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# Maps

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# Exhibits

- Exhibit I Letter in regard to Illinois Highway Division relocation of US 30.
- Exhibit II List of traffic zones.
- Exhibit III Letter with property tax estimates for proposed new south bridge.



# COVERDALE & COLPITTS

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July 9, 1954

Mr. John G. Butter, Chief Engineer Iowa State Highway Commission and Ames, Iowa Mr. Fred R. White, Consultant City of Clinton Bridge Commission c/o 2003 Greenbriar Circle Ames, Iowa

Dear Sirs:

In accordance with your instructions, we have made a study of the motor vehicle traffic crossing the Mississippi River at Clinton, Iowa and have prepared estimates of the traffic, revenues and operating expenses for the proposed new Mississippi River Bridge to be constructed by the City of Clinton Bridge Commission, located as shown on the map on the opposite page. Our report on this study, containing these estimates, is submitted herewith.

#### SUMMARY

At the present time there are two bridges crossing the Mississippi River at Clinton, Iowa (shown on the map opposite), each built in the early 1890s. One is the Clinton and Illinois Bridge, the present south bridge, which is to be purchased by the City of Clinton Bridge Commission for an agreed price of \$275,000. The Commission plans to tear down this bridge and to erect a new modern two-lane bridge to be open for traffic July 1, 1956. The other bridge at Clinton is the Lyons-Fulton Bridge, the north bridge, which is shown on the map opposite.

The Illinois Division of Highways' construction program includes a new highway cutoff east of Clinton which will relocate the major transcontinental highway US 30 (see map opposite) and provide a modern direct approach route to the proposed new south bridge. Both Illinois and Iowa plan to change the marked routing of highway US 30 from the Lyons-Fulton Bridge to the new south bridge at the time the new bridge is opened.

Our estimates of the revenue available for debt service for the new south bridge for the period from July 1, 1956 through 1979 are given in the table below. These figures are taken from the table facing page 17 of this report and are qualified by the statements and conditions in this report.

Year	Esti- mated Traffic (Thous	Revenue Available for Debt Service sands)	Year	Esti- mated Traffic (Thous	Revenue Available for Debt Service sands)
1956 (6 mos 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967	s.) 763 1,720 1,613(A) 1,662 1,713 1,766 1,821 1,877 1,933 1,989 2,045 2,101	\$188 428 401(A) 417 430 448 466 482 501 520 537 556	1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979	2,157 2,213 2,269 2,325 2,381 2,437 2,493 2,549 2,605 2,661 2,717 2,773	<ul> <li>\$ 575</li> <li>592</li> <li>611</li> <li>630</li> <li>647</li> <li>666</li> <li>685</li> <li>702</li> <li>721</li> <li>740</li> <li>757</li> <li>776</li> </ul>
		1996 - 1999 - 1997 -	Total	50,583	\$13,476

(A) This traffic and revenue estimated decrease reflects the assumed opening of the proposed Iowa Turnpike, with a Mississippi River Bridge.

#### DESCRIPTION OF PROJECT

The City of Clinton Bridge Commission proposes to construct a new bridge to provide a Mississippi River crossing facility that is modern, attractive and of maximum usefulness to the communities of Clinton, Iowa, population 30,379\* and Fulton, Illinois, population 2,706\*, and will also serve the large amount of through traffic now crossing the Mississippi River at Clinton. The maps opposite page one show the locations of Clinton, Fulton and the important transcontinental route US 30 which passes through both cities at present. Route

\* 1950 census

US 30, the Lincoln Highway, is the principal traffic artery from Chicago to the major cities of Iowa, Nebraska, Colorado and westward. A large amount of through truck traffic uses this route.

Clinton, Iowa is located in the county of the same name and Fulton is in Whiteside County, Illinois.

There are two bridges now available for river crossings at Clinton. One, the southerly bridge, is the Clinton and Illinois Bridge which was built in 1893. It has a steel and wrought iron superstructure, a wood plank roadway and its approach road is on causeway and timber pile trestle. The roadway is 16 feet 9 inches wide on the bridge itself and the entire length of approximately one mile of roadway is covered with a very bumpy bituminous paving. In 1948 traffic on this bridge was limited to passenger cars and light trucks because the heavy trucks were causing excessive damage (and maintenance expense) to the roadway. Arrangements have been made by the Commission to purchase the Clinton and Illinois Bridge for \$275,000 to provide the site for the proposed new bridge.

The other bridge across the Mississippi River at Clinton, the Lyons-Fulton Bridge, is located two and one-half miles north of the Clinton and Illinois Bridge. This northerly bridge was built in 1891 between Lyons, Iowa (subsequently incorporated into Clinton) and Fulton, Illinois. This bridge is now in good repair and has a steel superstructure. The bridge structure itself has a 17-foot wide roadway of open steel grid which was installed in 1939. The original wooden approach ramps were replaced with concrete structures in 1938. There are two right-angle turns in the Iowa approach and one right-angle turn in the Illinois approach roadways which also have five per cent grades. The sharp turns, steep grades and narrow roadway (modern two-lane roads are generally 24 feet wide) make this bridge especially difficult for trucks to negotiate and classify it as outmoded for today's passenger car traffic. However, the Lyons-Fulton Bridge today carries the majority of the Clinton river-crossing traffic, and will compete somewhat with the proposed new south bridge for traffic in the future.

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Transcontinental highway US 30 is now routed via the Lyons-Fulton Bridge, passing through the centers of both Clinton and Fulton. The Clinton passage is especially difficult because of the volume of city traffic and the numerous traffic lights. The State of Illinois plans to modernize and relocate three miles of US 30 east of Fulton by 1956, from the Chicago and Northwestern Railroad main line underpass to a junction with State Route 80 just east of the proposed new south bridge, as shown on the map facing page one. This will provide a direct connection from US 30 to the new bridge. A copy of a letter by Mr. R. R. Bartelsmeyer, Chief Highway Engineer of Illinois, which describes their plans in detail is given in Exhibit I.

The new bridge which the City of Clinton Bridge Commission plans to erect after the Clinton and Illinois Bridge is torn down will be a modern twolane structure with a central suspension span of 644 feet and with steel girders on reinforced concrete piers for the other spans. The bridge roadway will be 26 feet wide and the maximum grade will be three per cent. The new bridge and approaches will have straight alignment. This design will provide an excellent modern facility for the river-crossing traffic at Clinton.

The principal Mississippi River crossings nearest to Clinton are the Julien Dubuque Bridge located at Dubuque, Iowa, 60 miles north of Clinton, and the Iowa-Illinois Memorial Bridge (Suspension Bridge), 35 miles south of Clinton between Bettendorf, Iowa and Moline, Illinois. The Julien Dubuque Bridge was opened in 1943, and the Bettendorf Bridge in 1936. Each is a two-lane facility. The Julien Dubuque Bridge will become toll free on December 31, 1954 when its bonds will be paid off.

A minor river-crossing bridge is also available at Savanna, Illinois, 16 miles north of Clinton.

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#### TRAFFIC DATA

The Iowa State Highway Commission made an origin and destination survey of traffic crossing the two Clinton bridges in September 1953 and they have supplied us with the traffic data obtained from the interviews of 21,504 motorists during that survey period. The Iowa State Highway Commission also made a record of 7,000 Iowa and Illinois license plate numbers on vehicles crossing the Clinton bridges during ten weekdays in February 1954. These records of license plate numbers were supplied to us for study.

In July 1946 the Iowa State Highway Commission issued a report on the results of an origin and destination traffic survey at the Clinton bridges, made in November and December 1945. This older record was valuable because it supplied truck traffic volume information on the Clinton and Illinois Bridge and also because it generally confirmed the results of the 1953 study.

Other Iowa State Highway Commission traffic data for the Iowa state roads system was also available for use in analyzing the Clinton bridges traffic data.

The Clinton and Illinois Bridge Company does not keep any traffic records, but their toll receipts records were available for information. The rather complete traffic and toll revenue records of the Lyons-Fulton Bridge Company provided an excellent source of information. Traffic information for the Iowa-Illinois Memorial Bridge at Bettendorf, Iowa and Moline, Illinois was used. This bridge is on transcontinental route US 6.

The above-mentioned traffic information sources were used to develop estimates of the 1953 traffic crossing the Mississippi River at Clinton.

The actual motor vehicle traffic which used the Lyons-Fulton Bridge in 1953 and our estimate of the annual traffic volume for the Clinton and Illinois Bridge for 1953 are as follows:



	Annual Traffic, 1953
Lyons-Fulton Bridge Clinton and Illinois Bridge	1,550,222 575,000
Total	2,125,222

All heavy truck traffic in 1953, approximately 200,000 vehicles, used the Lyons-Fulton Bridge because these vehicles are not permitted to use the Clinton and Illinois Bridge. The 1946 traffic report showed that approximately 66 per cent of the trucks making the river crossing at Clinton were using the Lyons-Fulton Bridge.

The origins and destinations of all vehicles interviewed in September 1953 were classified according to the traffic zones which are shown on the map opposite and listed in Exhibit II of this report. This zone classification and the other traffic data were used to develop estimates of the traffic volumes between various zones for trips crossing the Mississippi River in 1953. The principal trip volumes thus estimated are given in the following table:

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			1953 Traft	fic Volume	
	Trips	Passen- ger Cars			
Zone	Place	Zone	Place	and Light Trucks	Heavy Trucks
23	South Clinton	3,4,5) 6,7)	East of Fulton in- cluding Sterling and Chicago	387,336	21,285
27,28) 29,30)	West of Clinton including Iowa City, Des Moines, Omaha	3,4,5) 6,7)	East of Fulton in- cluding Sterling and Chicago	363,822	126,495
23	South Clinton	1	Fulton	353,103	negligible
21	North Clinton (Lyons)	l	Fulton	142,980	negligible
21	North Clinton (Lyons)	3,4,5) 6,7)	East of Fulton in- cluding Sterling and Chicago	140,721 1,387,962	small 147,780
			Grand Total	1,535,	742(A)

(A) This is 72 per cent of the total 1953 river-crossing traffic volume.

#### Time and Distance for River-Crossing Trips

Time and distance data for various river-crossing trips at Clinton, using both bridges, were obtained from the records of 215 miles of driving for this purpose in Clinton, Fulton and the surrounding area. These trips were made at different times of day to record traveling times under varying traffic conditions.

The time and distance savings for the different river-crossing trips for passenger cars have been calculated for a routing via the proposed new south bridge versus a Lyons-Fulton Bridge routing, using the relocation of Route US 30 wherever advantageous. These savings are shown in the table at the bottom of the page for the five principal trips which make the river crossing.

# Use of Clinton and Illinois Bridge For River-Crossing Trips

The September 1953 origin and destination information for passenger car and light truck traffic on each bridge was used to calculate the percentage of motorists who selected the Clinton and Illinois Bridge for four of the principal river-crossing trips. This information is shown in the table which follows:

	Trips Betwe		Estimate For a R via Propos	d Savings outing the ed New	Per Cent Motorists Using Clinton-Illinois	
Zone	Place	Zone	Place	South Miles	Bridge Minutes	Bridge September 1953
23	South Clinton	3,4,5) 6,7)	East of Fulton	2.7	13	43%
27,28) 29,30)	West of Clinton	3,4,5) 6,7)	East of Fulton	2.7	13	31
23	South Clinton	1	Fulton	0.2	5	42
21	North Clinton (Lyons)	1	Fulton	None	None	6
21	North Clinton (Lyons)	3,4,5) 6,7)	East of Fulton	None	None	

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	Iowa-Illinois Memorial Bridge (A)	Recommended Toll Schedule for the Proposed New South Bridge at Clinton (B)
	\$.15 .10 .15 .10	\$ .25 .18 .25 .18
	\$.10-\$.15 (x) }.2530	\$ .25 .45 1.00 1.00 1.25 1.50
	(X)	\$1.00

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Coverdale & Colpitts Consulting Engineers 120 Wall St., New York

# TOLL RATES

The toll schedule recommended for the proposed new south bridge has been developed with consideration of the tolls now in effect at various Mississippi River crossings including those at Clinton, Dubuque, Bettendorf-Moline and Savanna. Several different toll schedules for the proposed new bridge were studied and the one recommended was selected because we believe it will produce the maximum revenue for the proposed new south bridge. Our recommended toll schedule and the comparative toll rates at other bridges are shown in the table opposite.

The toll rates recommended for the proposed new south bridge include passenger car tolls which do not vary with the number of passengers. This will simplify both toll-taking and the problem of checking on the toll collection.

# Commutation Toll Rate

The commutation toll rate recommended for the proposed new south bridge is a 46-trip ticket or book of tickets with a 30-day time limit, to sell for \$8.25. It is intended to be used only for passenger cars and two-axle, four-tire trucks. The bona fide commuter who makes 46 trips in the 30-day period will thus pay only \$.18 per trip, and this rate includes all passengers in the car. This compares with the 50 per cent toll rate reduction now available at the Clinton and Illinois Bridge by purchasing a \$2.00 toll ticket for \$1.00 with no enforced time limit. There is no commutation rate available at the Lyons-Fulton Bridge.

The Philadelphia-Camden Bridge and the San Francisco-Oakland Bay Bridge each have a passenger car cash toll of \$.25 and a commutation rate similar to that recommended for the proposed new south bridge. Approximately 10 per cent of the passenger car trips at each of these bridges is made at the commutation rate. The license plate study of February 1954 showed that 25 per cent of the Iowa and Illinois licensed cars crossed the bridge 20 or more times during 10 weekdays. The traffic and revenue estimates in this report are based on an assumption that 20 per cent of the river-crossing traffic with an origin or destination in Clinton or Whiteside counties will use the commutation rate.

# Truck Toll Rates

The truck toll rates recommended for the proposed new south bridge are generally the same as those now in effect at the Julien Dubuque Bridge.

# Average Tolls

The following average tolls were calculated by dividing the total annual traffic volume into the total annual toll revenue for each bridge:

Bridge	Year	Average Toll
Clinton and Illinois	1953	\$.146
Lyons-Fulton	1953	.196
Julien Dubuque	1953	.253
Proposed New South Bridge at Clinton	1957	.303

The average toll is affected by the toll rates for each class of vehicle, the proportion of passenger cars using a commutation rate and the proportion of trucks which pay a high toll per vehicle.

#### Law Regarding Clinton Bridge Tolls

Public Law 526-78th Congress, Chapter 633-2D Session, S1159, Section 8a dated December 21, 1944 states the following:

> "The rate or rates of toll for crossing any bridge now existing or hereafter constructed which abuts on or enters into the corporate limits of the city of Clinton, Iowa, shall not be reduced below the rate or rates now in effect on existing bridges so long as any indebtedness of said commission for the account of any bridge or bridges shall be outstanding and unpaid."

This appears to preclude any possibility of "toll-rate cutting" by the Lyons-Fulton Bridge Company in an effort to divert additional traffic away from the proposed new south bridge.

# TRAFFIC DIVERSION TO PROPOSED NEW SOUTH BRIDGE

According to present plans, the Clinton and Illinois Bridge will be closed immediately after its purchase by the City of Clinton Bridge Commission and all river-crossing traffic at Clinton will use the Lyons-Fulton Bridge during the construction period of the new south bridge. When the new bridge opens on July 1, 1956 (as now scheduled) it must divert traffic from the Lyons-Fulton Bridge to obtain toll revenue. Traffic diversion records obtained from various locations and facilities indicate that the passenger car motorist selects a particular route because of the time and/or distance savings for the route, the toll cost (if any) and the "quality" of the route. Heavy trucks' route selection is generally affected to a much larger degree by the toll cost of a route.

The time savings to be offered to the motorist by the proposed new south bridge and US 30 relocation is only a few minutes more than the time savings available today by the use of the Clinton and Illinois Bridge. The September 1953 study gave us the percentage of motorists who have selected the Clinton and Illinois Bridge for specific trips. (See table page 7.)

The passenger car toll rates for the proposed new south bridge will be slightly higher than today's Clinton and Illinois Bridge passenger car tolls, and correspondingly higher than the Lyons-Fulton Bridge passenger car tolls. The truck toll rates for the proposed new south bridge will be much higher than those at the Lyons-Fulton Bridge. (See table opposite page 8.)

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We have considered each of the different river-crossing trips which uses the bridges at Clinton and have developed estimates of the percentage for each which will use the proposed new south bridge. Our estimates are shown in the table below for the five largest volume river-crossing trips:

		Estimated Per Cent Traffic Diversion to Proposed New South Bridge			
	Trips Betw	een		Passenger Cars and	Heavy
Zone	Place	Zone	Place	Light Trucks	Trucks
23	South Clinton	3,4,5) 6,7)	East of Fulton	85%	60%
27,28) 29,30)	West of Clinton	3,4,5) 6,7)	East of Fulton	90	70
23	South Clinton	l	Fulton	75	0
21	North Clinton (Lyons)	l	Fulton	0	0
21	North Clinton (Lyons)	3,4,5) 6,7)	East of Fulton	5	0

These, and similar diversion percentages, have been used to calculate the total traffic diverted, 1957 basis, as follows:

	1957 Estimated River-Crossing Traffic at Clinton					
	Diverted to New South Bridge					
	Total	Amount(A)	Per Cent			
Pass. cars and light trucks Heavy trucks	2,216,000 212,000	1,439,000 137,000	64 • 9% 64 • 6			
Total	2,428,000	1,576,000	64.9			

(A) Does not include induced traffic which will be discussed later.

# TRAFFIC GROWTH

Our estimates of the normal, long-term growth of river-crossing traffic which may be expected at Clinton have been developed after a review of numerous records of traffic in eastern Iowa and at the Clinton and Bettendorf-Moline bridges. Some of these records are summarized below.

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# Passenger Cars and Light Trucks

The most pertinent records pertaining to the normal growth rates of passenger car and light truck traffic are the following:

Item	Period	Years	Average Annual Growth (Per Cent)
Lyons-Fulton Bridge traffic at 10¢ to 25¢ tolls, passenger cars and light trucks	1950-1953	3	2.5
	1952-1953	1	8.9
Clinton and Illinois Bridge toll revenues	1950-1953	3	4.8
	1952-1953	1	(4.2)loss
Iowa-Illinois Memorial Bridge at Bettendorf-	1950-1953	3	7.6
Moline, passenger cars and light trucks	1952-1953	1	7.1
Gasoline consumption - Iowa	1950-1953	33	2.6
- Illinois	1950-1953		4.2
Motor vehicle registration - Iowa	1950-1953	33	1.3
- Illinois	1950-1953		4.0
Population - Clinton County, Iowa	1940-1950	10	1.1
- Whiteside County, Illinois	1940-1950	10	1.3

Our estimates of growth rates for passenger car and light truck traffic at the proposed new south bridge are:

1953-1963 - 3 per cent per year

1963-1979 - An increase each year of the number of vehicles which were calculated to be the traffic growth from 1962 to 1963; a constant increment for annual growth.

# Heavy Trucks

Certain pertinent growth rates recorded for heavy trucks are listed in the table on the following page.

Place	Period	Years	Heavy Truck Traffic Av- erage Annual Growth Rates (Per Cent)
Lyons Fulton Bridge	1950–1953 1952–1953	3 1	5.8 8.0
Iowa-Illinois Memorial Bridge at Bettendorf-Moline	1950–1953 1952–1953 1946–1953	3 1 7	4.9 13.0 13.0

The heavy trucks at the Iowa-Illinois Memorial Bridge were 10 per cent of the total traffic in 1953. This same type of truck was 8.2 per cent of the total Clinton river-crossing traffic during the survey period in September 1953.

Accordingly, we have developed the following estimates of growth rates for heavy truck traffic at the proposed new south bridge:

> 1953-1958 - 5 per cent per year 1958-1963 - 4 per cent per year 1963-1979 - An increase each year of the number of heavy trucks which were calculated to be the growth from 1962 to 1963; a constant increment for annual growth.

## Growth, All Traffic 1956-1979

The detailed calculation of our long-range traffic estimate, summarized in a later section, indicates an over-all average annual traffic growth rate from 1956 to 1979 of 2.2 per cent.

Note:

The growth rate estimates given in this section are not intended to be estimates for specific years, but rather to reflect the long-term trend which may be reasonably expected. These growth rate estimates do not specifically anticipate certain shortterm conditions which might develop such as a severe business recession or government restrictions of motor vehicle travel.

#### INDUCED TRAFFIC

The opening of a new superior traffic facility is generally accompanied by the appearance of new traffic volumes over and above that which was the result of normal growth. This is called induced traffic and usually makes its appearance in the first year or two of operation of the new facility. Induced traffic is generally measured as a percentage of the traffic volume which was diverted to the new facility from the other facilities which had been in use. Measurement of induced traffic requires complete traffic records, both before and after the new facility is opened, a condition which is not usually met. Several induced traffic records, where it could be measured, are given in the following table:

Philadelphia-Camden Bridge	Traffic
Philadelphia-Camden Bridge	(Per Cent
Tacont Palmura Bridge Philadelphia	119
Tacony rampia biruge, intraderphira	55
Holland Tunnel, New York City	78
George Washington Bridge, New York City	134
Triborough Bridge, New York City	75
San Francisco-Oakland Bay Bridge	70
Maine Turnpike	30
New Hampshire Turnpike	43
New Jersey Turnpike, northern section	59

The amount of induced traffic which develops is apparantly related to the availability of large population centers, with many people who will make new or additional motor trips using the new facility, because of the considerable improvement offered by the new facility.

Clinton and Fulton together represent approximately 35,000 people and there is no other sizable population group nearby to provide a significant induced traffic potential. The Lyons-Fulton and the Clinton and Illinois bridges' normal peak-hour traffic is being handled without delay. The present-day driving time for a trip passing through Clinton via the Clinton and Illinois Bridge will be reduced by only a few minutes in the future with the use of the relocated US 30 highway and the proposed new south bridge.

Thus, the population available and the potential trip time savings are quite modest in comparison with the populations and trip time savings which produced the induced traffic percentages listed above. The physical appearance and driving ease to be offered by the proposed new south bridge will, however, be a tremendous improvement over those of the present Clinton and Illinois Bridge. Accordingly, we have estimated that the proposed new south bridge at Clinton will create induced traffic of 10 per cent of the 1957 diverted passenger car and light truck traffic volume.

#### IOWA TURNPIKE

Construction costs and traffic and revenue estimates are being prepared for the Iowa State Highway Commission to determine the feasibility of a trans-Iowa Turnpike. If the feasibility report is affirmative, this toll road might be built and put into operation by 1958, with the eastern terminus at a new bridge across the Mississippi River located somewhere between Clinton and Bettendorf. This general turnpike route is indicated on the map facing page one. If this turnpike is built it will divert traffic away from Clinton river crossings, especially the passenger cars and heavy trucks making long trips. Our traffic and revenue estimates in the following pages of this report include allowance for a loss of traffic to a trans-Iowa turnpike in 1958. If such a turnpike is not operating in that year, or any subsequent year, the toll revenue estimates presented in this report will be increased approximately 10 per cent.

#### ILLINOIS EAST-WEST TURNPIKE

The Illinois State Toll Highway Commission has engaged engineers to prepare construction cost and traffic and revenue estimates for an East-West Turnpike between Chicago and the Rock Island-Moline area (see map facing page one).

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# THE PROPOSED NEW SOUTH BRIDGE AT CLINTON, IOWA

1953 Operating Expenses for Lyons-Fulton, Clinton and Illinois and Julien Dubuque Bridges and Estimates of 1957 Operating Expenses for the Proposed New South Bridge

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	Lyons- Fulton Bridge 1 9	Clinton and Illinois Bridge 53 Actua	Julien Dubuque Bridge l	Proposed New South Bridge 1957 Estimate
Annual traffic volume	1,550,222	575,000	2,101,620	1,720,000
Operating Expenses Office salaries Collectors' wages Maintenance wages Lights Insurance	\$ 8,900 24,986 4,783 878 2,748	\$ 1,800 9,272 10,523 1,113 792	\$ 3,140 30,001 9,301 3,339 5,372	\$ 3,000 24,900 7,800 2,500 14,500(A)
Materials and contract repairs Truck and auto expense	1,224 678	1,048 991	6,658 917	3,000 800
Uniforms, other bridge supplies Telephone Advertising	1,242 69 205		118 901	1,200 200 800
Dues and donations Legal fees Other supplies and	351 450	1,255	000	500
Office rent Taxes - payroll Taxes - property Painting reserve	924 510 672 19,840	509 2,290	1,077 15,600	675 12,000(B) 5,600(C)
Other expenses Water and heat Travel Contract painting	8,106	4,908	1,008 313 14,000	1,000 300
Commissioners, per diem Manager's salary Consulting engineers Audit and legal Trustees' fees			2,820 7,000 1,000 660 933	3,000 7,000 1,000 800 2,000
Total	\$76,566	\$35,169	\$105,046	\$93,375

- (A) Based on normal all-risk property damage and use and occupancy insurance rates.
- (B) Estimated by F. R. White, Consultant, City of Clinton Bridge Commission, see Exhibit III.
- (C) This reserve for painting is expected to provide for all painting expense, including the various other painting items listed above for the other bridges.

Such a toll road would very probably connect with an Iowa turnpike (if both were built) and it would divert some additional traffic away from Clinton river crossing facilities. We have made an approximation that an additional three per cent revenue would be lost to the proposed new south bridge if the Illinois East-West Turnpike is built and connects with the Iowa Turnpike. However, our traffic and revenue estimates in this report do not reflect any traffic loss to this Illinois toll road because it is in the preliminary stages of planning and study.

#### OPERATING COSTS

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Operating cost information, including administrative and/or Commission expenses, was available to us for several years for the Clinton and Illinois Bridge, the Lyons-Fulton Bridge and the Julien Dubuque Bridge. Operating expenses for 1953 for these bridges, shown in the table opposite, appear to be typical of the past several years. Certain expenses which are not applicable to the proposed new south bridge have been deleted from this tabulation, such as depreciation and officers' salaries.

The first full calendar year of operation for the proposed new south bridge is scheduled to be 1957 and the table opposite shows our estimate of operating expenses for this bridge for 1957. Traffic volumes are given in this table for each bridge for comparison purposes.

These estimates for the proposed new bridge operating expense assume operation and administration comparable with that of the other three bridges listed and the same general wage and price levels which prevailed in 1953.

The operating costs for 1956 for the proposed new south bridge are estimated at one half the 1957 amount because the bridge is scheduled to open July 1, 1956 and thereby operate for only six months that year. The operating costs estimated for the years after 1957 are increased \$3,000 in 1960 and \$2,000

# PROPOSED NEW SOUTH BRIDGE AT CLINTON, IOWA

Traffic, Revenue, Operating Expense and Revenue Available for Debt Service

# 1956 - 1979

				Revenue Available
37		Toll	Operating	for Debt
Iear	Traific	Kevenue	Expense	Service
		(Inousan	as Umitted)	
1956 (6 mo 1957 1958	s.) 763 1,720 1,613	\$ 235 522 495	\$ 47 94 94	\$ 188 428 401
1959	1,662	511	94	417
1960 1961 1962 1963	1,713 1,766 1,821 1,877	527 545 563 581	97 97 97 99	430 448 466 482
1964	1,933	600	99	501
1965	1,989	619	99	520
1966	2,045	638	101	537
1967	2,101	657	101	556
1968 1969 1970	2,157 2,213 2,269	676 695 714	101 103 103	575 592 611
1971	2,367	())	105	617
1972 1973 1974 1975	2,381 2,437 2,493 2,549	752 771 790 809	105 105 105 107	666 685 702
1976 1977 1978 1979	2,605 2,661 2,717 2,773	828 847 866 885	107 107 109 109	721 740 757 776
Total	50,583	\$15,859	\$2,383	\$13,476

<u>Note</u>: These estimates represent the long-term trend which may be reasonably expected and they are not intended to be forecasts for specific years, nor to reflect periods of reduced traffic volumes which might occur during a severe business depression or a period of governmental restriction of motor vehicle travel. every three years thereafter because of the increased traffic volumes and the need for more repairs and maintenance as the bridge ages. The annual operating cost estimates for the years 1956-1979 are given in the table opposite.

#### TRAFFIC AND REVENUE ESTIMATES

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Our estimates of traffic, toll revenue and revenue available for debt service for the proposed new south bridge at Clinton have been developed in accordance with the statements in the preceding sections of this report and by the following steps:

- I. Preparation of estimates of traffic crossing the Mississippi River at Clinton, Iowa, as follows:
  - 1. Estimates of annual traffic, 1953, using each bridge.
  - 2. Estimates of annual traffic, 1957, expected to use both bridges.
  - 3. Calculation of traffic volumes, 1957 basis, for each of the various trips being made across the river at Clinton, according to the September 1953 survey origin and destination data.
  - 4. Estimates of the percentage of each different trip's traffic which will be diverted to the proposed new south bridge, based on the time, distance and toll cost for the trip via both the Lyons-Fulton Bridge and the proposed new south bridge.
  - 5. Estimates of induced traffic at 10 per cent of the diverted passenger car and light truck traffic volume.
  - 6. Calculation of the proposed new south bridge traffic for the six months it is scheduled to operate in 1956 as 50 per cent of the 1957 estimated traffic volume, adjusted for normal traffic growth.
  - 7. Calculation of the annual traffic volumes for each year, 1958 through 1979, at the anticipated traffic growth rates, adjusted for a traffic loss to the proposed Iowa Turnpike assumed to open on January 1, 1958.

These annual traffic estimates for the years 1956-1979 are shown in the table opposite this page.

- II. Calculation of toll revenue estimates by applying the toll rates described in an earlier section to the traffic volumes estimated for each year, 1956-1979.
- III. Estimates of the operating expenses as described in the previous section.
- IV. Calculation of the revenue available for debt service; the difference between the toll revenue and operating expense estimated for each year, 1956 to 1979.

The above estimates are shown in the table facing page 17; a total estimated revenue available for debt service of \$13,476,000 for the operation of the proposed new south bridge at Clinton, Iowa, from July 1, 1956 through 1979, for the City of Clinton Bridge Commission.

Respectfully submitted,

Consulting Engineers

# EXHIBITS

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#### COPY

State of Illinois William G. Stratton, Governor Department of Public Works and Buildings E. A. Rosenstone, Director DIVISION OF HIGHWAYS

Ralph R. Bartelsmeyer Chief Highway Engineer

Springfield

June 8, 1954

Mr. Fred G. Hansen, Secretary Clinton Bridge Commission 831 Sixth Avenue, South Clinton, Iowa

Dear Mr. Hansen:

It is my understanding that the City of Clinton Bridge Commission desires a statement from the Division of Highways in regard to the modernization of US Route 30 immediately east of the easterly end of the proposed new bridge project across the Mississippi River at Clinton, Iowa.

This is to advise that the Illinois Division of Highways has included in its program the securing of right of way in 1954 and the construction of a new 24-foot pavement in 1955 and 1956 for a relocation of Route US 30 for a distance of 3.16 miles extending northeasterly from the point where the proposed bridge approach intersects Illinois State Bond Issue Route 80. Also included in the program for 1955 and 1956 is the reconstruction of the existing substandard subway under the main line of the Chicago North Western Railway, which is located a short distance east of the point where the above mentioned relocation will intersect existing Route US 30. Every effort will be made to complete these projects by the time the Mississippi River Bridge and its approaches are completed and opened to traffic in the summer of 1956. The estimated cost of the proposed new road and subway is \$900,000. When the above mentioned relocation is completed US Route 30 markers will be changed to that route and this will result in reducing the traveling distance through the Fulton-Clinton area by 2.73 miles over the present routing through Fulton and Clinton.

You probably are familiar with the fact that the Illinois Division of Highways has recently modernized and reconstructed US Route 30 west and east of Morrison, and this provides a fairly modern two-lane highway all the way from Chicago and from the east to the Mississippi River.

> Very truly yours, R. R. Bartelsmeyer (sgd) R. R. Bartelsmeyer Chief Highway Engineer

HES:M cc - Coverdale & Colpitts

# LIST OF TRAFFIC ZONES USED TO ANALYZE MISSISSIPPI RIVER-CROSSING TRAFFIC AT CLINTON, IOWA

#### Zone

# Location

## East of Mississippi River

- 1 Fulton, Whiteside County.
- 2 Albany, Denrock, Erie, Fenton, Lyndon, Spring Hill, Walker.
- 3 Other termini in Whiteside County includes Morrison and Sterling.
- 4 Northern Illinois zones other than Whiteside County includes Chicago termini.
- 5 Central and Southern Illinois.
- 6 Wisconsin
- 7 Other Eastern States.

#### West of Mississippi River

- 21 City of Clinton termini between 7th Avenue North and North City limits.
- 22 City of Clinton termini between 3rd Avenue South and 7th Avenue North.
- 23 City of Clinton termini between 3rd Avenue South and South City limits.
- 24 Clinton County termini served by Iowa 136 and US 67 North.
- 25 Clinton County termini served by US 30 West and US 67 South.
- 26 Northeastern Iowa counties.
- 27 North Central Iowa counties.
- 28 All other Iowa counties.
- 29 Minnesota termini.
- 30 Western and Southern States.

# Exhibit III Sheet 1 of 2

# COPY

FRED R. WHITE Ames, Iowa

June 23, 1954

2003 Greenbriar Circle

Mr. Edw. L. Wemple C/o Coverdale & Colpitts Consulting Engineers 120 Wall Street New York, N. Y.

Dear Mr. Wemple:

#### Property Taxes, Clinton Bridges

In response to your letter of June 17, we estimate the property taxes on the Mississippi River bridges at Clinton, as follows:

#### Lyons & Fulton Bridge (North Bridge):

Iowa	\$ 8,000	per	year
Illinois	13,000	11	11
	\$21,000	11	11

During the past six years, the actual property taxes on the Lyons and Fulton bridge have been as follows:

	Iowa	Illinois	Total
	Property	Property	Property Taxes
Year	Tax	Tax	per Year
1948	\$3,231.71	\$11,638.50	\$14,870.21
1949	6,831.12	12,070.78	18,901.90
1950	7,190.69	12,144.44	19,335.13
1951	7,474.80	12,394.52	19,869.32
1952	7,496.36	12,333.44	19,829.80
1953			19,840.64*

## \* Breakdown between two States not available

The property taxes on this bridge have increased materially during the past six years. It does not appear reasonable that this increase in property taxes on the Lyons and Fulton bridge should continue to increase. This bridge is about 63 years old. After the new South bridge at Clinton is completed and opened to traffic, the earnings of the Lyons and Fulton bridge will be very materially reduced. Thus with increased age and decreased earning capacity, it seems reasonable to anticipate that the property taxes on this bridge will decrease in the future rather than increase.

Exhibit III Sheet 2 of 2

Clinton and Illinois Bridge (South Bridge):

Iowa None Illinois \$12,000 per year

Under the provisions of Sections 313.59 to 313.65 Code of Iowa 1950, the State Highway Commission is authorized to now enter into an agreement with the City of Clinton Bridge Commission wherein the State of Iowa agrees to accept the Iowa portion of the proposed new bridge over the Mississippi River at Clinton whenever all outstanding indebtedness against said bridge shall have been paid. Such agreement will be entered into previous to the completion of the new South bridge at Clinton. From and after the date of signing such agreement, there can be no State or local property taxes or State income taxes levied on said bridge.

On the Julien Dubuque Mississippi River bridge at Dubuque, the annual property taxes levied in the State of Illinois amount to approximately \$16,500. The Illinois end of the Julien Dubuque bridge is located in the incorporated town or city of East Dubuque, Illinois. The Julien Dubuque bridge was completed and opened to traffic in August of 1943. It is, therefore, a relatively new and modern bridge, quite similar in many respects to the new South bridge over the Mississippi River at Clinton. The Illinois end of the proposed new South bridge at Clinton will be located in unincorporated area. Taxes on property located in cities and towns are much higher than on property located in unincorporated areas. The property taxes on the Illinois end of the Lyons & Fulton bridge are less than \$13,000 per year. The Illinois end of the Lyons and Fulton bridge is located in the City of Fulton, Illinois, where the tax rate is much higher than on rural property. In view of all these circumstances, we are of the opinion that \$12,000 per year is a reasonable estimate of the probable property taxes on the Illinois end of the proposed new south Mississippi River bridge at Clinton.

Yours very truly,

F. R. White (sgd)

F. R. White, Consultant, CITY OF CLINTON BRIDGE COMMISSION.

