

CROSS FLORIDA BARGE CANAL PROJECT

PRELIMINARY ANALYSIS

OF THE REPLY REPORT OF THE CORPS OF ENGINEERS, U. S. ARMY
ON THE CROSS FLORIDA BARGE CANAL PROJECT

DATED JANUARY 16, 1954

SUBMITTED BY

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transit privileges; and (5) Necessitates supplemental overland transportation at origins and/or destinations and this extra handling is too costly.

Notwithstanding the preceding facts, evidenced by its restudy of the Overton-Red River project, the Corps of Engineers, in its restudy of the Cross Florida Barge Canal project, assigned 518,692 tons of those nine articles of commerce as average annual tonnage and credited \$1,999,400 transportation savings thereto throughout a period of 50 years, the assumed useful life of the proposed waterway. In this connection, it is pointed out that had these nine articles of commerce been dealt with in the restudy of the Cross-Florida Barge Canal project as they were in the restudy of the Overton-Red River project, and if it be assumed (though categorically denied) that all of the other articles of commerce shown in the 1958 restudy are reasonably valid, the total average annual commerce would have approximated 1,339,728 tons and \$5,407,600 transportation savings instead of 1,858,420 tons and \$7,407,000 transportation savings. Then, if it be further assumed (though categorically denied) that the \$361,000 miscellaneous savings claimed are reasonably valid, but which have no basis whatsoever, are added to the \$5,407,600 transportation savings, the total benefits would have been \$5,768,600. By relating these average annual benefits (\$5,768,600) to the average annual charges (7,365,000) as reflected by the restudy of the Cross Florida Barge Canal project, a benefit-cost ratio of 0.78 and not 1.05, would have resulted.

Further in connection with these evaluation irregularities on the part of the Corps, and since the Overton-Red River project is not an existing but is a proposed waterway, reference is made to eight of the articles of commerce^{11/} shown by appendix A hereof, which have been credited to the proposed Cross-Florida Canal project, not one of which accounted for any tonnage on the entire Mississippi River System during the years 1956 or 1957 except to the extent indicated by the table below. These eight articles of commerce account for 706,333 of the 1,858,420

^{11/} Pulpboard, Blaineite Ore, Tall Oil Products, Fertilizer Materials, Lumber, Boxes and Crates, Newsprint and Woodpulp.

tons and \$3,490,217 of the \$7,407,000 transportation savings credited to this project by the Corps. Since no valid bases have been cited by the Corps for the inclusion of the respective items of commerce, while many valid reasons have been cited and substantiated herein for their elimination, if they are excluded from the study and all other items are assumed (though not conceded) to be reasonably valid, the total average annual commerce and the transportation savings attributable thereto would not have exceeded 1,152,087 tons and \$3,916,793 benefits, respectively. Then by adding thereto the \$351,000 miscellaneous benefits claimed, the total average annual benefits would have approximated \$4,267,793, which, when related to the average annual charges stated by the Corps as \$7,365,000, would have produced a benefit-cost ratio of (0.58) considerably less than the minimum required by Orders and Regulations issued by the Chief of Engineers as a guide in the establishment of economic justification for navigation projects. There is other evidence of these evaluation irregularities.

Reference is made to the following further comparative analysis of tonnage claimed for the Cross-Florida Barge Canal project as they are related to movements reported for the Mississippi River System in 1956 and 1957. The comparisons cited are shown by the following table:

Commerce	Tons		
	Claimed for the Florida Barge Canal in Ready of 1958	Reported for the Miss. River System in 1956	in 1957
Pulpboard	471,000	0	0
Fertilizer Materials, viz.			
Potash			
Nitrog. Materials			
Am. Ammonia			
Ammo. Nitrate	- 275,245	155,168	176,843
Ammo. Sulphate			
Sewer Sludge			
Ilmenite Ore	86,800	0	0
Lumber	78,120	14,928 ^{II}	10,165 ^{III}
Tall Oil	77,035	0	0
Woodpulp	31,200	0	0
Boxes & Crates	20,600	659	406
Newsprint	17,380	4,223	4,280
Totals	1,007,478	174,978	191,674

^{II} Reported by the Corps of Engineers.

^{III} Includes shingles.

This table shows that for the respective articles of commerce, the Corps has claimed more than 500 percent greater average annual tonnage for the Cross Florida Barge Canal project than is reported for the entire Mississippi River System, which is made up of more than 5,500 miles of navigable channels and which has been in existence for more than 25 years. This single fact is sufficient to raise serious questions as to the objectivity and validity of the Corps' ready report.

THE WITHHOLDING OF BASIC EXAMINATION DATA IS UNDEFENSIBLE
IN VIEW OF THE FACTS THAT THE CORPS HAS A CLEARLY IDENTIFIABLE
ASSUMPTION OF AN IMPAIRMENT OF THE PUBLIC INTERESTS
AND AN OVERSTATEMENT OF THE VALIDITY OF THE SYSTEM
OF THE CROSS FLORIDA BARGE CANAL PROJECT

The implied apprehension contained in the Corps' report concerning the defensibility of its refusal of the Cross-Florida Barge Canal project becomes self-evident by reason of the fact that on October 22, 1958, it declined to permit an examination of its point-to-point tonnage of commodities which it claims establish the economic justification for a Federal expenditure of \$17,071,000 for construction, and \$6,124,000 annually thereafter through a period of 20 years for maintenance, operation, construction, and interest, amounting to a total Federal expenditure in excess of 552 million dollars. This apprehension is magnified by the reasons advanced for its unwillingness to permit an examination of these data which, in response to a request therefor, it stated among other things that they were furnished this office by the shippers and receivers in confidence, for use by this office only, and not for public release.^{2/}

While it may be conceded that the Corps has every right to confer with potential shippers and receivers concerning the extent to which they might utilize the proposed waterway, if constructed, it has a greater responsibility to the general public, including existing overland transportation media, than to the negligible number of potential shippers and receivers for a bonafide evaluation thereof. The identity of the shippers and receivers who furnished these data to the Corps has not been sought. All that has been sought is the right to examine these basic

^{2/} See appendix B hereof.

At which the Corps contends justified the project. Hence, the expression of net origins, destinations, and tonnages of the different articles of commerce claimed, and the rates used, in their evaluation, appear very definitely to exceed the authority of the Corps to administer properly the vast Federal Civil Works program, whether the Congress nor reasonably transient interests, such as the railroads, which are responsible to the general public under Part 1 of the Interstate Commerce Act, should be required to accept asserted facts without opportunity to examine and evaluate the data upon which they are based. In the case of the Cross-Florida Barge Canal, not even public hearings were held by the Corps prior to the preparation of its restudy. The danger inherent in such procedures is so magnified by the restudy report that they are self-condemning.

Does this mean, and is it possible, that the Corps will ask this Congress and continue to ask Congress for public funds for the construction of Civil Works projects, the justification of which is based upon data which may not even be examined by the Congress or by the public?

To emphasize further the lack of integrity and amenability of the position taken by the Corps in its withholding from public examination the basic evaluation data collected, evaluated, and used in its restudy of the Cross-Florida Barge Canal project, all of which have been identified as confidential, reference is made to the Annual Report^{15/}, Chief of Engineers, for the year 1961. In the main this annual report of 530 pages reflects an attempt by the Chief of Engineers to defend the evaluation methods and procedures by which the Corps purportedly is governed in determining the economic justification claimed for navigation projects. In attempting his defense of those evaluation methods and procedures, however, the Chief of Engineers sought to convince the Congress that the critics of the evaluations made by the Corps were ill-informed special interests, strenuously endeavoring to create a general misunderstanding of the entire Federal Civil Works

^{15/} Part 1, Volume 3, page 14.

Progress, and to discredit the sincere and earnest efforts of the Corps to carry out the expressed desires of the Congress and the President of the United States. To emphasize his position concerning certain statements purportedly made by these critics, many of which were similar to those hereinbefore made, in connection with this analysis of the restudy report on the Florida Barge Canal project, the Chief of Engineers observed that:

"such statements, disseminated to a public unaware of the facts, can engender a doubt in the public mind as to the personal and professional integrity of the Corps of Engineers and of members of Congress; the facts should be made equally public to justice to all concerned." (emphasis added)

If the preceding quotation is given a reasonably fair and unbiased literal interpretation and the significance thereof is properly weighted and accorded proper consideration in this analysis of the restudy report on the Florida Barge Canal project made by the Corps, the inevitable conclusions would be that: (1) the Corps is the sole repository of all facts pertinent to the evaluation of navigation projects such as that of the Florida Barge Canal project; (2) the data from which these facts are developed are collected from shippers, receivers, and barge line operators, used by the Corps in its evaluations, then identified as confidential and withheld from public examination; and (3) the statements made by opponents to particular navigation projects, such as the Florida Barge Canal project, do not contain any facts not already evaluated by, and known to, the Corps, and by reason thereof they reflect only the opinions of ill-informed special interests, the purpose of which is to engender doubt in the public mind as to the personal and professional integrity of the Corps.

While this analysis does not seek to impugn either the integrity or the competency of the Corps, cognizance should be taken of the fact that both law and equity require that procedures and methods of evaluation shall be in accordance with accepted standards of due process of law and the general interests of the public.

The invalidity of the position taken by the Corps in its restudy and

evaluation of navigation projects, such as that of the Florida Barge Canal, is reflected by its restudies of the Tombigbee-Tennessee River^{16/} project and the Missouri River^{17/} project, each of which became the subject of Congressional investigations. Concerning the first of these restudies, the Congressional Investigating Committee made the following findings:

"In computing the benefits to be derived from the proposed project, two prime factors are involved. The first one is, how much money per ton would be saved by using the proposed project, and the second one is, how much tonnage would move on it. The computations of the Corps with respect to both factors are exaggerated, and ~~we cannot be supported~~"

Concerning the second of these restudies, the Congressional Investigating Committee made the following finding:

"It suited the Corps' purpose to have a glowing picture of this project, and they made the desired glossy showing in the revised report. ~~we~~ The whole thing is completely unreliable. The graph at page 17 of the hearings tells the story at a glance."

Notwithstanding these findings, however, and although a responsible representative of the Corps has been credited with a statement to the effect that^{18/}: "after local groups have been able to induce Congress to provide us funds for studying proposed projects, it must be expected that we will make such studies from the cold point of view", the Committee on Appropriations^{19/}, House of Representatives, 85th Congress, 2nd Session, observed that:

"In this same general connection, the Committee has noted the evident ineptness on the part of some Corps personnel in whipping up local enthusiasm for projects which from the standpoint of local contributions and other aspects should never have been recommended favorably to the Congress. The Committee does not regard extra-curricular activities of this type as being either in line of duty or as constructive contributions to the execution of the water resources program."

The preceding observations and quotations concisely point up and emphasize, in a general way, (1) the practices, procedures, and methods by which the Corps achieved its purported economic justification for the Cross-Florida Barge Canal, as

^{16/} Subcommittee on Deficiencies & Army Civil Functions, House of Representatives, 82nd Congress, 1st Session.

^{17/} Subcommittee of the Committee on Appropriations, House of Representatives, 82nd Congress, 2nd Session.

^{18/} Waterways Journal, August 23, 1958.

^{19/} Report No. 1864.

well as (2) the fact that many of these practices, procedures, and methods have been repeatedly condemned by Congressional committees and disavowed by the Corps itself.

AVERAGE ANNUAL COMMERCE AND SAVINGS UNSTATED
MAXIMUM BENEFIT-COST RATIO: 1.000:1.000 (PAGE 0, 2)
NO BENEFIT JUSTIFICATION HAS BEEN ESTABLISHED

In its restudy of the Cross-Florida Barge Canal project the Corps contends that had the proposed waterway been available in 1956, there would have been 860,650 tons of commerce transported thereon, and the transportation savings to shippers would have approximated \$3,478,400. Then it concluded that a straight-line growth throughout the 35-year period 1956-1990 would produce a volume of commerce amounting to 1,858,420 tons for the year 1990 -- the midpoint of the 50-year period 1956-2005, on which the transportation savings would amount to \$7,407,000. These latter estimates were then identified as the average annual tonnage and average annual transportation savings that would obtain throughout the 50-year estimated useful life of the project. Here again is an example of utter disregard for an observation made by the Chief of Engineers concerning the computation of benefits or savings. In his Annual Report for the year 1951 the Chief of Engineers, in discussing the computation of benefits or savings, stated²⁰ in part that:

This is ordinarily accomplished by preparing a separate analysis sheet for each prospective movement, on which current rates or costs are entered and compared with probable transportation costs to the shipping public for movement by waterway to determine the probable saving on the specific movement. The aggregate savings for these movements is used as a total average annual savings, or benefit.

In view of the statement made by the Chief of Engineers, and quoted above, it is quite obvious that in its evaluation of the Cross-Florida Barge Canal project, the Corps erred by claiming an average annual potential greater than 860,650 tons and \$3,478,000 transportation savings. Even these volumes are not conceded by this analysis for the reasons hereinafter set forth and duly documented.

²⁰ Part I, Volume J, pages 298-299.

Since the Corps has declined to permit an examination of the origins, destinations, and tonnages of the different articles of commerce, as well as the rates used by it to determine the transportation savings which have been claimed as economic justification for construction of the Cross-Florida Barge Canal, so as to permit a reasonably fair and unbiased analysis of its restudy of this project, it has been necessary to make this analysis (which shows that a benefit-cost ratio greater than 0.25 is not defensible) by examining the history of other similar waterways, the growth trend factors shown in the restudy, and the estimated average savings per ton-mile^{21/} claimed for other long-existing waterways as determined by the Chief of Engineers and reported to the Congress.

The presumed average annual commerce claimed for the Cross-Florida Barge Canal by the Corps has been excessively estimated by its projection formula. The table below compares the tonnage claimed to the tonnage reported for six existing waterways, all of which are fairly comparable to the proposed waterway:

Waterways	M l e s	Average Annual Tonnages - Thousands Except As Otherwise Indicated					
		1927	1927 to 1951 (25 Yr)	1927 to 1956 (30 Yr)	1966	1966 to 1990 (25 Yr)	1966 to 2015 (50 Yr)
1. Cross-Florida Barge Canal	185	-	-	-	1,154	1,506	1,858
2. Cumberland River Nashville to Mouth	194	2690	7560	1,0450	-	-	-
3. Intracoastal W'way Jacksonville to Miami	349	289	329	400	-	-	-
4. St. Johns River Palatka to Mouth	161	110	207	252	-	-	-
5. Ouchitza River Camden to Mouth	351	304	179	173	-	-	-
6. Missouri River Kansas City to River Mouth	382	75*	120*	136*	-	-	-
7. Savannah River Augusta to Mouth	196	96	56	53	-	-	-

*Exclusive of sand and gravel and waterway improvement materials.
 @Including sand and gravel and waterway improvement materials which, in 1956, amounted to more than 50% of the total tonnage.

^{21/} Hearings before Subcommittee, Committee on Public Works, United States Senate, 84th Congress, 1st Session.

It is appropriate to point out that the volume of commerce claimed by the Corps as a fifty-year average assumes a first-year volume, and a firm rate of growth far beyond the experience of any comparable single waterway or any comparable group of waterways. This fifty-year average of 1,854,000 tons is, in this respect, a synthetic figure, requiring so many unprecedented assumptions as to be seriously doubted.

A careful analysis shows that on the basis of realistic experience, allowing for the optimistic growth pattern of the area, the probable average annual tonnage would not be 1,854,000 tons. An exceedingly generous appraisal would not exceed 875,000 tons -- a difference of about a million tons. This difference is so large as to raise grave and serious questions as to the credibility of any tonnage figures used by the Corps.

In the establishment of the contention advanced herein, reference is made to the average savings per ton-mile claimed by the Chief of Engineers and reported to the Congress in 1955²¹ for twelve major inland waterways. The average savings per ton-mile for the twelve waterways as a single unit is reported as 9.2 mills. Representative individual averages are quoted from this report to the Congress as follows:

Waterways	Average Savings (Mills Per Ton-Mile)
Cumberland River	12.4
Gulf Intracoastal Waterway	11.2
Middle Mississippi River	8.4
Warrior River	4.4
Ohio River	7.7
Illinois Waterway	6.9

Although the average savings per ton-mile claimed for all of the waterways evaluated by the Chief of Engineers amounted to 9.2 mills per ton-mile, he concluded that for all of the inland waterways, including such as were not specifically evaluated, the average savings per ton-mile would be about 5 mills, and so informed the Congressional Committee. Since these average savings have repeatedly been

²¹ Ibid - See page 15 hereof.

and should be the Corps to not include the savings attributed to other items if they are not properly used herein, and finally, in view of the fact that an examination of the benefit evaluation data used to support the savings claimed has been reviewed by the Corps.

The total distance across the proposed Cross Florida Barge Canal from the Gulf of Mexico to the Atlantic Ocean has been stated by the Corps as 185 miles. It is assumed that all of the potential tonnage attributed to this project would travel the entire distance of the canal (which is unlikely) and the average unit savings of 9.2 mills per ton-mile is applied thereto. It becomes obvious that the savings claimed by the Corps have been overstated to a very substantial extent. To give the probable extent to which the Corps has overstated the transportation savings claimed by the use of unimproved waterways, on a ton per ton-mile, as compared with the unit savings derived by the Corps in improving for existing waterways, and cited herein, the following table has been prepared. The benefit-cost ratios shown therein were developed by relating the respective annual benefits to the annual charges stated by the Corps as 17.3410%.

Item	19 Year Annual Payments			Benefit Cost Ratio
	Tons	Ton-Miles	Transportation Savings	
1. Claimed by the Corps of Engineers				
Miscel. Benefits	1,858,420	-	37,407,000	1.00
	-	-	751,000	0.65
			<u>37,758,000</u>	<u>1.65</u>
2. The same tonnage on basis report of Chief of Engineers				
Miscel. Benefits	1,858,420	347,609,700	32,163,031 ^{aa}	0.43
	-	-	751,000	0.08
			<u>32,914,031</u>	<u>0.48</u>
3. This analysis on basis report of Chief of Engineers				
Miscel. Benefits	875,000	161,375,000	31,429,250 ^{aa}	0.20
	-	-	751,000	0.05
			<u>31,840,250</u>	<u>0.25</u>
4. Overstated by Corps of Engineers	983,420	-	35,917,750 ^{aaa}	-

a. Tons x 185 miles

aa. Ton-miles x 9.2 mills per ton-mile.

aaa. Item 1 - Item 3.

INTRA/COASTAL WATERWAY - CROSS FLORIDA BARGE CANAL

Preliminary Analysis
Of The Economic Restudy Made By The
Corps of Engineers, U. S. Army
Dated January 10, 1958

INTRODUCTION

The economic restudy of the Cross Florida Barge Canal, made by the Corps of Engineers, U. S. Army, on January 10, 1958, to which this preliminary analysis is addressed, shows that a canal extending up the St. Johns River past Palatka, thence up the valley of the Oklawaha River, across the divide and down the valley of the Withlacoochee River to the Gulf of Mexico, about 95 miles north of Tampa, Florida, a distance of 184.4 miles, has been estimated to cost \$184,368,000 for construction, and \$7,365,000 annually thereafter, throughout a period of 50 years. Of these costs, \$177,974,000 for construction and \$6,938,000 for annual charges are to be paid for by the Federal Government and borne by the taxpayers. These costs are reflected by a report made by the District Engineer, Corps of Engineers, pursuant to request therefor, made by the Chief of Engineers on August 3, 1955.

It is appropriate, however, to observe that using the Corps of Engineer figures, the total cost of this project to the taxpayer over the 50-year period will be in excess of \$552 million. It is a well-established fact that the estimates made by the Corps on other projects and used by them to support their recommendations before the Public Works Committees of Congress are exceeded during construction by more than 100 percent. In the case of the Arkansas River navigation project the original estimate for navigation upon which the Congress approved the project was \$435 million, whereas, although the work has barely begun, its estimate as of July 1957 is reported as \$770 million, an increase of 80 percent over the authorization. The 1951 report of the Chief of Engineers, Part 1, Volume 3, page 442, attempts to analyze the increased cost of the project over authorization cost. It is to be noted that regardless of the reasons therefor, the actual cost of the projects cited in the 1951 Report is more than 100 percent in excess of authorization

From this table it may be seen that:

- (1) It was only by the use of \$33,700, identified as miscellaneous benefits, that the Corps was able to produce a benefit-cost ratio in excess of unity.
- (2) By according a haul of 145 miles to every ton of commerce claimed by the Corps and according thereto an average savings of 9.2 miles per ton-mile, the rate figure used by the Chief of Engineers in his report to the Congress, previously cited herein, the benefit-cost ratio would have been only 0.48.
- (3) By adjusting the basic savings evaluated by the Corps of Engineers in accordance with the formula used and as validated by the showing for existing waterway, the benefit-cost ratio would become only 0.23. This latter benefit-cost ratio is the maximum that might be defendably

In view of the showing reflected by the preceding table, it is eminently clear that the justification claimed for the Cross-Florida Barge Canal rests upon wholly untenable premises; and the findings and recommendations made by the Corps in its restudy report of January 14, 1958, should be concurred, and the proposed project should be de-authorized and abandoned as warranting no further consideration.

APPENDIX I

Comparison of the 1946 and 1947 1938 Evaluation
Made by the Corps of Engineers

Commodity	Board of Engineers for Works & Buildings in 1946			Corps of Engineers in U. S. Army, in 1947		
	Savings			Savings		
	Total Ton	% Savings	Per Ton	Total Ton	Total Ton	Per Ton
Sulphur	15,000	0	0	10,000	21,000	2.14
Salt Cake	0	0	0	33,156	572,117	6.69
Charitic Soda	0	0	0	70,000	120,800	1.80
Charline	0	0	0	4,000	384,400	7.12
TALL Oil Products	0	0	0	77,035	564,164	7.30
Pulpboard	0	0	0	471,298	1,898,703	4.03
Woodpulp	0	0	0	31,320	321,600	7.10
Wrapping Paper	0	0	0	21,700	60,713	2.84
Newsprint	0	0	0	17,380	72,068	4.14
Misc. Paper Products	24,300	70.1 %	2.83	6,310	10,199	1.57
Potash	0	0	0	53,190	44,719	.84
Nitrogen Fertiz. Sols.	0	0	0	12,853	352,110	5.60
Anhydrous Ammonia	0	0	0	41,185	295,090	7.16
Ammonium Nitrate	0	0	0	38,921	152,421	3.92
Ammonium Sulphate	0	0	0	4,340	45,702	1.05
Seaweed Sludge	0	0	0	35,854	224,383	6.26
Petroleum Products	572,000	53.000 %	.93	285,600	308,443	1.08
Sugar	2,350	5.700 %	4.13	58,500	214,812	3.67
Ilmenite Ore	0	0	0	86,800	381,052	4.39
Lumber	12,800	40,000 %	3.12	98,120	245,427	3.14
Logs	7,200	10,000 %	1.38	29,729	32,767	1.10
Acrylonitrile	0	0	0	40,300	426,400	10.66
Polyvinyl Chloride	0	0	0	27,125	253,673	9.35
Iron & Steel Articles	105,500	32,800 %	1.77	107,632	420,877	3.99
Crates and Boxes	0	0	0	22,100	64,883	3.18
Fertilizer	91,800	100.00 %	2.15	0	0	0
Flour and Feed	23,600	71.600 %	3.02	0	0	0
Coke	11,000	5.500 %	.51	0	0	0
Asphalt	4,250	17.500 %	2.73	0	0	0
Phosphate Rock	289,000	289.000 %	.79	0	0	0
Pulpwood	120,200	240.400 %	4.07	0	0	0
Naval Stores	11,350	16.800 %	1.17	0	0	0
Cottonseed Oil	6,800	29.500 %	4.34	0	0	0
Cement	219,500	240.100 %	1.09	0	0	0
Brick and Tile	7,200	5.900 %	.82	0	0	0
Auto Parts	3,500	1.700 %	2.51	0	0	0
Rubber Tires	7,750	55.000 %	6.89	0	0	0
Beverages	19,200	3.000 %	3.81	0	0	0
General Goods	19,350	73.000 %	3.77	0	0	0
Insulation	1,700	5.000 %	1.43	0	0	0
Paint	4,200	31.500 %	7.50	0	0	0
Roofing	19,300	78.900 %	4.11	0	0	0
Soap	1,550	27.200 %	7.45	0	0	0
Misc. Mine Products	27,400	30.100 %	1.29	0	0	0
Miscellaneous M&B	17,700	288.000 %	5.00	0	0	0
TOTALS	1,854,000	\$7,200,000	11.72	1,858,420	\$7,407,000	\$3.99

APPENDIX B

- 2/ Telegram from Corps of Engineers to Atlantic Coast Line Railroad dated October 13, 1958.

"The report on the Economic Aspects of the Cross-Florida Barge Canal lists the estimated savings by commodities from shippers through the canal route. Copies of this report have been loaned to your office. Practically all of the backing data, that is, actual figures, appeared to be based from one shipper to another under various names or another on which the savings were based. It is with this office by the shippers and recipients, in confidence, for use by this office only, and not for public release. Therefore, the backing data are considered confidential information and cannot be made available for publication."

- 3/ Excerpts from article appear in Orlando Sentinel, Orlando, Florida, dated November 9, 1958.

"A bear for punishment, Gen. Bennett is preparing to ask for funds to start work on the South Florida barge canal which Congress virtually ignored last session.

"The Jacksonville congressman has scheduled two conferences later this month -- one with Maj. Gen. E. C. Itchenor, chief of army engineers, and the other with officials of the Budget Bureau, both to occur in one day, a sort of kill or cure endeavor.

"It will require about \$5 billion for architectural and engineering specifications although all of this money might not be required the first year. Mr. Bennett has not decided in advance of his two conferences whether to ask for some construction money, \$1.5 billion being the latest estimate.

"The House appropriations committee heard the canal story once again last winter -- mysteriously in advance of the release of a special report by the Army Engineers disclosing a nominal or marginal economic justification, 1 to 1.05 -- that is, benefits to shippers balanced against interest on the capital investment and maintenance charges.

"It is this slim margin of economic justification which will constitute the whole of the Bennett argument when he talks to Gen. Itchenor and the Budget Bureau people."

APPENDIX C

EXCERPT FROM CONGRESSIONAL RECORD, JULY 25, 1956, PAGES A6712-3

July 23, 1956

Hon. Charles E. Bennett
House of Representatives
Washington, D. C.

Dear Mr. Bennett:

Knowing of your interest in the Cross Florida Barge Canal, I wish to inform you of the results of an economic restudy of the project which has recently been completed.

As you may recall, the project was authorized in 1942 by Public Law 675, 77th Congress, as a high level lock barge canal from the St. Johns River across Florida to the Gulf of Mexico, in accordance with plans set forth in a letter of the Chief of Engineers dated June 12, 1942, and later printed in House Document No. 109, 79th Congress. The project provides for a channel 107 miles long, 12 feet deep and at least 150 feet wide, with 5 locks. The Federal cost is currently estimated to be \$164,600,000 and the non-Federal cost is estimated to be \$5,500,000.

Congress appropriated funds for an economic restudy of the project in the Public Works Appropriation Act for fiscal year 1956. This restudy has now been completed by the District Engineer at Jacksonville and the Division Engineer at Atlanta.

The Chief of Engineers finds that the project is economically justified with a ratio of benefits to costs of 1.05 to 1, based on the prospective peacetime use of the canal over its economic life. Consideration also has been given to the views of proponents of this canal as to its usefulness to national defense in time of war. During World War II, many cargo ships and tankers were lost off the coast of Florida due to enemy action. Many of the cargoes that were lost would, and could, have been moved by barge or small freighter had the barge canal been in existence at that time. The savings in lives, ships, and valuable and critical cargoes would have been great. However, the national defense values of civil waterway projects are not susceptible of monetary evaluation under present conditions. Accordingly, no monetary benefit was assigned in this restudy to any national defense value of the Cross Florida Barge Canal project.

The Chief of Engineers has reviewed the findings of the reporting officers and concludes that the project should again become a part of the Corps' active backlog of authorized civil-works projects.

Sincerely yours,

J. L. Person
Brigadier General, United States Army
Assistant Chief of Engineers for
Civil Works"

cost; yet no attempt is made to provide for these excess costs in the justification procedure.

The first evidence of the result of this economic restudy of the Cross Florida Barge Canal project appeared on pages A6712-5933 of the July 25, 1958, issue of the Congressional Record in the form of a letter written by the Assistant Chief of Engineers for Civil Functions to the Hon. Charles E. Bennett (Florida), House of Representatives, wherein it was stated in part that:

"Knowing of your interest in the Cross Florida Barge Canal, I wish to inform you of the results of an economic restudy of the project which has recently been completed."

"The Chief of Engineers finds that the project is economically justified with a ratio of benefits to costs of 1.05 to 1."

"The Chief of Engineers has reviewed the findings of the reporting officers and concludes that the project should again become a part of the Corps' active backlog of authorized projects."

As justification for the restoration of this project which was authorized by Public Law 675, 77th Congress, on July 23, 1942, to the category of "active backlog of authorized projects", the Corps' economic restudy identifies the average annual benefits stated as \$7,758,000 which, when related to the average annual charges of \$7,365,000, produced a benefit-cost ratio (1.05) slightly in excess of unity. A breakdown of the average annual benefits claimed are shown by the economic restudy as follows:

Items	Average Annual Tonnages 1/	Average Annual Benefits	
		Total	Per Ton
a. Transportation Savings	1,858,430	\$7,407,000	\$3.99
b. Other Benefits:			
Commercial Fishing Boats		40,000	
Contractors Floating Expt.		20,000	
New Vessel Deliveries		155,000	
Recreational Boating		127,000	
Total		\$7,758,000	

1/ This figure is 216 percent of the 850,000 tons of commerce analyzed and evaluated by the Corps in its economic restudy. A breakdown of this commerce by individual commodities and tonnages is shown by Appendix A herof.

There are two immediately apparent valid reasons for the preparation and filing of this PRELIMINARY ANALYSIS of the economic study, in advance of the final analysis which presently is being prepared. These reasons are: (1) the unwillingness of the Corps/ thus far to permit an examination of the tonnage claimed, on an origin-destination basis, together with the transportation charges used by it to measure the unit transportation savings, despite the fact that its economic restudy is to be used to justify the expenditure of vast Federal funds, all of which are to be collected from the taxpayers, and (2) the efforts reportedly contemplated/ looking to the approval of this economic restudy which resulted without any public hearing being conducted by the Corps, which had the effect of denying to interests that would be adversely affected the right to be heard.

PROJECT AUTHORIZED WITHOUT ECONOMIC JUSTIFICATION
HAVING BEEN ESTABLISHED BY THE BOARD OF ENGINEERS

Although this navigation project was authorized by Public Law 675, 77th Congress, an examination of House Document 109, 79th Congress, 1st Session, which contains the results of a purported analysis and economic evaluation of the project discloses that no economic justification was ever established or even attempted by the Corps. This fact is confirmed by the document cited wherein the estimated average annual benefits are stated as \$482,000 and the estimated average annual charges are stated as \$2,575,000. By properly relating these benefits and charges, it becomes clearly apparent (although not stated) that a benefit-cost ratio of 0.187 would have resulted.

REESTUDY OF THIS PROJECT MADE IN 1946
BY THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS
FAILED TO ESTABLISH ITS ECONOMIC JUSTIFICATION

Although this project was restudied by the Board of Engineers for Rivers and Harbors in 1946, and although the average annual benefits were increased from \$482,000 in 1942 to \$7,145,000 in 1946, including an item of \$1,600,000 attributed

1/ See appendix B hereof.

2/ See appendix B hereof.

no assurance against war losses, no economic justification was found to exist. By reason of this fact the project was removed by the Chief of Engineers in 1954 from the "active backlog of authorized projects" and placed in the category of "deferred for restudy,"^{1/4} where it remained until August 3, 1955, when the District Engineer, Corps of Engineers, was requested to prepare another economic restudy -- the restudy to which this analysis is addressed.

THE PATHWAY OF THIS PROJECT IN 1958
DOES NOT WARRANT JUSTIFICATION

From an exhaustive examination of its 1958 restudy of this project, it is evident that the Corps disregarded historical facts, basic analytical procedures, adopted untenable expedients, and failed to exercise an informed and experienced judgment.

The first evidence of these evaluation irregularities is well portrayed by appendix A at the end of this analysis. There it is shown that (1) of the 27 articles of commerce claimed in the 1945 evaluation, 26 thereof were disclaimed in the 1958 evaluation; and (2) of the 25 articles of commerce claimed in the 1954 evaluation, 18 thereof were not claimed in the 1958 evaluation. The effect of these shifts and substitutions is well portrayed by the table below:

Number Articles of Commerce	Applications					
	1945			1958		
	Tons	Savings		Tons	Savings	
	Tons	Per Ton		Total	Per Ton	
7*	894,850	\$1,135,000	21.74	576,041	\$1,262,970	\$2.19
20	979,310	1,712,900	2.75	0	0	0
12	0	0	0	1,292,329	6,144,070	4.79
27	1,854,000	3,200,000	1.72	0	0	0
25	0	0	0	1,358,433	7,407,000	5.49

* The same articles of commerce (see appendix A) obtained in both the 1945 and the 1958 evaluations.

In this connection it is sufficiently noteworthy to observe that while the total tonnage claimed in the 1958 evaluation is only .2 percent greater than

claimed in the 1946 evaluation, the total benefits or savings claimed in the 1958 evaluation is 131 percent greater than claimed in the evaluation.

Because of these radical changes in the articles of commerce for which no explanation has even been attempted, and since the Corps is exceedingly well informed concerning the long-existing and reasonably consistent traffic patterns obtaining on the existing inland waterways, such as the Mississippi River System^{5/}, and is cognizant of the average savings per ton claimed for many of the existing inland waterways in 1953, and reported to the Congress in 1955 by the Chief of Engineers, the table of comparisons below provides some indication of the extent that the transportation savings attributed to the Cross Florida Barge Canal by the economic restudy of 1958 have been determined by the use of indefensible tonnages and excessively unrealistic average unit measurements:

Waterways	Average Savings Claimed Per Ton		
	1958	1953 ^{5/}	1946
Cross-Florida Barge Canal	\$3.99	0	\$1.72
Gulf Intracoastal	0	\$1.99	0
Warrior River	0	1.85	0
Ohio River	0	1.66	0
Upper Mississippi River	0	1.45	0
Cumberland River	0	1.64	0
Middle Mississippi River	0	1.25	0
Illinois Waterway	0	1.15	0
Average	0	\$1.55	0

Since the Corps was well aware of the preceding facts when it made the 1958 restudy of the Cross Florida Barge Canal project, but made no attempt either to correlate or compare the articles of commerce and tonnages presently utilizing

^{5/} Includes the Mississippi, Missouri and Ohio Rivers, all of their tributaries, and the Illinois Waterway.

^{6/} The most recent average savings per ton reported by the Chief of Engineers to the Congress in 1955, when he testified before the subcommittee of the Committee on Public Works, United States Senate, 84th Congress, 1st Session.

the existing waterways with those claimed in its 1946 or 1958 restudies, or to relate the average savings per ton claimed for the existing waterways to those resulting from its 1958 restudy, the inevitable conclusion to be reached is that except for the above-cited radical shifts in the traffic pattern which tended to produce greater average unit savings per ton, it would not have been possible to achieve the negligible benefit-cost ratio claimed of 1.05, even by supplementing the transportation savings to the extent of \$101,000 which were identified as "other miscellaneous benefits." In other words, if the unreal or illusory assumptions made by the Corps are eliminated, it becomes impossible to show a benefit-cost ratio of 1.05, or even a semblance thereof.

Notwithstanding the preceding facts, however, other evidence of the evaluation irregularities on the part of the Corps of Engineers in its 1958 restudy of the Cross Florida Barge Canal is shown by the following table, which compares the tonnages claimed for the 18 new articles of commerce identified by the restudy to the tonnages thereof as reported by the Corps of Engineers for comparable existing waterways:

TABLE ON NEXT PAGE

The 18 New Articles Of Commerce Claimed In The 1958 Economic Restudy	Thousand Tons						
	Claimed	Reported For 1955					
	Cross-Florida Barge Canal	Camp Lake River	Intercoastal/Atalpa, Jacksonville to Miami	St. Johns River	Coachina River	Missouri River Kansas City to Mouth	Savannah River
Whelpwood	17	0	0	0	0	0	0
Salt Cake	1	0	0	0	0	0	0
Ilmenite Ore ^{B/}	1	0	0	0	0	0	0
Tall Oil ^{B/}	1	0	0	0	0	0	0
Caustic Soda	1	0	0	0	0	0	0
Nitrogen Ferts. ^{B, C, Y/}	1	0	0	0	0	0	0
Chlorine	1	0	0	0	0	0	0
Potash ^{Y/}	1	0	0	0	0	0	0
Monona Phosphate ^{Y/}	1	0	0	0	0	0	0
Ammonia ^{B, C, Y/}	1	0	0	0	0	0	0
Acrylonitrile	1	0	0	0	0	0	0
Ironium Nitrate ^{Y/}	1	0	0	0	0	0	0
Sewage Sludge ^{Y/}	1	0	0	0	0	0	0
Woodpulp	1	0	0	0	0	0	0
Polyvinyl Chloride	1	0	0	0	0	0	0
Wrapping Paper	1	0	0	0	0	0	0
Crates and Boxes	1	0	0	0	0	0	0
Newsprint	1	0	0	0	0	0	0
Totals	2,001	0	0	0	0	0	0

While the showing evidenced by the preceding table is sufficient, in and of itself, to confirm the extent to which the Corps disregarded the traffic pattern obtaining on existing inland waterways, this becomes all the more pro-

^{Y/} These items added amount to 27,000 tons. The total fertilizer and fertilizer materials, except phosphate rock, reported for the Mississippi River System in 1955 amounted to only 155,000 tons. No phosphate rock claimed for Cross Florida Barge Canal.

^{B/} Five producing points (Camp Blanning, Lawley, Melbourne, Starke and Winter Beach) in Florida are substantial distances away from the proposed waterway.

^{Y/} The total U.S. production in 1955 was 292,000 tons of crude and 62,000 tons of refined. The total U.S. consumption was 182,000 tons of crude and 45,000 tons of refined. (U.S. Department of Commerce statistics.)

... should when cognizance is taken of the fact that these 18 articles of commerce account for 69 percent of the total average annual tonnage claimed for the Cross Florida Barge Canal, and 83 percent of the total average annual transportation savings attributed thereto.^{10/}

In addition to the foregoing observations, and as a means of further pointing up and emphasizing the evaluative irregularities on the part of the Corps in its restudy of the Cross Florida Barge Canal project, reference is made to the recent (1956-1957) restudy of the Overton-Red River project, because while the articles of commerce which were considered in the respective restudies were very substantially similar, they were accorded entirely different treatment. Likewise, some of the principal articles of commerce claimed for the Florida Barge Canal project are contrasted with the savings thereon reported for the Mississippi River System in 1957.^{11/}

At this juncture it is highly proper to take cognizance of the manner in which the Corps dealt with nine of its articles of commerce^{12/} shown by appendix A hereof, in its restudy of the Overton-Red River project, as contrasted with its restudy of the Cross-Florida Barge Canal project. Although its restudy of the Overton-Red River project was the third or fourth attempt to establish economic justification therefor, and although the tonnages of these nine articles of commerce were substantial, none of them were accepted by the Corps in its attempt to establish justification for the project, and as a consequence thereof, no transportation savings thereon were claimed. Some of the reasons advanced for the action taken were: (1) Shippers or receivers cannot handle these articles of commerce in barge-load quantities; (2) Too much time in transit; (3) Savings per ton insufficient to attract the commerce to waterway transportation; (4) Loss of

^{10/} These 18 articles of commerce, aggregating 1,381,000 of the 1,958,000 tons claimed, have been credited with \$5,144,070 of the \$7,407,000 total transportation savings attributed to the Florida Barge Canal.

^{11/} Reported by the Corps of Engineers.

^{12/} Lumber, Caustic-Soda, Chlorine, Potash, Nitrogenous Fertilizer Solutions, Ammonium-Nitrate, Ammonium-Sulphate, Salt-Cake, and Paper and Manufactures.