becomes evident that capital construction funds are being devoted to keeping the Canal operating, not in any way significantly improving it.

#### COMMERCIAL USE OF THE CANAL

Commercial use of the Barge Canal has been steadily dropping to its current level of approximately two million tons. Of this tonnage, over 90 per cent consists of petroleum and petroleum products. Products such as molasses, sugar, forest products, iron, paper products, fertilizers and agricultural products have not moved on the Canal in any quantity since the early 1960's.

The drop in commercial tonnage and the physical condition of the Canal have resulted in operators withdrawing from operating on the Canal or operating only existing stock and not investing in new equipment. Barge operators appear to be reluctant to invest in new vessels for two reasons:

.Uncertainty about the Barge Canal-- There is growing skepticism and concern on the part of barge operators about the Barge Canal's future as an efficient system; physical deterioration and obsolescence have plagued the Canal and in turn created costly delays and uncertainties for the barge operators.

.Inflexible Barge Design -- Barges now plying the Canal must be no larger than the locks (maximum size 300 feet x 43.5 feet). The barge operators argue that such barges are not practical since they are not large enough to operate safely or economically in either the New York Harbor or the Great Lakes. This inflexibility effectively limits the barges to hauling products exclusively on the Canal.

A few examples may serve to illustrate the basis for the Barge operators' fears about the reliability of the Canal. There are over 1,600 navigation buoys on the Canal, held in place by a chain fastened to a concrete weight. During periods of high water, the buoys are occasionally swept down stream, forcing commercial navigation to stop. In October 1977, high water resulted in a cessation of commercial traffic for several days; by Friday afternoon, October 7, 1977, Barge operators asserted navigation could have resumed, except that the navigation markers had not been replaced. The buoys were not relocated until the following Monday, resulting in an additional three day delay. On July 31, 1977, the wall of a feeder canal supplying the summit level of the Champlain Canal developed a leak, forcing the closing of the Champlain section of the Barge Canal for five days, stranding seven barges.

Barge operators calculate that it costs \$3,500 per day to operate a barge unit, so that the two delays mentioned previously cost operators approximately \$170,000 and \$120,000, respectively. In addition to these costly delays, barge operators are further deterred from purchasing new stock by the fact that barges used on the Canal are too small to use economically in New York Harbor or on the Great Lakes. Since the future of the Barge Canal is in doubt, the operators hesitate to invest a large sum of money into a unit which is limited to operating solely on the Barge Canal.

#### NON-COMMERCIAL USES OF THE BARGE CANAL

As the commercial use of the Canal has declined, non-commercial uses of the Canal have become increasingly important. The Barge Canal has become a popular attraction for sightseers, boaters, fishermen and others.

Recreational activities along the Canal include:

- . recreational boating on the Canal is popular, although the exact number of recreational craft using the Canal is not known;
- . fishing has increased on the Canal as the water quality has improved;
- . a sightseeing service is run on the Canal by the Mid-lakes Navigation Company;
- . nine mini-parks at locks along the Canal attracted 45,000 visitors last year;
- . recreational bike paths have been established along the Canal; and
- . historic sites, such as the Canal Raceway and the locks of Lockport attract many sightseers.

The Barge Canal also serves as a water supply to communities along the Canal such as Cohoes, Colonie, Waterford and Queensbury. In addition, Schenectady and Rotterdam take their water from underground aquifers fed by the Canal. At one time, the Canal also supplied water to farmers in the western section of the State. While its importance for agricultural irrigation has declined, it remains a potential source for the future.

In a time of increasing fuel costs, the Canal offers the possibility of inexpensive hydro power. At one time, hydroelectric power was supplied at each of the locks to operate the gates and pumps. Interest and research into low-head generators, which might be used on the Canal, are increasing. Two hydroelectric generators at Vischer's Ferry and Crescent already produce power which is put into the Niagara Mohawk grid. While the Canal will never be a major source of power, it may supply power for small communities or industries along its banks.

FEDERAL FUNDING

The continued decline in the physical condition of the Canal and the accompanying drop in Canal tonnage make the expenditure of additional funds to maintain the Canal a necessity. A representative of the Army Corps of Engineers has stated that without an increased maintenance program to preserve the Canal, it may literally crumble into its own waters and have to be closed. The State is currently spending over \$15 million to maintain a Canal which carries interstate traffic; in fact a large part of the benefits associated with the Canal are received by Vermont residents, and represents an all-American alternative to the St. Lawrence Seaway. The State can no longer afford to go it alone; federal assistance is needed to preserve this national resource. A precedent for federal aid without federal ownership can be found in the \$30 million the federal government provided in the 1930's for Canal improvements. Federal funds for the interstate highway system provides another example of the federal government providing funds for a transportation system while the operation of the system remains with the states.

A COMPREHENSIVE STUDY

One of the immediate needs of the State in relation to the Barge Canal is a comprehensive study of the Canal system which examines all the benefits and costs associated with the Canal, both now and in the future. Existing studies of the Barge Canal are either out-of-date or lack essential information. While the Corps of Engineers is currently conducting a study involving the Barge Canal, it may not be concluded before the Canal deteriorates to the point where it must be closed.

In my opinion, what is needed before the State and federal governments take any steps regarding the future of the Barge Canal

is a study, which at a minimum, addresses the following questions:

- . Who uses the Canal now and who might use it in the future?
- . For what purposes might the Canal be used in the future?
- . What are the possible alternatives for the Canal? These might range from major expansion of the Canal through modest rehabilitation to the closing of the Canal.
- . How would the benefits, as identified below, be affected by various possible alternatives for the Barge Canal? What would be the cost of these alternatives?
- . What are the present and possible future benefits accruing to the State from the following uses of the Canal: commercial navigation; flood control; municipal and commercial water supply; agricultural irrigation; electric power generation; and recreational use and development (such as pleasure boating, fishing, picnicking, historic site preservation, and park development)? Are there additional benefits?
- . What impact would the above possibilities have on the other modes of transportation in the State?
- . What is the possible relationship between the Barge Canal and the upstate ports, particularly those on the Great Lakes?

These questions and others will require substantial analysis, including extensive economic and engineering calculations, that exceed the State's resources. A joint State-federal study is necessary to provide the necessary information.

A prototype analysis that I would like to call to your attention involved the early 1970's Tocks Island project. The controversy swirling around the Tocks Island project prompted Congress to authorize and fund a \$1.5 million study, (P.L. 93-393, enacted on August 28, 1974), completed in one year, which determined the costs and benefits, viewpoints, alternatives and all other relevant data regarding the project. The resultant report, in seven volumes, was a thorough look at a billion dollar project. While the Barge Canal is not now that

controversial, it might well become so, particularly if major renovations and/or expansion were proposed. I think we would be wise to conduct a thorough analysis before alternatives surface and controversy is generated. I suggest a Tocks Island-type study of a more joint state/federal effort.

Such a study could probably be most successfully conducted by utilizing a multi-agency approach, with the U. S. Department of Transportation (DOT) and the NYSDOT as the lead agencies. I feel that while the Corps of Engineers has much to contribute from an engineering and technical perspective, this study would transcend the normal areas of Corps of Engineers' expertise and could best be directed by DOT. At least five federal agencies would have something to contribute to such a study:

- . Department of Transportation -- Overall coordination of the federal portion of the study could be handled by DOT. Additionally, information relating to the cost comparison of barging to other modes of transportation and the impact of various Barge Canal alternatives on the State's transportation network could be developed by DOT.
- . Environmental Protection Agency -- An environmental assessment of the various Barge Canal alternatives could be prepared by EPA. Such an assessment should include not only the impact of any proposed construction and dredging, but also should examine the secondary effects of each alternative (such as increased industrial development if the Barge Canal were enlarged, or what effect on the effluent-carrying capacity of the Canal waters would result if the system were forced to close).
- . Economic Development Administration -- Information pertaining to the effect a modern barge canal would have on attracting new industry and jobs into the State could be provided by the Economic Development Administration.
- . Corps of Engineers -- Input from the Corps of Engineers would be essential for the necessary engineering, economic, and technical information regarding possible alternatives for the Barge Canal.

- . Department of Agriculture -- New York farmers are at the mercy of the railroads for delivery of agricultural supplies, a plight which has resulted in higher transportation rates than those paid by farmers in other parts of the country. The Department of Agriculture could supply data regarding the effect a modern waterway would have on New York farmers. In addition, since the Barge Canal cuts across much of the State's agricultural production area, the U.S. Soil Conservation Service could contribute essential land use data.

A valuable national resource is in danger of being lost. The Erie Canal was instrumental in the development of this country; it may once again be the key to waterborne transportation in the northeast. However, without immediate assistance, this opportunity will be lost, the Canal will deteriorate to the point where it must be closed. The State is no longer able to sustain the burden of operating the Barge Canal; a State-federal financing is the only feasible way to preserve and further develop this important resource.

STATEMENT OF  
WILLIAM C. HENNESSY, COMMISSIONER  
NEW YORK STATE DEPARTMENT OF TRANSPORTATION  
August 17, 1978

Given the long history of New York's canals and their tremendous impact on the settlement and development of the United States west of the Alleghenies, this Committee could be flooded with an interesting if irrelevant encyclopedia of information. It is my purpose to establish one point, namely that there is a substantial basis for Federal financial assistance in the maintenance and operation of the canal svstem. Once that point has been accepted, we can then consider what levels of assistance are proper and what conditions to such assistance are appropriate.

When Senator Moynihan broached the subject of Federal support for New York's canals on May 4, he referred to "the infinite dreariness of the bureaucratic mind" that transformed the vibrant Erie Canal - known in song and story - into the humdrum New York State Barge Canal System. That was a well-placed shot. But it would be nearer the bull's eye if that "dreariness" were applied to the denials of assistance down through the years.

This history of Federal refusal to assist New York is curious and inconsistent. When the original Erie Canal was built the Federal government denied any financial aid. It did, however, make substantial contributions to canal building elsewhere. By 1860 it had granted states about 4 million acres of public land for canal projects in Ohio, Michigan, Indiana, Illinois, and Wisconsin. In addition, it had subscribed over \$3 million in canal company stock. In 1868 the State of Minnesota was granted 200,000 acres of Federal land to aid private interests in building a lock and dam on the Mississippi at Meekers Island, about 3 miles downstream from St. Anthony Falls.

I recite this history not to raise the issue of equity - in those days New York State was well able to furnish the lion's share of support to Federal programs to develop the western lands - but only to point out that there has been a long and continuing interest by the Federal government in state or, in the case of Minnesota, privately owned waterways. There are, then, precedents for Federal assistance for New York's canals.

These precedents were recognized and reinforced in the 1935 Rivers and Harbors Act in which Congress authorized \$27 million in Federal funds for improvements under suitable Federal supervision. Congress twice increased the authorization of funds for the Barge Canal project, once in 1945 and again in 1962, to a total of \$33.9 million. Congress had provided funding for over 40 years by the time all work was completed in 1969. Final reimbursement was received in 1976. It is true that all of these Federal commitments have been for capital purposes. Yet, a case can be made for Federal support of the Barge Canal operation and maintenance.

The case has four principal bases of support:

The first of these lies with the continuing operation of inland waterways on the Mississippi, Ohio, and other rivers by the Corps of Engineers although the states still retain ownership of the rivers. The borders of Illinois and Iowa do not end at the banks of the Mississippi; but meet at midstream, under water. Nonetheless, the Corps of Engineers invests in bank stabilization and navigation improvements.

The second evidence of Federal concern and interest in the operation and maintenance of New York's canals lies in the fact that the Federal government agreed with the construction of the Barge Canal System and cooperated by building the lock and dam on the Hudson River at Troy. This facility, operated by the Federal government, and the Federally maintained and operated channel in the

Hudson to New York Harbor, the narrows of Lake Champlain and the lock itself are hydraulically and operationally tied into the Canal System. In addition, there are three water reserves studies undertaken by the Corps of Engineers dealing with the New York Barge Canal System: Northeastern United States Water Supply Study; North Atlantic Regional Water Reserves Study; and Oswego Water Basin Study.

The Federal government also has strong legal interests in the Canal, ranging from a treaty between the United States and Canada concerning the use of the waters of the Niagara River for Barge Canal purposes to Federal Aviation Administration regulations for aircraft using Barge Canal waters. This legal Federal interest centers, however, on the protection of navigable waters and river and harbor improvements expressed in 33 United States Code.

Without elaborating on the pervasive environmental interest of the Federal government in everything, New York's operation of the Canal is conditioned by Federal permit requirements, clearance and regulations affecting bridges over the Canal, dredging its bottom, marking its channel, and licensing marine personnel to list but a few of these legal impacts.

The fourth basis for Federal interest in the maintenance and operation of the Canal System consists of interstate commerce and national defense. Currently, for example, some 46 percent of canal tonnage has origins and/or destinations outside New York State. This movement signifies substantial transport savings for out-of-state shippers or consignees. During 1977 the people of Vermont saved \$2.3 million in the transportation of petroleum products through the Canal compared with the next cheapest mode. This represents a savings of 2 cents per gallon for gasoline and heating oil delivered to Burlington, Vermont.

As to national defense, the airfare installations at Burlington and Plattsburgh receive 120,000 tons of jet fuel via the Canal System.

In what I hope is an idle consideration, we might look at the future of the St. Lawrence Seaway in the event that Quebec declares its independence from Canada. In that event, the old Erie Canal has the potential of becoming an important means to insure our national interest.

I submit that the United States has a sufficient interest in New York's canal system to warrant substantial financial support. In providing such support, the Federal government would discover that the cost of operating and maintaining that system are competitive with other facilities operated by the Corps of Engineers. The New York System costs \$29,300 per mile for such costs. Comparable Federal facilities range from \$12,100 for the Black River/Timbigbee to \$40,500 per mile for the Illinois Waterway.

Finally, let me note that as a transportation commissioner I cannot look at the Canal System as an isolated mode. It fits into an overall transportation system both as an energy-efficient alternative for bulk commodities and as an aid in regulating the costs of competing modes. Historically, for example, railroads in the State have conditioned their freight rates to reflect the availability of waterborne competition. We should keep that alternative alive and help guard against ConRail rate increases to the detriment not only of New York but also to the states east, west, and south whose traffic moves over ConRail lines through New York.

With few exceptions such as the Alaskan railroad, transportation facilities are not owned by the Federal government. Nevertheless, Federal funds are routinely authorized and appropriated by Congress for capital improvement of these facilities. Payments are also made for a portion of the cost of operation and maintenance.

In Federal fiscal year 1978, \$7.8 billion in Federal funds were distributed to state governments for improvement of the 3.8 million miles of highways, roads and streets not owned or operated by Federal agencies.

Another \$2.2 billion was distributed as discretionary and formula grants to assist non-Federal public agencies to operate and maintain public transportation services. \$775 million of the total amount was available for the routine operation and maintenance of the system.

Another \$540 was dispensed to non-Federal agencies to operate the nation's airports through the Airport Development Aid Program. Additional funds were distributed to privately owned railroads.

With the exception of waterways, then, the Federal government is content to support non-Federally owned transportation facilities. I hope that my remarks are sufficient to at least question that exception.

The essential concerns I have expressed here today are addressed fully by the amendment Senator Moynihan and Senator Javits offered on May 4 to finance up to 100 percent of the annual costs of operation, maintenance and rehabilitation of any inland waterway not operated and/or maintained by the U.S. Corps of Engineers. The \$15 million annual authorization included in the amendment is adequate to meet our needs. I hope that it will come before the Senate, be enacted, and supported by sufficient appropriations.

I want to express my sincere thanks to Chairman Gravel, Senators Moynihan and Javits and the distinguished members of this Subcommittee for holding these hearings on this issue of critical importance to New York State and the country.

STATEMENT OF  
FRANCIS B. BUSHEY

SUBMITTED TO:

SUBCOMMITTEE ON WATER RESOURCES OF THE  
SENATE COMMITTEE ON ENVIRONMENT AND  
PUBLIC WORKS - ROOM 4200 - DIRKSEN SENATE  
OFFICE BUILDING - WASHINGTON, D.C. AT  
10:00 A.M. AUGUST 17, 1978.

My name is Francis B. Bushey. I am President of Spentonbush Transport Service, Inc., a firm engaged in the transportation of liquid bulk materials on the East and Gulf Coasts, the Caribbean area, inland waterways of the East Coast, the New York State Barge Canal, and the Great Lakes. We transport gasoline, home heating oil, industrial oils, petrochemicals, other liquid chemicals, veg. oil, mollasses and lubricants.

In order to revitalize the Canal Systems in New York State, it is necessary to have assurance that the maintenance of the system will be taken care of by the Federal Government, and therefore, not susceptible to budget problems that may arise in the State of New York. It is obvious to all Operators on this Waterway that the lack of maintenance has caused breakdowns during the limited navigation season. These breakdowns are disastrous to Operators who have had equipment tied up for weeks due to failures caused by the lack of funds to properly maintain the system.

The minimum requirements to sustain any interest in this Waterway is to have a rehabilitation program initiated as quickly as possible. One relatively inexpensive rehabilitation is to restore the Champlain Canal to its project depth which would permit one foot additional draft. Raising bridges on this Waterway to provide a twenty foot clearance to correspond to the clearance on the Erie and Oswego division of the New York State Barge Canal, would further enhance the use of this Waterway. These recommendations for the Champlain Canal would make it a more efficient Waterway at little cost.

The Erie and Oswego Canals must have immediate rehabilitation to many of the locks, guard gates and dams, but, to develop additional traffic, it is necessary to increase the size of the locks and some channel widths. These projects have been discussed with Army Engineers many times and details are available in the Corps Offices in New York.

The original Erie Barge Canal was probably one of the largest factors contributing to the development of Commerce and Industry not only in the Port of New York and Albany but also the Western Ports of Oswego and Buffalo, because it opened up inexpensive bulk transportation. However, due to the limited resources of the State of New York, this Waterway was never developed in a fashion similar to the great development of the Western Rivers. It was the development of the Western Rivers and the lack of development of the

New York State Waterways that turned thousands of tons of bulk commodities away from the Eastern Seaboard, and sent them down the Western river system to the Gulf of Mexico.

New York State is the only State of the Union that is burdened with the development of its water resources without the aid of Federal assistance. These water resources must be looked at in the broad sense because they are used for recreation, irrigation, flood protection and power generation, in addition to commercial water transportation. I believe it is time for the tax-payers of the State to have their water resources and permit the Federal Government to pay for them.

However, if the only contribution the Federal Government makes is to contribute to maintain this Waterway in its present configuration, it would be disastrous to vessel operators for this Waterway to be considered one where vessel operators on this system would be subject to user charges or fuel taxes that are presently being considered in Congress. Any charges for the use of this Waterway could only be considered upon the conclusion of an expanded Erie and Oswego Canal such as the project studied by the Army Engineers.

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On behalf of the members of the New York State Waterways Association I wish to express our thanks for the opportunity to testify at this hearing conducted before the Subcommittee on Water Resources.

The Waterways Association is comprised of the individuals who operate the barges, tugs and tankers on the Hudson River and the canal system going north on the Champlain section to Plattsburg and Burlington and west from Waterford to the Great Lakes.

The Association supports the resolution requesting federal funds for the operation and maintenance of the canal system. However, the Waterways Association is more vitally concerned with having federal monies for the rehabilitation and modernization of the canal system. The present canal is in need of repairs and we are faced with single locking at each lock because of the length of 300 feet and the width of 45 feet. It has been several years since any new equipment has been constructed specifically for use on the canal. This is because of the limited length of the locks and the width and placed the operators into the position where they cannot justify the cost of building new equipment

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for use on the New York Canal System.

The commercial tonnage shipped via the canal has been decreasing in recent years and we attribute this decline to the fact that many potential shippers of products hesitate because of the fear of finding themselves trapped in the canal because of a breakdown of a lock or the collapse of a canal wall. Their concern is how long they would be delayed and how much additional cost for the trans-shipment to another mode of transportation.

The commodities particularly attached to inland water-borne transportation are raw materials, moving in large quantities from one stage of production and processing to the next stage of finishing. Petroleum products, chemicals, grains and coal lend themselves especially well to barge transportation. Many heavy, bulky, semi-finished as well as finished products also move by barge. The economic value of water transportation has been demonstrated and proven to many industries - mining, agricultural, petroleum, iron and steel, aluminum, forest products and the building trades in general.

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Water is the lowest cost mode of transportation. Shippers use barge service to hold existing markets and expand their markets where the high costs of other modes may deny them access to outlets. Virtually any commodity can be shipped by water. To transfer these products the waterways industry has developed a variety of types and sizes of barges for the efficient handling of products ranging from coal in open hopper barges to chemicals in "thermos bottle" barges and from dredged rock in dump scows to railroad cars on carfloats. And barging is the only practical mode for long distance moving of out-sized machinery, tanks, kilns and some of the space vehicles.

Hopper barges are the most versatile, least costly and most numerous and with minor modifications can be adapted to the transportation of literally any solid commodity in bulk or package.

The Waterways Association believes three areas for increased shipment via the canal are coal, grain and containerization.

New York is the only state whose taxpayers bear the entire cost of improvements and maintenance of its canal system without receiving

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Page Four

New York Office  
17 Battery Place  
New York, N.Y. 10004  
Phone (212) 943-8480

any federal monies. All of the inland waterways are maintained and operated by the federal government with federal funds which New York State taxpayers contribute 20% based on tax revenues received. We feel this justifies federal monies being appropriated for the rehabilitation and modernization of our system. At the same time we do not feel the issue of transfer of title is an obstacle because the 1959 amendment to the New York State Constitution permits the transfer or lease of the canal and the lease part allows for the state and federal government to work out a satisfactory agreement.

The Corps of Engineers are currently conducting studies to determine if federal funds can be justified for the New York State Canal System. Our membership is very concerned about the length of time this study will take as we are advised it will be two more years before the studies will be completed. This means the operators are placed in a position where they are unable to consider the construction of any new equipment until the findings of the Corps are published. The New York State Waterways Association would like to see these studies completed in a much shorter time so

NEW YORK STATE WATERWAYS ASSOCIATION, INC.

ORGANIZED 1908

174 WASHINGTON AVENUE, ALBANY, NEW YORK 12210  
(518) 449-7114

Hector Marchini, President  
Francis B. Bushey, Vice President  
Leon Cardillo, Treasurer  
William Cleary, Secretary  
John C. Tobin, General Counsel

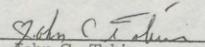
Page Five

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New York, N.Y. 10004  
Phone (212) 943-8180

we would know what the future for commercial use of the canal will  
be.

Again, I wish to express my thanks for the opportunity to testify  
before this committee.

Dated: August 17, 1978

  
John C. Tobin

NEW YORK STATE WATERWAYS ASSOCIATION, INC.

ORGANIZED 1908

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(518) 449-7114

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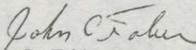
September 6, 1978

Harold H. Brayman  
Professional Staff Member  
Committee on Environment  
and Public Works  
United States Senate  
Washington, D. C. 20510

Dear Mr. Brayman:

Attached are the answers to questions raised in your letter  
of August 21, 1978.

Very truly yours,

  
John C. Tobin

JCT/jb  
Encs.

- 1) What is a typical commercial trip now made on the New York State Barge Canal? What are the commodities carried? What is the barge configuration used? What is the typical freight charge for such a voyage?
- 2) It is often suggested that barges are more energy efficient than railroads. In light of the fact that most unbiased studies show little difference or slightly greater efficiency for rail, could you please express your views and cite the basis and source for your view?
- 3) What commodities are moved commercially on the Canal? What portions of the canal carry various types of traffic?
- 4) You have suggested various cost-saving estimates in transportation resulting from canal improvements. What is the basis of your estimates?
- 5) Isn't the "low cost" feature of barge traffic largely a function of its fully subsidized character?
- 6) Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain.
- 7) If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal Government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal Government assumes responsibility for the Erie Canal? If not, please explain why the Erie Canal should be exempted, even though commercial users of other waterways would be paying such a charge or tax?
8. Why do you believe taxpayers across the nation should provide a free subsidy to the barge lines, while other forms of commercial traffic are either self-sustaining or are maintained by user taxes?

1. A typical commercial trip would be north on the Champlain Section to Plattsburg, New York and Bennington, Vermont via Lake Champlain and west from Waterford, New York to the Great Lakes.  
  
Commodities carried would be petroleum, chemicals and grain.  
  
Barge configuration would be tugs, barges, self-propelled tankers.  
  
Freight charges are negotiated between the operator and the user.
2. See attached letter.
3. See answer above in # 1
4. Estimates: We will be able to increase the amount of tonnage per trip.
5. No.
6. The decline of tonnage on the canal is directly related to the deteriorating condition of the canal and the limited size of the locks.
7. I do not agree there should be any user charges on the Erie Canal until it has been rehabilitated and modernized to meet the standards of the other inland waterways of the United States.
8. Generally all types of transportation are in need of federal financial assistance and this burden should be shared by all of the taxpayers.



THE AMERICAN WATERWAYS OPERATORS, INC.

WASHINGTON EXECUTIVE OFFICES

1600 WILSON BOULEVARD • SUITE 1101 • ARLINGTON, VA. 22209

JAMES R. SMITH, President

Telephone: 703-841-9100

February 18, 1976

Colonel Thomas Hunter  
New York District Engineer  
Corps of Engineers  
Room 2107  
26 Federal Plaza  
New York, New York 10013

Dear Colonel Hunter:

There have been several studies in the past few years which confirm the energy efficiency of the water mode of transportation.

In March of 1973 William Mooz of the Rand Corporation undertook an analysis of the various modes based on BTU's consumed per ton-mile. The results show that the waterways are the most efficient, consuming 500 BTU's per ton-mile. Rails require 750 BTU's, a full 50 percent more. Pipelines require 1,850 BTU's, trucks 2,400 and air cargo 63,000 BTU's per ton-mile.

Marvin Barloon, Professor of Economics at Case Western Reserve University, has studied fuel intensity of various modes of transportation. Using 1970 figures, he determined that the rails consumed 4.69 gallons of #2 diesel fuel per 1,000 ton-miles, compared to only 3.00 gallons for waterways.

On March 5, 1974, Secretary of Transportation Claude S. Brinegar testified before the Subcommittee of the Committee on Appropriations of the House of Representatives. During the testimony, Mr. Brinegar discussed energy usage in transportation. He stated: "The freight data shows the strong need to promote additional carriage by water and rail where feasible."

The following statistics were submitted to support the Department of Transportation's position:

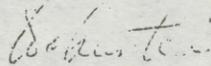
Mode	Fuel Usage 1,000 Barrels per day (1973)	Freight Ton-Miles Per Gallon of Fuel (1973)	Revised Figures (1974)
Water	120	300	306
Rail	300	180	178
Truck	1,450	50	54

In citing the revised (1974) figures above, Deputy Secretary of Transportation John W. Barnum concluded: "Fuel conservation will soon be taking top priority in fuel decisions. . . . Vessels and barges will be receiving a lot of attention."

The Upper Mississippi Waterway Association has also studied fuel efficiency, concluding that railroads achieve 204 ton-miles per gallon of fuel while waterway carriers average 419 ton-miles per gallon. Their 1975 study concludes: "In the final analysis, the purest measure of efficiency is the most ton-miles moved for the least fuel burned. The evidence . . . seems to indicate without question that the railroads, on the average, achieve near 200 ton-miles to the gallon, while waterway carriers achieve over 400 ton-miles per gallon, a significant and insurmountable advantage for the water mode."

I hope this information is of help. If you have any further questions, please feel free to contact me.

Sincerely,



Neil Schuster  
Director of Research

cc: ✓ J. W. Von Herbulis, President  
Pittston Marine Corporation



# FEDERATED BOATMEN OF NEW YORK, INC.

275 MADISON AVENUE, NEW YORK, N. Y. 10016

September 7, 1978

United States Senate  
Committee on Environment & Public Works  
Washington, D.C. 20510

Att: Mr. Harold H. Brayman, Professional Staff Member

Dear Mr. Brayman:

In response to your request of August 21, the following constitutes my attempt to respond to the questions posed by Senator Pete V. Domenici, for inclusion in the record.

The questions numbered 1, 3, 4 and 7 clearly deal exclusively with commercial matters, as to which I am not fully qualified to speak. I assume that the representatives of commercial users, who testified at the Erie Canal hearing last week, will respond to these questions.

Three questions, numbers 6, 8 and 10, clearly call for a response from this organization, and I address myself to them.

6. I do not believe that "the decline of the Canal" has been in any appreciable measure the result of any refusal of commercial beneficiaries to agree to contribute by users charge to the Canal's costs; I seriously doubt that any such "refusal" has taken place. Rather, I think it fair to say that both commercial and non-commercial users of all the nation's waterways rely upon the traditional concept that such waterways are a free, public highway, forever available to all users, as more fully detailed in the text of my testimony at the hearing. I will revert to this subject again, below, in connection with others of the questions posed.

8. While I do not believe that recreational boatmen (Note: A "boater" is a straw hat) should pay any discriminatory tax as compared with any other segment of society, the fuel tax, its problems and its proposed solutions have no particular bearing on the Erie Canal questions. The gasoline fuel tax paid by recreational boatmen originally was refundable, upon request, and still should be. At the present time, only a portion of it is refundable, even upon request, in the form of a credit against personal income tax. The non-refundable portion, plus the unclaimed and hence unrefunded part of the refundable portion, have for some years been placed in the Land and Water Conservation Fund administered by the Department of Interior.

This contrasts baldly with a similar tax paid by private airplane pilots, which goes into a trust fund for the benefit of private airplanes and is administered by an agency sympathetic to their needs, and the automobile fuel tax which goes into the highway trust fund and is used for purposes of benefit to automobile operators.

Believing that any attempt to restore or increase the refundability of the tax would fail and having determined by extensive study that the Land and Water Conservation Fund does not benefit recreational boatmen despite the fact that they are the only taxpayer group contributing to that Fund, the National Boating Federation, of which I am Vice President, and which is the national parent of Federated Boatmen of New York, Inc., has proposed legislation which shortly will be introduced into the Congress of the United States, which would remove this unrefunded recreational boatmen's gasoline tax from the Land and Water Conservation Fund and place it instead in a separate boating trust fund to be administered by the United States Coast Guard, under the Secretary of Transportation, in part for the construction of boating facilities and in part for the operation of boating safety and educational programs, largely by grants to the states. Since some thirty million dollars per year is involved, this might obviate the necessity of appropriations from the general revenues for boating safety and related purposes, which have somewhat troubled the Office of Management and Budget in recent months. I will be happy to supply copies of this proposed bill to members of this Committee. I reiterate, however, that I see no connection between the gasoline tax issue, important and urgent though it be, and the Erie Canal question.

10. I do not believe that recreational boatmen would benefit from a user charge imposed on commercial users of waterways, even if the money raised was spent to improve the inland waterways. History teaches that "divide and conquer" can apply unintentionally for well-intentioned purposes, and is not the exclusive province of evil persons. Any opening wedge in the present status of waterways as a free public highway would rebound, ultimately, to the disadvantage of all users, including recreational boatmen.

Questions 2, 5 and 9 do not fall strictly within the province of this organization but, nevertheless, justify some comments.

2. I am not familiar with "most unbiased studies" which show little difference or greater efficiency for rail as compared with water transportation. I learned long since that the easiest way to lose a debate is to allow one's adversary to formulate the question to be debated. If the question is how to move small quantities of individual items between two points on a railroad main line, each of which points is substantially distant from the nearest waterway,

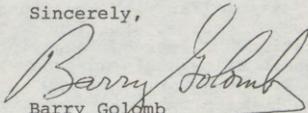
I have no doubt that rail or some other means of transportation would be more efficient, almost without regard to the definition of efficiency which is written into the comparison. If the question is how to transport bulk products in quantity from the area feeding one end of the canal to the area accessible near or through the Hudson River, my study of economics leaves me in no doubt but that barge transportation would be the least expensive and most efficient, again without regard to the definition of efficiency. There are many intermediate situations. I have never heard it suggested that the Erie Canal is a solution to all possible transportation problems, or the best way of dealing with any transportation issue which might arise. But then, the California railroads don't serve Plattsburgh, New York, very effectively, either.

5. Nor do I believe that any differential favoring water traffic is to any great extent "a function of its fully subsidized character". I strongly suspect that the railroad land grants and the operating subsidies they receive, and the highways constructed at government expense and so maintained, provide far greater benefits at the expense of the taxpayers than is received by water traffic. I'm aware of the fact that truckers pay substantial fees for their various licenses, which contribute to defraying these costs, but certainly it is never pretended that even these very substantial costs eliminate the element of subsidy. Again, the very large fees paid by commercial airplanes do not eliminate the net subsidy effect of the government construction and maintenance of airports and operation of air traffic controllers and safety services.

9. Thus, I do not believe that other forms of commercial traffic are either self-sustaining or maintained by user taxes and, hence, I do not find it a contrast to suggest that traffic on the waterways is to some extent subsidized by the taxpayers. Indeed, as pointed out in my testimony at the hearing, the maritime jurisdiction of the United States is peculiarly federal in nature and is one of the very few areas where the expenditure of federal funds cannot properly be called into argument as constitutionally improper or dubious.

I sincerely appreciate the opportunity to testify and the further opportunity to respond to these questions.

Sincerely,



Barry Golomb  
President

BG:hdm

- 1) What is a typical commercial trip now made on the New York State Barge Canal? What are the commodities carried? What is the barge configuration used? What is the typical freight charge for such a voyage?
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- 8) Do you believe recreational boaters should pay a fuel tax, as presently occurs, yet allow commercial users to be exempted from such a tax?
- 9) Why do you believe taxpayers across the nation should provide a free subsidy to the barge lines, while other forms of commercial traffic are either self-sustaining or are maintained by user taxes?
- 10) Don't you think recreational boaters would benefit if a waterway user charge was imposed on commercial users of the waterways, and the money raised was then spent to upgrade and improve the inland waterways?

Social History of the Erie Canal

By Jocelyn Samuels

The Idea of a Canal

Americans early realized the potential importance of use of the Nation's rivers and lakes. The Louisiana Purchase had doubled the size of the country and had provided free and uninterrupted navigation of the Mississippi. The introduction of steam navigation further accelerated the settlement of the Mississippi Valley, and extended the American territory further west than had ever been believed possible.

Westward migration, though difficult, spurred tales of growth and riches west of the mountain barrier of the Appalachians. Gouverneur Morris, inspired by the current legends of Western advancement, noted that "As yet, we only crawl along the outer shell of our country. The interior excels the part we inhabit in soil, in climate, in everything. The proudest empire in Europe is but a bubble compared to what America will be, must be, in the course of two centuries, perhaps of one."

Travel and communication with their Western neighbors was difficult for most Easterners, however. Though Eastern markets existed for Western crops, and though Westerners could have made good use of products manufactured in the East, a quick and efficient means of transport had yet to be found. Migration westward was also hampered by the circuitous routes initially available.

Land routes were difficult to follow, and the only real gap in the mountains, the Mohawk River, was filled with rocks and rapids that made it impassable. Real penetration of the West awaited the development of direct artificial waterways.

Attempts to construct artificial waterways had early been made. In 1792, the Western Inland Lock Navigation Company was formed to provide a way west by water from the Hudson River to Lake Ontario. The effort was notably unsuccessful, with a small, crude canal around Little Falls, New York, the only result, but the inspiration toward cheaper, faster travel westward had been sparked.

The idea of a canal between the Hudson River and Lake Erie was first conceived in 1808, when the New York legislature appointed a committee to explore the possibilities. The stated aim was to reach a point at which, in the words of Gouverneur Morris, "the waters of the great western inland seas would, by the aid of man, break through their barriers and mingle with those of the Hudson." A more direct, if unexpressed, motivation may have been the fear that traffic and trade of the Great Lakes would be diverted to the port of Montreal. The canal scheme would open to the port of New York a trading region greater than any then enjoyed by any other American port.

The idea did not enjoy universal support. Portions of the opposition came from the Regency in New York, which, headed by Martin van Buren, found the whole project preposterous. Some noted that the Middlesex Canal that ran the 27 miles from Boston to the Merrimack River had gone bankrupt, and thought it foolhardy to even contemplate the 363 mile length of the proposed Erie. Opposition was encountered on a national level as well. When New York legislators went to Washington to ask for funds (the original state conception had been that the federal government would share equally in the development of this resource), they got a skeptical reaction from President Jefferson. He noted that "it is a splendid project and may be executed a century hence,...but it is little short of madness to think of it at this day!"

Madness or not, supporters of the canal found a firm champion in DeWitt Clinton, and construction started on July 4, 1817. The Erie Canal, symbolic in influence on the developing nation, and immense in its economic impact, was begun.

#### Construction of the Canal

Digging on July 4, 1817 began at Rome, New York. This small and somewhat insignificant town was the area nearest the upper limit of navigation on the Mohawk River. It was at the middle of the proposed canal route,

and its level countryside meant both that digging would be easy and that no locks would be required. Clinton was anxious to make rapid progress on construction, and so deter his most severe critics, and thus started drilling in the place least likely to cause construction problems.

Clinton's strategy points up the major problem in construction of the canal, the lack of precedent in canal building on this scale, and the total absence of expertise on the part of its laborers. Though Egyptians and Italians had historically built canals, none had been constructed on the scale here contemplated, and some had been little more than primitive ditches. The laborers, engineers and surveyors employed on the Erie, furthermore, had no technical knowledge of the mechanisms for building such a canal. Though they learned by experience on this first major experiment, none of them had any conception of how to overcome the engineering difficulties they were to confront. Starting construction at the Hudson River, near the beginning of the route, would indeed have been an impossibility; the drilling and blasting that would have been required were beyond the ability of all involved.

A committee formed to study the problems involved in construction initially suggested that the entire

canal be built as an inclined plane -- a canal without locks which would slope gently downward from Lake Erie to Utica. This simple engineering design would provide enough slant to keep the water running and the channel full, but would not be too steep to make it difficult to tow a boat against the current. This idea was dismissed when it was discovered that it would be both impractical to build and more expensive than any other option. In fact, its cost was estimated at some \$3-\$6 million!

Engineering requirements thus included 88 locks to compensate for changes in height of various portions of the waterway, a 10 foot wide towpath for mules to pull the canal barges that operated without sails or oars, and barriers and protection from the wild course of the Mohawk River, which at times ran parallel to and at times intersected the course of the Erie. Also needed was a feeder system that would transfer water from nearby lakes and streams to the canal itself. The first step was to clear trees and then dig roots from the path of the canal. This was done without steam shovels; only picks and shovels were available. Ingenuity did develop many devices that could help the builders meet natural obstacles, however. The plow and scraper were used for the first time in canal construction, and the narrow

plow was invented. Cement was discovered high in the cliffs, and saved New York State money that would otherwise have been spent on imports.

The rate of progress improved as laborers learned to manage technical problems. The necessity for speed demanded more workers, and the 80¢ per day wages were twice as high as those being paid for unskilled labor elsewhere. The pay was three times as high as that being offered in Europe, and it spurred the immigration of the canal's greatest contributors, the Irish.

#### Irish Participation in Construction of the Erie Canal

In general, the workers on the canal came to make money. Promises of riches and extravagance that were largely unfulfilled in terms of living conditions were offered both native Americans and immigrants. Contractors were hired to dig sections of the canal; they in turn hired laborers, and provided them with sleeping shacks, supplies, equipment, and food. Engineers and contractors were for the most part American, but the Irish formed the bulk of the laboring forces.

Most of the Irish were lured by somewhat deceptive advertising to leave their homes and emigrate to the United States. Some however, were already here. To prevent any possible shortages of labor, a law was

passed to allow the use of prison labor. Irish convicts in New York City jails were pardoned and asked to work on the canal for the duration of their unexpired terms. They received standard prevailing wages and treatment, but were returned to jail to serve their sentences from the beginning if they tried to escape.

The Erie Canal was the second major construction work in America (the first was the Schuylkill River Canal project in Pennsylvania) to be attributed to the Irish, and they were indispensable thereafter. The Irish were responsible for digging all the American canals built before the Civil War, with the exception of some of the early projects commenced in the South. The work was hardly easy, however. The laborers were subjected to horrendous living and working conditions, and many died from the malaria, accidents and exposure to the elements that became prevalent in camp sites. With little thought given to their health or welfare, the Irish were left to fend for themselves.

Without engineering expertise, without proper food, clothing, or shelter, the Irish nevertheless managed to maintain both their faith and good humor and their shrewdness. Many of the men were highly religious, but all seemed to find respite from their labors in the

Saturday night brawls which the Irish provoked. When money for construction and wages was scarce and sparsely allocated by skeptical State Legislature, the Irish used the money bet against them in numerous wrestling fights to continue work. There is no doubt that the Irish made a substantial and valuable contribution to the completion of the Erie Canal. Without their determination and strength, the numerous natural, engineering, and legislative obstacles placed in the way of construction might have triumphed.

The value of Irish participation was not, unfortunately, acknowledged until years after the completion of the Canal. Though a New York State Census of 1845 shows that the Irish comprised 10-15% of the population along the Erie Canal, it was not until 1854 that their past contributions were properly addressed. At that point, a bill organizing a territorial government for Nebraska and Kansas was introduced in the Congress, and opposition arose on the part of Know-Nothing legislators who thought that immigrants should not receive land there. Senator William Seward of New York vigorously defended the Irish, and noted that were it not for their participation, America's roads and canals would not be as advanced. As he noted, "Now, what I wish to ask, is, whether these roads and canals have cost too little? Suppose that

the foreigners had remained at home, and American native labor had performed this work, can anybody tell what the canals and railroads would have cost?" (Congressional Globe, July 12, 1854, pp. 1708-1709).

#### The Operation of the Canal

The Erie Canal was completed on October 26, 1825, and the first canal boats reached New York City on November 4 of that year. Huge celebrations were held to commemorate its completion as the longest canal in the world, among them the famous "Wedding of the Waters," when DeWitt Clinton dumped water from Lake Erie into the Atlantic Ocean to symbolize the joining of the points. The parades and exhibitions of boats were attended by many prominent citizens, among them Thomas Jefferson, John Adams, James Madison, James Monroe, and John Quincy Adams. The skeptics of previous years had become the enthusiasts of the present, as the canal promised to open horizons never before explored with such ease and rapidity.

The immense amounts of traffic that traversed its waters made the Erie Canal too small the moment it was built, and expansions were immediately contemplated and eventually implemented. Throughout its development, however, the Erie Canal managed to preserve an aesthetic and environmental awareness too often lost in later

construction. The relatively simple technology available forced builders into greater conformity with nature than was later necessary, and encouraged them to make greater use of natural structural elements such as stonemasonry of locks and aqueducts. This increased the aesthetic integration of the Canal into its environment. Though built for quick transport and not for beauty, the British traveler Basil Hall noted in 1829 that an agreeable degree of curvature and contour in the Canal tended to remove "the formality as well as the ditch-like appearance which generally belongs to canals." Though Mrs. Trollope (*Domestic Manners of the Americans*, Ch. 32, 1830) found that "from the Canal nothing is seen to advantage, and very little is seen at all," Hall insisted that "we commanded a range of prospect both up and down of great extent and variety."

It must be noted that the environmental consciousness of the canal builders was not to any great degree advanced. Awareness of environmental impacts was directed toward the effects of nature on the Canal rather than on the impact of the Canal on the surrounding area. Thus, the concern for the amount of forest cutting that was done was not that it would deplete the environment, but that it would affect erosion and thus damage canal operation.

Cannal running was both dangerous and adventurous. The speed limit on the canal was 4 miles per hour to prevent wash from swift moving boats from wearing away the banks. Nevertheless, boat captains went substantially faster to gain time, and illegal races were quite common. The boats they steered were generally passenger packets in which people, luggage and freight were crammed. Charles Dickens, an early passenger on one such boat, was startled by the sleeping arrangements then common. "Going below," he noted, "I found suspended on either side of the cabin, three long tiers of hanging bookshelves, designed apparently for volumes of the small octavo size. Looking with great attention at these contrivances (wondering to find such literary preparations in such a place) I descried on each shelf a sort of microscopic sheet and blanket; then I began to dimly comprehend that the passengers were the library, and that they were to be arranged edgewise on these shelves, till morning."

Though uncomfortable and cramped, packets were nevertheless more comfortable, smooth, and fast than roads of the day. Since only minimal amounts of luggage could be carried on these boats, migration to the West was still difficult. Transport on this most direct of routes was nevertheless the most popular means available to take advantage of the Western promise.

Impact of the Canal

The Erie Canal had an immense impact on the economy and development of New York State, and traffic on the Canal and industry in communities along its banks flourished almost immediately. New York, which was ranked fourth in population in 1800 rose to first place in 1820. Albany doubled its population in a few years. The population of Utica increased from 3,000 to 13,000 in twenty years. Syracuse, which was described as a "desolate" hamlet of a few scattered wooden houses in 1820 became a city of 11,000 in 1840. Syracuse also became the greatest salt producer in the nation. Rochester, another canal boom town, was turned from a "wide and deep forest" to a prosperous city of 20,000 by 1840. Buffalo, a wilderness outpost of 200 in 1812, became a gateway to the west with its population reaching 18,000 by 1840.

The construction of the Canal benefitted agriculture and extended commerce and navigation. It shortened the time of travel from New York to Buffalo from six weeks to ten days. It gave impetus to immigration, being heavily used by the immigrants in reaching their new homes in the Midwest.

The Canal did bring expansion to the small towns of the midwest. Individuals in the still underpopulated frontier decided that the best was to bring new settlers

was to build canals of their own. The success of the Erie, along with the urge to greater settlement of the great Western wilds, led to a sort of "canal madness," in which each state tried to formulate a design for a canal of its own. These designs were often products of half hatched schemes to make money, and the engineering technology needed for a realistic appraisal was too often lacking. Each proposal also lacked the Erie's inherent advantage of being the only passage through the Appalachian wall. Pennsylvania, Maryland, and Virginia all challenged the Erie's monopoly on routes West, but all were notable failures. Another point of history was made however, in the fact that all the canals were begun on July 4, the day of commencement of the Erie.

Not all the products of the Canal were beneficial, however. The Erie transported a cholera epidemic in 1832. Nevertheless, by 1845, there were 4,000 boats on the Canal, with 25,000 workers, repair and maintenance crews, servicemen, and canalside entrepreneurs.

The Erie Canal's heyday was soon to be over, however, and its rapid decline began only a short time after its phenomenal success.

The Decline of the Canal

The heyday of the Canal lasted no more than thirty years, from 1820-1850. At that point, the competition from railroads plunged the canals into uneconomical disuse.

The railroads were no competition for a long time. In fact, it was a canal that spawned the development of the first railroad. The Delaware and Hudson Canal established a railroad to carry coal past its boundaries.

By 1830, the railroads were still experimental. Steam had new possibilities, but it was not until later that they came to be fully realized. Initial objections to railroads, in fact, came more as a result of their speed than of the potential competition they represented. Canal supporters thought railroad speeds unhealthy and proclaimed them as being against God's law.

The Erie Canal continued to make money while other canal operations sunk deeper and deeper into debt, and railroads presented no competition for quite some time. In large part this was due to the fact that the Erie lay in the most convenient passage through the mountains, and the fact that as a freight carrier, the canal barge was unchallenged.

Still, railroad fervor brought rioting and much damage to the canals. This was due in part to the huge remaining canal debts, and in part to the superstition that canals carried fevers. The canals slowly fell into disrepair as laborers increasingly felt repairs not worth making, and their decline as the nation's foremost means of transport was soon assured.

Political History of the Erie Canal

The historical seeds of the Erie Canal were planted in 1808, when a passage of a New York Assembly resolution created a joint legislative committee to study the feasibility of constructing a waterway to connect the Hudson River and Lake Erie. Named to the committee were such prominent New Yorkers as Gouverneur Morris, Stephen van Rensselaer, Robert B. Livingston, Robert Fulton, and the man whose name was destined to be permanently linked with the project, DeWitt Clinton.

The committee studied the various routes and their advantages and disadvantages, and on March 2, 1811, recommended construction of the Canal. The estimated cost of the project was \$5,000,000 with an annual cargo traffic potential of \$100,000,000. The committee report led to passage of a law on April 8, 1811 which authorized the purchase of land and the hiring of engineers and surveyors.

The War of 1812 delayed the plans for construction of the Canal, and Federal assistance was vetoed by President James Madison. In addition, the war gave opposition to the Canal time to mobilize. In response to rising conflict, the Canal's Commissioners suspended the surveys of possible canal routes that were then being made because of military operations which were not "favorable to internal development." It is interesting

to note that those opposed included Pennsylvania farmers, New York residents whose homes lay off the main route of the proposed canal, and, surprisingly enough, New York City politicians, who seemed to feel that the Canal would give excessive powers to the upstate factions of the State Assembly.

The immense traffic in war materiel, however, demonstrated a drastic need for some form of rapid, efficient transcontinental transport. With the ending of the War, there was renewed interest throughout the country in the provision of good and convenient roads, bridges, and canals, which would facilitate the transportation of goods and produce from one place to another, and render traveling safe, easy, and expeditious. DeWitt Clinton managed to placate farmers throughout New York by promising to build branch canals into other parts of the State, and soon he had fairly universal support for construction of his Canal.

The opposition died hard, however, and Clinton was faced with legislative and engineering challenges throughout his career. The opposition led by Martin van Buren, was to thwart efficient construction of the Canal until its completion in 1825.

After further study of the canal proposal, the New York State legislature authorized construction of a

four-foot channel between Albany and Buffalo on April 15, 1817. It is interesting that at that time the State anticipated a Federal share in the costs of construction. As noted in the legislative report (40th Session, November 5, 1816: J. Buel, Printer, pp. 301-306), the State "declared full confidence that the Congress of the United States as well as the States would share equal interest with the State of New York in the commencement, prosecution, and completion of these important works, and would contribute their full proportion of the expense."

Construction began at Rome, New York, on July 4, 1817, and the first section of the Canal from Rome to Utica was opened in October, 1819. Work on the other sections, including the hazardous segment crossing the Montezuma marshlands, was under progress for the next six years.

Money often ran short. Each year during the period of canal construction, the legislature voted an appropriation for canal expenses. Throughout the administration of DeWitt Clinton (who had been elected governor of the State in 1817), the canal appropriation held priority on the legislative calendar, but the appropriation was never large. Although economy was rigidly enforced, and in most cases faithfully observed, the expenses were

many, occasionally large, and often unforeseen. By December 1 of each year, most of the money had been spent, and the next sixty days were more or less a waiting period pending the next appropriation.

Clinton's critics never ceased trying to take advantage of the situation. Clinton was once deposed as a Canal Commissioner, and the entire future of the project was in jeopardy until his reinstatement by loyal supporters. Perhaps the most subtle legislative tack taken by the van Buren forces, however, was their attempt to prohibit further construction on the western portion of the Canal until the eastern portion had been completed. Their hope was that this would lead to rapid and extensive population of the eastern section, with the resultant power in the Legislature to stop construction of the western portion of the Canal. Clinton objected, warning the Legislature against this attack on the best interest of the State. "As the Canal proceeds to the west, the country east will of course be accomodated. And in proportion to its progress to completion, in that ration will it be considered easier to combine a greater mass of population against its further extension. Attempts have already been made to arrest its progress west of the Seneca River. It is highly probable that they will be renewed when the work is finished to the Genesee..."

On defeat of this dangerous proposal, Clinton was able to note that "...the legislators were able to comprehend the interesting truth that this State can never enjoy a tenth part of the advantages of the Erie Canal until the tide of inland commerce, of which it is to be the channel, is permitted to flow without a mile of protage from the Great Lakes to the Atlantic."

The cost of the original construction was \$7,150,000. In 1826, its first full season, the Canal netted revenues of \$762,000, which was one-tenth the cost of building the Erie and Champlain Canals. This phenomenal rate of return was continued into later years. Total construction costs were repaid within nine years. During the period in which tolls were assessed, furthermore, (tolls were charged on the Canal until January 1, 1883), Canal revenues totaled \$121,000,000. Total cost to that time, including maintenance and repairs, was \$78,000,000, leaving a favorable balance of \$42,000,000. Thus, traffic on the Canal, industry in the communities along its banks, and the whole economy of the areas which it served flourished almost immediately and continued to prosper. Initially, therefore, it was an extremely sound investment. The income it produced benefitted taxpayers of the whole state, and inevitably contributed to its progress.

Commencing about 1900 there was a growing interest

at the federal level in the development of canal systems. For economic and defense reasons studies were initiated to determine the feasibility of improving water transportation routes between the Great Lakes and the sea which would be capable of handling large scale navigation tonnage.

The primary routes under consideration were the Oswego-Mohawk-Hudson and the St. Lawrence. The conclusion finally reached favored the New York water way because it was wholly within United States territory and had a longer navigation season. Congress took no action on the reports submitted.

Failing Federal action, in 1903 a new start on the expansion and improvement of the Canal was undertaken by the state. In recommending the project, Governor Theodore Roosevelt said "The canals cannot be abandoned; ...the present canal must be enlarged. We cannot afford to rest idle while our commerce is taken away from us, and we must act in the broadest and most liberal and the most energetic spirit if we wish to retain the State's commercial supremacy." A bond issue of \$101,000,000 -- the largest ever approved up to that time by a single state -- provided funds for channel deepening, and provisions were made for increasing the length and width of locks. Later bond issues increased construction

appropriations to \$154,000,000, all of which were totally financed by the State.

Work on the enlarged Erie, now called the New York State Barge Canal, was begun in 1905. The project was not completed until 1921. Between 1918 and 1921, the Secretary of War appropriated the Canal as a World War I emergency measure. The Canal was returned to the state on February 27, 1921.

Though the new Barge Canal incorporated portions of the old Erie Canal, it was constructed on a new route that relied less on artificial channels and more on natural rivers and lakes. At the time of its construction it was the most modern inland system of water transportation in the land. Towpaths disappeared, and the tugboat and self propelled barge began the modern era of inland water transportation.

In 1929 a congressional report recommended that certain specific improvements be made on the Canal at federal expense. The proposal was submitted pursuant to the general responsibility of the United States Government, in the interest of national defense and economic development to maintain and improve the Nation's navigable waters. In addition, the Corps (which made the recommendations) noted that at least half of the traffic moving through the canals consisted of interstate

or foreign commerce, and that only the federal government had the funds needed to complete the project. The report conditioned the commencement of the work on the transfer of the canal system to the Federal Government.

Acting on the report, Congress in 1930 authorized the acceptance of a grant of the Canal and provided for its maintenance and operation. No corresponding action was initiated by the State of New York, however, because of provisions in the State Constitution prohibiting transfer.

Section 1 of Article XV of the State Constitution reads that "The legislature shall not sell, lease, abandon or otherwise dispose of the now existing or future improved barge canal...such canals and terminals shall remain the property of the state and under its management and control forever. This prohibition shall not prevent the legislature, by appropriate laws, from authorizing the granting of revocable permits for the occupancy or use of such lands or structures." Given this state prohibition, Congress in 1935 authorized the necessary improvements without requiring transfer of the Canal.

The improvements, undertaken between Waterford, on the Hudson River, and Oswego, on Lake Ontario, were begun in 1935, and continued sporadically until 1965. Under the terms of the state-federal agreement, the state

was to initiate, construct, and finance the improvements, for which it was later reimbursed by the Federal government. The serious lag in completion of the program was caused by the lack of coordination between the state and federal budgets and appropriation procedures. The state in 1961 took measures to insure that it would be repaid on schedule, and construction from that point on proceeded on a regular basis.

In 1959, the legislature passed an amendment on Article XV giving the state the option to lease or transfer the Canal to the Federal government if it so chose. The terms and conditions of the transfer were to have been determined by the state. The amendment was submitted to the voters at the 1959 general election, when it was approved and ratified.

In 1960, a Joint Legislative Committee was established to study the issue and make a final recommendation on it. The committee was authorized to study "the most equitable means of retaining and preserving jurisdiction to the state in the interest of the people for the purposes of flood control, conservation, and utilization of water resources of the Barge Canal." The Committee submitted reports from 1961-1965, and after much study and debate, decided that transfer of the Canal to the Federal government was not in the best interests of the state.

Arguments for transfer included the fact that New York is the sole state operating its own inland waterway, whereas in other parts of the country -- Illinois, and the Ohio and Mississippi River Valleys, for example -- federal operation of waterways has brought construction of large modern canals that, through the attraction of industry, greatly benefit the economy of the areas served. Only by transfer to the Federal Government could the Canal be made a modern waterway. This seems well-deserved, furthermore. New York pays by far the largest share of federal taxes, and should receive an equitable share of federal funds spent on waterway development. Federal assistance would also save the state a substantial amount for operation, maintenance, and repair. Proponents of transfer also argued that the Canal serves the interests of all the states bordering the Great Lakes and the Atlantic seaboard, and therefore deserved to be treated as a national waterway.

It is true that there has been a rapid increase in the use of inland waterways since World War II, and it may be true that, as the Corps has noted, "modern waterways give rise to industrial development, which, in turn, creates traffic for the waterway." (U.S. Senate Select Committee on National Resources, 1960). There are other possible reasons for this development,

however. For example, many industries have located in river valleys simply because of the availability of an adequate supply of water. A relatively small proportion of these industries may actually use water transportation; the attractive factor may instead be water supply. In this case, the finding of Arthur D. Little, Inc. (retained by the Joint Legislative Committee in 1963) that modernization of the Canal would have little effect on industrial expansion in the state must be considered.

Thus, one must question whether or not transfer of the Canal would indeed benefit New York's economy (this will be discussed in greater detail in another section of this book). The major political argument to be made against transfer, however, is the fact that New York State would have to give up its right to assign priorities to water usage. The Federal government would undoubtedly give top priority to navigational uses, which might demand the building of locks and dams, and the diversion of water from other parts of the state. This would inevitably mean the sacrifice of the recreational and other non-navigational uses (irrigation, flood control, etc.) now popular on the Canal. In accepting Federal operation of the Canal, New York would be giving up control of one of its most precious resources.

Thus, the Joint Legislative Committee on the Barge Canal concluded in 1964 that "there has been no showing that any substantial benefit to the people of New York State would result from the transfer of the Canal to the federal government...by transferring the canal system to federal jurisdiction the state would relinquish in substantial degree the right to control the use of its waters for purposes other than commercial navigation. The collateral uses are valuable and beneficial to many areas and industries of the state...There has been no showing that compensating benefits would result from their release". They recommended that the State continue to operate the Canal as a commercial waterway, but that studies be made of the recreational uses to which it could be put. They also advised that the Federal government be asked to make an annual appropriation for assistance in the maintenance and operation of the Canal.

The 1964 decision was reversed by the findings of another joint committee, established in 1968, which advocated Federal transfer. These findings were not accepted by the state legislature, however, and no action was taken.

Study of the Canal has continued on the Federal level in recent years. In 1969, after six years of study, the Corps of Engineers recommended against Federal

rehabilitation of the Canal for enhanced navigational use, on the basis of its finding that the cost/benefit ratio was negative. They noted that shipping of a new commodity might change the benefits accruing to navigational use.

In 1973, with an eye toward the increased shipping of coal brought on by the oil embargo, Senator Javits introduced a resolution authorizing a restudy of the canal's navigational uses. Of the \$1 million authorized for the study, only \$260,000 has ever been appropriated. That money has been spent for planning memoranda for the study.

In 1977, Representatives Kemp and Nowak introduced authorization for the Corps to study the feasibility of expanding the canal system to permit shipping of goods all the way to the Atlantic Ocean. The Corps combined this Kemp-Nowak study with the study previously authorized by Senator Javits, and \$200,000 was appropriated in this year's Public Works bill for its continuation. The success of these studies is uncertain. Organization is not the least of the potential problems in that the Kemp-Nowak study had been handled by the Corps in Buffalo, while the Javits study was supervised in New York. These will have to be handled before substantive work can proceed. The Corps is to report its findings to the Congress at some unspecified point in the future, and the fate of the Canal again awaits its recommendations.

THE ASSEMBLY,  
STATE OF NEW YORK,  
Albany, N.Y., August 18, 1978.

Hon. DANIEL P. MOYNIHAN,  
U.S. Senator—New York,  
Russell Building, Washington, D.C.

DEAR SENATOR: Initially, let me commend you for your attention to the Erie Canal and generally on your outspoken representation of the people of New York.

New York's extensive Canal system is as rich in history as it is laden with potential benefit for both the state and the country. The old Erie Canal served as a means for expansion of population and commerce to the West and returning the fruits of the West to the market and ocean parts of the East. While it is no longer the primary method of transportation it once was, water based transportation is still the cheapest most efficient mode and economy in these inflated ridden days, is most valuable. This economy could serve shippers and consumers alike in the ways of transportation savings that make up a significant part of the price and any finished product or bulk commodity.

The emergence of coal as a primary fuel and the increase in demand for bulk transportation could put heavy demands on the Canal. In a larger picture, the canal is an integral part of a proposed "All American" route to the sea, including an American canal paralleling the Canadian Welland Canal.

Non navigational uses of the Canal, such as flood control and irrigation, are ongoing and very important to New York State.

All in all the Canal is easy to "sell". The present and potential uses for the canal are both essential an exciting. The catch is in the propositions with which we are dealing. The present state of disrepair of the Canal and the costs for returning it to a level of commercial viability are very substantial.

There remain (three options: (1) abandonment, (2) continuing the present course, (3) stabilizing and improving the canal.

The first option is precluded by the important non-navigational uses of the Canal. Further, because much of the Canal is fed by natural streams and rivers and large sections are above ground level, it must be maintained even if navigation ceases.

The present course involves spending several million dollars a year for operation and maintenance only to see the canal continue its decline. This decline will end in critical faults in the system that will require major capital investment just to "patch" it.

The third option would take the money that would eventually be necessary for patching and using it to bring the canal up to a level of commercial viability.

It appears to me that the third option is the most logical. The first step is to stabilize the condition of the canal and in order to do that New York must lose its distinction as the only state that carries the full burden of operating and maintaining its inland waterways. It is imperative that New York receive equal treatment with other states by receiving federal monies for operation and maintenance of its canal system.

Next, a determination can be made as to what improvements are justified. Is an All American route feasible? Will the demand for bulk transportation accelerate in the near future. Are the improvements justified by the economies, actual and potential of water based transportation. The Erie Canal is an integral part of a large picture that must be studied in its full context. However, this Canal has been studied and is being studied and could be studied ad infinitum if the priority and schedule that have applied continue. I would ask that an all out effort be made to take the data and put it under one roof to develop some definitive answers within a reasonable amount of time (i.e. 1-2 years).

With a stabilized canal and definitive data decisions can then be made on how best to spend these millions and to be sure that we are deriving benefit for it.

Thank you for your time and attention.

Sincerely,

RICHARD J. KEENE,  
Member of the Assembly.

## STATEMENT OF THE ENVIRONMENTAL POLICY CENTER

The Environmental Policy Center is opposed to transfer of the operation and maintenance costs of the Erie Canal from the State of New York to the Federal Government. At this time almost every national conservation organization has strongly supported efforts to require the beneficiaries of water projects to pay more of the costs. In particular, we believe that the costs of operating and maintaining barge canals should be borne by the commercial users of these canals. The fact that the Federal Government picks up the tab for most of the cost of water projects has served to encourage unsound investments of tax dollars and environmentally damaging projects.

President Carter has recognized the need to make states and local interests pay more of the cost of water projects and has proposed cost-sharing reforms in his new national water policy message last June. The proposal to transfer operation and maintenance costs of the Erie Canal to the Federal Government would be dramatically at odds with the new water policy and the much needed cost-sharing reform it calls for.

We urge the Committee to take no action on this proposal. Finally, as a matter of proper procedure, we feel that action on this matter should also wait a thorough deliberation on the President's proposals for reforming water policy.

Respectfully submitted.

BRENT BLACKWELDER,  
*Washington Representative.*



DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON, D.C. 20314

REPLY TO  
ATTENTION OF:

DAEN-CWR-L

3 NOV 1978

Mr. Harold H. Brayman  
Committee on Environment  
and Public Works  
United States Senate  
Washington, DC 20510

Dear Mr. Brayman:

Inclosed are responses to the questions Senator Domenici had following the Erie Canal hearing held 17 August 1978.

If I can provide further information in this regard, please contact me.

Sincerely,

*L. H. Blakey*

L. H. BLAKEY  
Acting Chief, Office of Policy  
Directorate of Civil Works

1 Inclosure  
As stated

## QUESTIONS AND ANSWERS TO GENERAL ROBINSON

Q. 1. What specific cost studies have been made by the Corps on projects for the renovation or expansion of the Erie Canal? What do these studies show?

A. 1. The most recently completed Corps study, the 1969 Review of Reports for the Great Lakes to Hudson River Waterway, New York, indicated that rehabilitation of the Erie and Oswego Canals (including Troy-Lock & Dam) based upon current dimensions was estimated to cost approximately \$108,000,000 (1969 price levels). No consideration was given to developing detailed cost estimates for expansion of the locks or channels since the then Governor of the State of New York did not support major modification of the canal.

The studies completed in 1969 indicated Federal participation in rehabilitation was not warranted at that time.

- Q. 2. How does the Great Lakes to Hudson River Study authority differ from the Lake Erie to Eastern Seaboard Study? Please provide a history of the various Corps studies and recommendations involving the NYSEBC.
- A. 2. The Great Lakes to Hudson River Study authority (Senate Committee on Public Works Resolution dated 8 August 1973) called for consideration of rehabilitation or modernization of the NYSEBCS. This study planned to look at improvements consistent with the existing design depths of the canals. However, local interests had requested consideration of a deep draft barge waterway.

The Lake Erie to Eastern Seaboard Study authority (House Committee on Public Works and Transportation Resolution dated 10 May 1977), provides for a more comprehensive study which will include consideration of deep draft navigation improvements (including both barge and ship canals) as well as a multi modal transportation system from the Great Lakes to the Eastern Seaboard will be considered.

A summary of the previous Corps studies involving the NYSEBCS is provided in the attached table.

PRIOR CORPS STUDIES INVOLVING NYSBCS

Authority	Type of report	Where published	Remarks
Resolutions of Committee on Public Works of U.S. Senate dated 4 March 1957 and 29 Feb. 1960, requesting a review of the report published as Senate Document No. 252, 79th Congress, 2nd Session, with a view to determining the advisability of modifying the existing project. The February 1960 resolution specifically called for a determination of the need and justification for further physical improvement of the New York State Barge Canal System in its entirety or any part thereof, and the desirability, terms, and conditions of any transfer of ownership, of said canal system.	Review	Not Published	The District Engineer submitted an unfavorable report with respect to Federal participation in a possible rehabilitation of the Barge Canal System but noted that there are numerous benefits in keeping the waterway in an operable condition. He also noted that the State did not desire major modification of the Canal System at that time and that transfer of ownership of any portion of the Canal System to the Federal Government was also not desired. The report was submitted to the Chief of Engineers by the Division Engineer, North Atlantic Division on 31 Dec 69, concurring in the District Engineer's findings. The Chief of Engineers, in report to the Secretary of the Army dated 4 Jan 73, concurred in the views of the Board of Engineers for Rivers and Harbors that further improvements for the Great Lakes to Hudson River Waterway were not advisable at that time. The report was transmitted to Congress by the Secretary of the Army on 7 November 1973.

PRIOR CORPS STUDIES INVOLVING NYSECS

Authority	Type of report	Where published	Remarks
U.S. - Canadian agreement requesting the International Joint Commission to examine the feasibility and economic advantages of improving or developing a waterway from the St. Lawrence River through Lake Champlain to the Hudson River at Albany	Preliminary Feasibility	Int'l Joint Commission Champlain Waterway Feasibility Report 30 June 1965	The International Joint Commission concluded that improvement of the existing waterway or development of a new waterway for commercial navigation would not be economically feasible. However the Commission recommended that further studies be made on its recreational possibilities.

PRIOR CORPS STUDIES INVOLVING NYSBCS

Authority	Type of report	Where published	Remarks
Resolution of the Committee on Commerce of the United States. Senate, adopted 1 May 1940, requesting a review of report on the waterway, submitted in River and Harbor Committee Document No. 20, 73rd Congress, 2nd Session, with a view to determining the advisability of modifying the existing project.	Review	Senate Document No. 252, 79th Congress, 2nd Session	The Chief of Engineers in letter dated 1 April 1942 to the Senate Committee on Commerce concurred in the views of the Board of Engineers for Rivers and Harbors that the existing project be modified to provide for a depth of 13 feet below normal pool level through all locks between Waterford and Oswego at an estimated Federal cost of \$1,010,000 and that the limitation of \$3,285,000 for expenditures on bridges and other overhead structures be removed. This report was submitted to Congress by the Secretary of War on 15 June 1942 and was adopted by the River and Harbor Act of 2 March 45.
Resolution of the Committee on Rivers and Harbors of the House of Representatives, adopted 26 May 1932, requesting a review of the reports on waterway from the Great Lakes to the Hudson River, submitted in Rivers and Harbors Committee Document No. 29, Seventy-first Congress, and reports previously submitted on the waterway, with a view to determining, the advisability of the United States improving, maintaining and operating the Erie and Oswego Canals without taking title to the said waterways and appurtenances thereto	Review	House Rivers & Harbors Committee Document No. 20, 73rd Congress, 2nd Session.	The Chief of Engineers, in report dated 28 September 1933 to the Committee on Rivers and Harbors, House of Representatives, concurred in the views and recommendations of the Board of Engineers for Rivers and Harbors that the United States allot funds to the State of New York for the improvement of the Oswego Canal and the Waterford-Three Rivers Section of the Erie Canal, without taking title thereto, by deepening between the locks to 14 feet below normal pool levels, widening progressively at bends and elsewhere, and increasing the minimum vertical clearances of bridges and other obstructions to 20 feet at maximum navigable stage; provided that the total amount shall not exceed \$27,000,000, and that not to exceed \$3,285,000 shall be expended on bridges & other overhead structures; & provided further that expenditures of Federal funds shall be subject to certain restrictions, limitations & conditions. The report was submitted to Congress by the Chief of Engineers on 28 Sep 1933. The project was adopted by the Acts of 28 May and 30 August 1935.

## PRIOR REPORTS

Authority	Type of report	Where published	Remarks
Resolution by the Committee on Rivers and Harbors of the House of Representatives adopted 2 Feb. 1934, requesting that the Board of Engineers for Rivers and Harbors review the reports on the Great Lakes-Hudson River waterway submitted in Rivers and Harbors Committee Doc. No. 20, 73d Cong., 2d sess., and reports previously submitted with a view to determining the cost and advisability of improving the section of the Erie Canal from Three Rivers Point to the Niagara River in a manner similar to that recommended in the above-mentioned report for the section extending from the Hudson River to Three Rivers Point.	Review---	Not published	Chief of Engineers concurred in the recommendation of the Board of Engineers for Rivers and Harbors that improvement of the section of the Erie Canal from Three Rivers Point to the Niagara River in a manner similar to that recommended in H. Doc. No. 20, 73d Cong., 2d sess., for the section extending from the Hudson River to Three Rivers Point, was not advisable at the time. Submitted to Committee on Rivers and Harbors, House of Representatives, 4 Apr. 1935.
Resolution of Committee on Rivers and Harbors, House of Representatives, adopted 16 January 1935, requested review of reports on Deep Waterways between the Great Lakes and the Atlantic Tide Waters submitted in H. Doc. No. 119, 56th Cong., 2d Sess., with a view to determining the advisability of constructing a waterway from Lake St. Francis, on St. Lawrence River, to Lake Champlain, and thence to Hudson River at Albany, N. Y.; and Section 3 of River and Harbor Act approved 30 Aug. 1935, authorized a preliminary examination and survey of Deep Waterway to connect Lake St. Francis on St. Lawrence River with Hudson River at Albany, with a view to determining the advisability and cost of such a connection between the St. Lawrence Waterway, as proposed by treaty, and the sheltered waters of the Atlantic coast between Boston, Massachusetts and Norfolk, Virginia.	Review--- Preliminary	Not published	Chief of Engineers, in report to Secretary of War dated 8 March 1938, concurred in the views of the Board of Engineers for Rivers and Harbors that the cost of an adequate deep-draft connection between Hudson River at Albany and the proposed St. Lawrence Waterway would exceed the benefits then in prospect. Submitted to Congress by Secretary of War on 21 Mar. 1938.
Section 4 of River and Harbor Act approved 30 Aug. 1935, requested the International Joint Commission created by the treaty between the United States and Great Britain, relating to boundary waters between the United States and Canada signed at Washington 11 Jan. 1909, under article 9 of said treaty, to investigate the advisability of improvement of a waterway from Montreal through Lake Champlain to connect with Hudson River, together with the estimated cost thereof, and to report to the Dominion of Canada and to the Congress of the United States with its recommendations for cooperation by the United States with the Dominion of Canada in the improvement of said river.	Survey---	Interim Report of the International Joint Commission, 1937	The International Joint Commission, in report dated 4 Jan. 1938, recommended that it be considered an interim report, and that the Commission be authorized to retain jurisdiction over the matter until the St. Lawrence Deep Waterway project has become an accomplished fact, since the subject improvement could be justified, if at all, only as an extension of the St. Lawrence project. Of five possible routes considered, the Commission chose that from St. Lawrence River at Gorel up Richelieu River to Lake Champlain as being the most practicable. The cost of construction of a 12-foot, 14-foot and 27-foot waterway from St. Lawrence River to Hudson River was estimated at \$32,234,000, \$50,000,000 and \$32,205,000, respectively.
Resolution of the Committee on Rivers and Harbors of the House of Representatives adopted 23 Feb. 1933, requesting the Board of Engineers for Rivers and Harbors to review the reports on the Great Lakes to Hudson River waterway, submitted in Rivers and Harbors Committee Doc. No. 20, 73d Cong., 2d sess., with a view to determining whether the turbid condition of the water caused by the work of improvement of said waterway justifies any change in the recommendations made in the above-mentioned report.	Survey---	Not published	Chief of Engineers concurred in the views of the Board of Engineers for Rivers and Harbors that the turbid condition of the water caused by the work of improvement justifies no change in the recommendations previously made for improvement of the Great Lakes to Hudson River waterway. Submitted to the Committee on Rivers and Harbors of the House of Representatives by the Chief of Engineers on 5 Apr. 1935.

## PRIOR REPORTS

Authority	Type of report	Where published	Remarks
<p>Resolution of Committee on Rivers and Harbors, House of Representatives, adopted 8 June 1935, requested review of reports on the Great Lakes-Hudson River Waterway submitted 4 April 1935, and previous reports, with a view to determining whether improvement of the section from Three Rivers Point to the Niagara River is advisable.</p>	Review	Not published	<p>Chief of Engineers concurred in the views of the Board of Engineers for Rivers and Harbors that improvement of the Three Rivers Point-Niagara River section of the Great Lakes-Hudson River Waterway was not advisable at that time. Submitted to Congress on 14 February 1944.</p>
<p>Resolution adopted 28 April 1942 by the Committee on Rivers and Harbors of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors created under section 3 of the River and Harbor Act, approved 13 June 1902, be, and is hereby, requested to review the reports on waterway from the Great Lakes to the Hudson River submitted in Rivers and Harbors Committee Document Numbered 20, Seventy-third Congress, second session, and all reports previously and subsequently submitted on this waterway, with a view to ascertaining as nearly as can be estimated the exact damages caused and which may be caused in the future to manufacturers on the Oswego River on account of the increased cost of manufacturing, including damage to machinery, equipment, and products and the installation of necessary settling tanks and similar equipment and the operation thereof, caused by or resulting from the deepening of the Oswego and Erie Canals, New York, in accordance with the project adopted by the River and Harbor Act of 30 Aug. 1935, and from any further construction or deepening which may occur in such canals or tributaries for the improvement of the channels thereof. Section 7 of the River and Harbor Act approved 2 Mar. 1945 provided that the Secretary of War is hereby authorized and directed to ascertain as nearly as can be estimated the amounts of damages resulting to manufacturers on the Oswego River by the improvement of the Oswego and Erie Canals by the State of New York in accordance with the project adopted by the River and Harbor Act, approved 30 Aug. 1935.</p>	Review	H. Doc. No. 435, 80th Cong., 1st sess.	<p>Chief of Engineers concurred in the views of the Board of Engineers for Rivers and Harbors that as nearly as can be estimated the exact damages to manufacturers caused by the deepening of the Oswego and Erie Canals in accordance with the project adopted by the River and Harbor Act of 30 Aug. 1935 were \$127,152.51 and that no further damage would be caused from work on this project. Submitted to Congress by the Secretary of War, 26 July 1947.</p>
<p>Section 6 of the River and Harbor Act approved 2 Mar. 1945 (Public Law 14, 79th Congress) authorized a preliminary examination and survey of "Champlain Canal, New York, with a view to its improvement without taking title to said canal and its appurtenances".</p>	Pre-liminary	Not published	<p>Chief of Engineers concurred in the views and recommendations of the Board of Engineers for Rivers and Harbors that improvement of the Champlain Canal to provide deepening to 14 feet in the pools and 13 feet through the locks and that overhead structures be raised to a vertical clearance of 20 feet is not advisable at that time. Submitted to Congress by the Secretary of the Army, 21 Mar. 1952.</p>

## PRIOR REPORTS

Authority.	Type of report	Where published	Remarks
River and Harbor Act of June 1897, authorized the formation of a board of 3 engineers to make surveys and examinations (including estimate of cost) of deep waterways and the routes thereof, between the Great Lakes and the Atlantic tide waters, as recommended by the report of the Deep Waterways Commission contained in H. Doc. No. 192, 54th Cong., 2d sess. The River and Harbor Act of 1 July 1893 provided that the Board should submit in their report the probable and relative cost of various depths for said waterway, respectively, as follows: 21 and 30 feet, with a statement of the relative advantages thereof.	Survey	H. Doc. No. 110, 55th Cong., 3d sess.; H. Doc. No. 200, 56th Cong., 1st sess.; H. Doc. No. 149, 56th Cong., 2d sess.	The Board concluded, as a result of the investigation, that the 21-foot waterway promised a much greater return of value relative to its cost than the 30-foot waterway; the main advantages of the 30-foot waterway being that it would furnish the lowest cost of transport proper to foreign markets and permit the construction of the largest seagoing vessels on the Lakes. Final report submitted to the Secretary of War on 30 June 1900; forwarded to Congress on 2 Dec. 1900.
S. Res. 309 adopted 21 Sept. 1918, requesting that the Secretary of Commerce together with Chief of the Division of Inland Waterways of the Railroad Administration furnish information concerning the commercial advantages of a ship canal to connect the Great Lakes and the Hudson River to complete the deep-waterways system from Duluth to New York.	-----	S. Doc. No. 301, 65th Cong., 2d sess.	Unfavorable report of the Secretary of Commerce to the commercial advantage of a ship canal to connect the Great Lakes and Hudson River. Submitted to Congress by Secretary of Commerce, 12 Nov. 1918.
Sec. 6 of River and Harbor Act approved 2 Mar. 1919, on preliminary examination of such routes between the Great Lakes and the Hudson River as may be considered practical by the Chief of Engineers, with a view to securing a waterway admitting ocean-going vessels to the Great Lakes.	Preliminary	H. Doc. No. 890, 66th Cong., 3d sess.	Chief of Engineers concurred in the views of the Board of Engineers for Rivers and Harbors and recommended no further consideration until completion and use of New Welland Canal and actual demonstration of the adequacy of the New York State Barge Canal. Submitted to Congress by Secretary of War, 3 Dec. 1920.
River and Harbor Act approved 3 Mar. 1923, for investigation of deeper waterways from the Great Lakes to the Hudson River suitable for vessels of a draft of 20 or 25 feet.	Preliminary	H. Doc. No. 288, 69th Cong., 1st sess.	Chief of Engineers concurred in the views of the Board of Engineers for Rivers and Harbors that the waterway should not be undertaken at that time. Recommended further study in connection with the then pending report on St. Lawrence Waterway. Submitted to Congress by Secretary of War 30 Mar. 1926.
Resolution of Committee on Rivers and Harbors, House of Representatives, adopted 26 May 1926, requesting that the Board of Engineers for Rivers and Harbors review the reports on waterway from the Great Lakes to the Hudson River submitted in H. Doc. No. 283, 69th Cong., 1st sess. and reports previously made.	Review--	Rivers and Harbors Committee Doc. No. 7, 69th Cong., 2d sess.	Chief of Engineers concurred in the recommendation of the Board of Engineers for Rivers and Harbors that the construction of a deep waterway between the Great Lakes and the Hudson River should not be undertaken at that time. Submitted to Committee on Rivers and Harbors, House of Representatives, 6 Dec. 1926.
Resolution by the Committee on Rivers and Harbors of the House of Representatives adopted 13 July 1929, requesting that the Board of Engineers for Rivers and Harbors review the reports on the deeper waterway from the Great Lakes to the Hudson River, with a view to determining the cost and advisability of deepening the channel of the Erie and Oswego Canals from the Tonawanda to Albany, and from Oswego to Oneida Lake, to a depth of 14 feet, and giving proper elevation to the bridges.	--do----	Rivers and Harbors Committee Doc. No. 29, 71st Cong., 2d sess.	Chief of Engineers concurred in the recommendation of the Board of Engineers for Rivers and Harbors that the Secretary of War be authorized and empowered to accept from the State of New York the Erie Canal and the Oswego Canal and operate them as navigable waterways of the United States, at an estimated annual cost of \$2,500,000, and that the adoption of a definite project for improvements should be deferred until the transfer is assured. Submitted to Committee on Rivers and Harbors, House of Representatives, 4 Apr. 1930.

Q. 3. How much has the Federal government spent to date on capital improvements to the Canal and what specifically have those improvements involved?

A. 3. The Federal government has spent approximately \$33,500,000 to date on capital improvements to the portion of NYSBCS connecting Lake Ontario with the Hudson River, a length of 184 miles. These sections comprise the eastern portion of the Erie Canal extending from Waterford at the Hudson River terminus to Three Rivers Point, 160.2 miles, and the Oswego Canal extending from Three Rivers Point to Oswego and Lake Ontario, 23.8 miles. Improvements included deepening between locks to 14 feet below normal pool level, deepening of lock sills to 13 feet, widening at bends and elsewhere and increasing the overhead clearances at bridges and other obstructions to 20 feet at maximum navigable stage.

- Q. 4. Please provide an outline of how you intend to fulfill your existing study authorities on NYSBC improvements?
- A. 4. Assuming timely appropriations by Congress, it is intended to combine both study resolutions and proceed as outlined below with a view to providing a combined report responsive to both authorities.

We would hold public hearings to learn the desires of local interests, after which we would develop a Plan of Study. Then we would develop and study alternative plans of improvement with the following technical studies:

- I. Engineering Design and Cost Estimates of considered Plans of Navigation improvements.
- II. Evaluation of existing-projected commerce to be generated by proposed improvements.
- III. Determination of Economic justification of proposed improvements.
- IV. Environmental Assessments

Q. 5. What are your department's estimates of costs on various alternatives for modernizing the canal, both on the size of the canal, the location, and the specific improvements?

A. 5. This department is currently in the process of updating the costs previously developed for rehabilitation of the canal. While these figures have not been developed, they are expected to be substantially higher than the 1969 cost of \$108,000,000.

Work on developing preliminary cost estimates for a deep draft ship canal has not been initiated since the Lake Erie to Eastern Seaboard Study is presently unfunded. However, in response to Governor Carey's request to consider a deep draft barge canal, a reconnaissance level cost estimate of such a plan of improvement was made. It was estimated that the cost of such a deep draft barge canal would be in order of magnitude of \$20 billion. This figure does not include costs associated with increased water supply, port developments, widening of the canal thru cities, walls, dikes and mitigation of environmental impacts.

Q. 6. How would you assess the impact of any major improvement to the New York State Barge Canal -- and resulting traffic growth -- on competing forms of freight transportation?

A. 6. At this early stage there is insufficient information with which to make a quantitative assessment of possible impacts on competing forms of freight transportation that could be caused by major improvements to the NYSBCS.

Q.7. What would be the impact on the historic character of the canal of any upgrading into a major deep-draft waterway? Is there any way to maintain that character?

A.7: As previously stated, no work has been undertaken on evaluating impacts of the deep draft alternatives to date as funds have yet to be appropriated under the 10 May 1977 study resolution. However the impact of a deep draft waterway on the historic character of the canal will be considered as part of the sociological-cultural studies to be performed, once the study is funded.

Q. 8. How would you assess the impact of the construction of a deep-draft Erie Canal Waterway on the traffic at the St. Lawrence Seaway, taxpayer subsidies needed for the Seaway Corporation, and our relations with Canada?

A. 8. A deep-draft Erie Canal Waterway with competitive tolls could cause some diversion of traffic from the St. Lawrence Seaway. The size of this diversion could be affected by Canadian and American traffic patterns because the present traffic ratio is about 2/3 Canadian and 1/3 American. The diversion would also depend on the dimension of the new waterway and the time required to transit it.

At present, it is not possible to assess the impact of diversion on continued operation and maintenance of the St. Lawrence Seaway. However, if the Erie Canal locks are larger than the Seaway locks, Canadian traffic diversion can be expected.

While we are unable to assess our relations with Canada, there is the possibility that United States relations with the Dominion of Canada could be impacted unfavorably.

Q. 9. Do you think it would be fair to say that one of the factors in the decline of the Canal has been the refusal of its direct commercial beneficiaries to agree to make any user charge contribution to the canal's costs, thus forcing the whole burden onto the taxpayers? If you disagree, please explain.

A. 9. It is always difficult to predict what might have happened had a different course of action taken place. However, it appears as if the steady decline in commerce on the NYSBC is primarily attributable to the shifting of petroleum shipments from barge to less costly modes of transportation. Imposition of user charges would probably have further accelerated this decline. Other factors cited for the Canal's decline are its inadequate physical dimensions, physical condition and operating efficiency which render the facility unacceptable for modern commercial navigation.

Q. 10. If the Congress establishes a system of commercial waterway user charges or taxes on inland waterways operated and maintained by the Federal government, do you believe that it is reasonable that such charges should also apply to the Erie Canal whenever the Federal government assumes responsibility for the Erie Canal?

A. 10. If the Federal government were to assume responsibility for the operation and maintenance of the Erie Canal, imposition of any existing waterway user charges on the facility would be a consistent application of Federal Water Resources Policy.



