

974.90
R628
1964p
dc.

**REPORT ON
TRAFFIC AND REVENUES
FOR THE
TRENTON-ASBURY PARK EXPRESSWAY**

AUGUST 5, 1964

974.90
R628

COVERDALE & COLPITTS
CONSULTING ENGINEERS
120 WALL STREET
NEW YORK 5, N. Y.

New Jersey State Library

REPORT ON
TRAFFIC AND REVENUES
FOR THE
TRENTON-ASBURY PARK EXPRESSWAY
AUGUST 5, 1964

COVERDALE & COLPITTS

CONSULTING ENGINEERS

120 WALL STREET

NEW YORK 5, N. Y.

JOHN E. SLATER
AUGUSTUS P. FARNSWORTH
GEORGE V. T. BURGESS
WILLIAM A. GORDON
SAMUEL R. BROWN
RUSSELL F. PASSANO
EDWARD L. WEMPLE
JOHN C. GARDINER, JR.
CHARLES W. GILLESPIE
DONALD A. LOCHHEAD
NORMAN E. CARLSON

GEORGE W. BURPEE
MILES C. KENNEDY
CONSULTING PARTNERS

WILLIAM H. COVERDALE (1904-1949)
WALTER W. COLPITTS (1913-1951)

WHITEHALL 3-7400

CABLE ADDRESS: COVERCOL

August 5, 1964

The Honorable Dwight R. G. Palmer
State Highway Commissioner
New Jersey Highway Department
Trenton, New Jersey

Dear Sir:

In accordance with our agreement with the State Highway Department, we have completed our study and made estimates of toll-paying traffic and toll revenue for a proposed Expressway extending from a westerly terminus in the vicinity of Trenton to an easterly terminus in the vicinity of Asbury Park. During the course of our study we, and Parsons, Brinckerhoff, Quade & Douglas, the civil engineering consultants, considered several alternate alignments for the project within the Trenton-Asbury Park traffic corridor. Our estimates are for the alignment selected by the State Highway Department after consideration of estimated capital costs and revenues for the various study alignments.

We have met with you and your State Highway Engineer, Mr. Schuyler, and with Messrs. Bruce and Shellmer of Parsons, Brinckerhoff, Quade & Douglas to review our findings and those of your civil engineering consultants. Parsons, Brinckerhoff, Quade & Douglas reported as to capital cost and maintenance and operation cost estimates for the project and we reported as to estimated traffic and toll revenue and indicated debt service coverage assuming the Project was financed as a toll road.

As requested by you, we are transmitting herewith a set of Schedules which set forth our findings and estimates. These Schedules are as follows:

Schedule 1 - Project Description, General Premises and Assumptions

This Schedule describes the Project, the general premises concerning the toll collection system and operating policies. Also described are the assumptions made regarding the improvement or construction of other highways in the area.

Schedule 2 - Survey Station Locations, Estimated 1963 Volumes, and Traffic Interviewed

This Schedule lists the estimated 1963 traffic volume at each survey station location, traffic through these stations during the survey period and the number of vehicles interviewed. Surveys were conducted for three or four days, including weekends, during November 1963, and traffic interviewed was expanded to 1963 full-year volumes.

Schedule 3 - Schematic Diagram Showing Interchange and Toll Facility Locations

This Schedule shows the proposed location of interchanges and toll facilities. Tolls for passenger cars are proposed at approximately 2 cents per mile resulting in a toll of \$.75 for the full 36-mile Expressway trip between Trenton and the Shore area.

Schedule 4 - Time and Distance Between Significant Points Via Free Roads and Via Proposed Expressway

This Schedule compares, for major traffic movements, the time and distance required for trips via the principal free routes, that via the proposed Expressway, and the resulting time and distance savings or losses that would accrue through use of the Expressway. It will be observed that in most instances use of the Expressway would result in a small mileage penalty. For many trips, however, particularly if traveling the full distance between the shore area and Trenton, use of the Expressway would result in a time saving.

Schedule 5 - Total Potential and Diverted Traffic and Gross Toll Revenue - 1963 Base Year

This Schedule shows for traffic measured at the 11 survey stations and as measured on US-1 north of Trenton by the Tri-State Transportation Committee, on a 1963 annual traffic basis, total annual traffic through the survey stations, traffic potential to the Expressway and traffic which it is estimated would use the Expressway (diverted traffic) if constructed as a toll road. Also shown is gross toll revenue for the 1963 base year.

Schedule 6 - Diverted Traffic and Gross Toll Revenue by Area -
1963 Base Year

This Schedule shows the total diverted traffic and gross toll revenue as presented in Schedule 5 divided as to origins and destinations. It will be observed that the Trenton area (including traffic from the Tri-State survey) generates 79 percent of Project revenues while the Shore area is the origin or destination of traffic accounting for 58 percent of Project revenues.

Schedule 7 - Traffic Density Between Interchanges - 1968 Average
Daily Traffic

This Schedule shows estimated average daily traffic at various points on the Expressway for 1968, its assumed first full year of operation. It is projected that the Expressway will carry the greatest volume of traffic, over 7,000 vehicles per day, between Trenton and the Hightstown area, while the eastern end will carry an average of but two to three thousand vehicles per day. These traffic volumes are, of course, averages for the full year. Considerably greater volumes may be expected during summer peak periods.

Schedule 8 - Estimated Traffic, Gross Toll and Concession Revenue

This Schedule sets forth annual traffic and gross revenue estimates for the first 20 years of Expressway operation. For the assumed first year of operation, 1968, total gross revenue is projected at \$1,427,000.

Schedule 9 - Estimated Bond Issue Required

This Schedule shows Project cost (as estimated by Parsons, Brinckerhoff, Quade & Douglas), capitalized interest on bonds (assuming a $4\frac{1}{2}$ percent interest rate), financing costs, reserve for contingencies and estimated earnings from investment of Construction Fund. The resulting estimated bond issue required for construction of the Expressway as a revenue financed project is \$68,000,000.

Schedule 10 - Estimated Net Revenues and Debt Service Coverage

This Schedule shows gross revenues, as set forth in Schedule 8, maintenance and operation expense (as estimated by Parsons, Brinckerhoff, Quade & Douglas), net revenues, assumed interest requirements, and interest coverage.

Estimated annual gross revenues range from \$1,427,000 to \$1,637,000 during the initial five-year period of operation. With estimated maintenance and operation expense of from \$1,360,000 to \$1,472,000 per year, net revenues

available for debt service are only some \$67,000 to \$165,000 during this same period. The interest charge alone on the estimated \$68,000,000 Bond Issue is \$3,060,000 per year. It is apparent from the above that net revenues are not sufficient to support the proposed Trenton-Asbury Park Expressway as a revenue bond financed project.

Effect of Not Improving Route 33

Our basic study was made with the assumption that Route 33 would be widened and improved between Hightstown and Route 34. In accordance with your request, however, we have prepared traffic and revenue estimates on the basis that Route 33 was not improved. The attached Schedules setting forth these estimates are as follows:

Schedule 5A - Total Potential and Diverted Traffic and Gross Toll Revenue - 1963 Base Year Assuming Route 33 is Not Improved

This Schedule, similar to Schedule 5, shows potential and diverted traffic and 1963 base year gross toll revenues assuming Route 33 was not improved.

Schedule 8A - Estimated Traffic, Gross Toll and Concession Revenue Assuming Route 33 is Not Improved

This Schedule, similar to Schedule 8, sets forth annual traffic and gross revenue estimates for the first 20 years of Expressway operation assuming Route 33 was not improved. Under this assumption the total gross revenue for the assumed first year of operation, 1968, is projected at \$1,582,000, some 10 percent greater than the revenue projected under the basic assumption that Route 33 is to be improved.

It will be observed from Schedule 8A that if Route 33 was not improved, estimated gross revenues in the initial five years of Expressway operation range from \$1,582,000 to \$1,815,000. Net annual revenues for the Project are thus indicated at \$222,000 to \$343,000 during this same period.

With interest requirements of \$3,060,000 per year it is apparent that even if Route 33 were not improved, net revenues would be insufficient to construct the Expressway as a revenue bond project.

Possible Trenton Spur of New Jersey Turnpike

We point out, for your consideration, that our traffic and toll revenue estimates have been made for a toll road covering the full distance from Trenton to the Asbury Park Shore area considering the alternatives of N. J. Route 33 being or not being improved from Hightstown to N. J. Route 34.

If Route 33 was to be widened and improved as projected and if a toll road from Trenton to the New Jersey Turnpike in the vicinity of Hightstown, with connections to Hightstown and to the improved Route 33 east thereof, were to be studied, it is possible that such a road's own toll revenue - plus added revenue brought to the Turnpike - might make possible a revenue bond financed project.

Very truly yours,

Coverdale & Colpitts

Consulting Engineers

TRENTON-ASBURY PARK EXPRESSWAY STUDYSchedule Listing

- 1 Project Description, General Premises and Assumptions
- 2 Survey Station Locations, Estimated 1963 Volumes, and Traffic Interviewed
- 3 Interchange and Toll Facility Locations
- 4 Time and Distance Between Significant Points Via Free Roads and Via Proposed Expressway
- 5 Total Potential and Diverted Traffic and Gross Toll Revenue - 1963 Base Year
- 6 Diverted Traffic and Gross Toll Revenue by Area - 1963 Base Year
- 7 Traffic Density Between Interchanges - 1968 Average Daily Traffic
- 8 Estimated Traffic, Gross Toll and Concession Revenue
- 9 Estimated Bond Issue Required
- 10 Estimated Net Revenues and Debt Service Coverage

- 5A Total Potential and Diverted Traffic and Gross Toll Revenue - 1963 Base Year Assuming N. J.-33 is Not Improved
- 8A Estimated Traffic and Gross Toll and Concession Revenue Assuming N. J.-33 is Not Improved

TRENTON-ASBURY PARK EXPRESSWAYProject Description, General Premises and AssumptionsPROJECT DESCRIPTION

The Proposed Project for which estimates of traffic, toll revenues and concession revenues have been made consists of an Expressway located so as to serve motorists traveling in the Trenton-Asbury Park traffic corridor of Mercer-Monmouth Counties. The alignment selected for detailed study by the State Highway Department was one of four alternatives considered at a meeting in Trenton on February 6, 1964 attended by representatives of the State Highway Department, Parsons, Brinckerhoff, Quade and Douglas and Coverdale & Colpitts. The Project will consist of a limited access high-speed, four-lane divided toll road, approximately 36 miles in length, with its western terminus at SR-33 in the vicinity of the Trenton State Fair Grounds and its eastern terminus at the planned freeway, SR-35F.

GENERAL PREMISES AND ASSUMPTIONS

Estimates of project traffic and revenues are dependent upon certain general premises and assumptions as to improvements to existing highways and construction of new highways, as described below.

As to the Project:

- (A) The first full year of operation will be 1968.
- (B) A barrier-type toll collection system will be used with toll rates as recommended by us.
- (C) Concession facilities will be constructed and open 24 hours per day offering food and nationally advertised brands of gasoline for sale at prices generally prevailing in the area.

- (D) Adequate signs will be placed on all major connecting roads directing motorists to the Expressway.
- (E) Operating policies will include:
 - 1. Maintenance of the Project in first-class condition.
 - 2. Posted speed limits of 65 miles per hour.
 - 3. No toll-free traffic permitted.

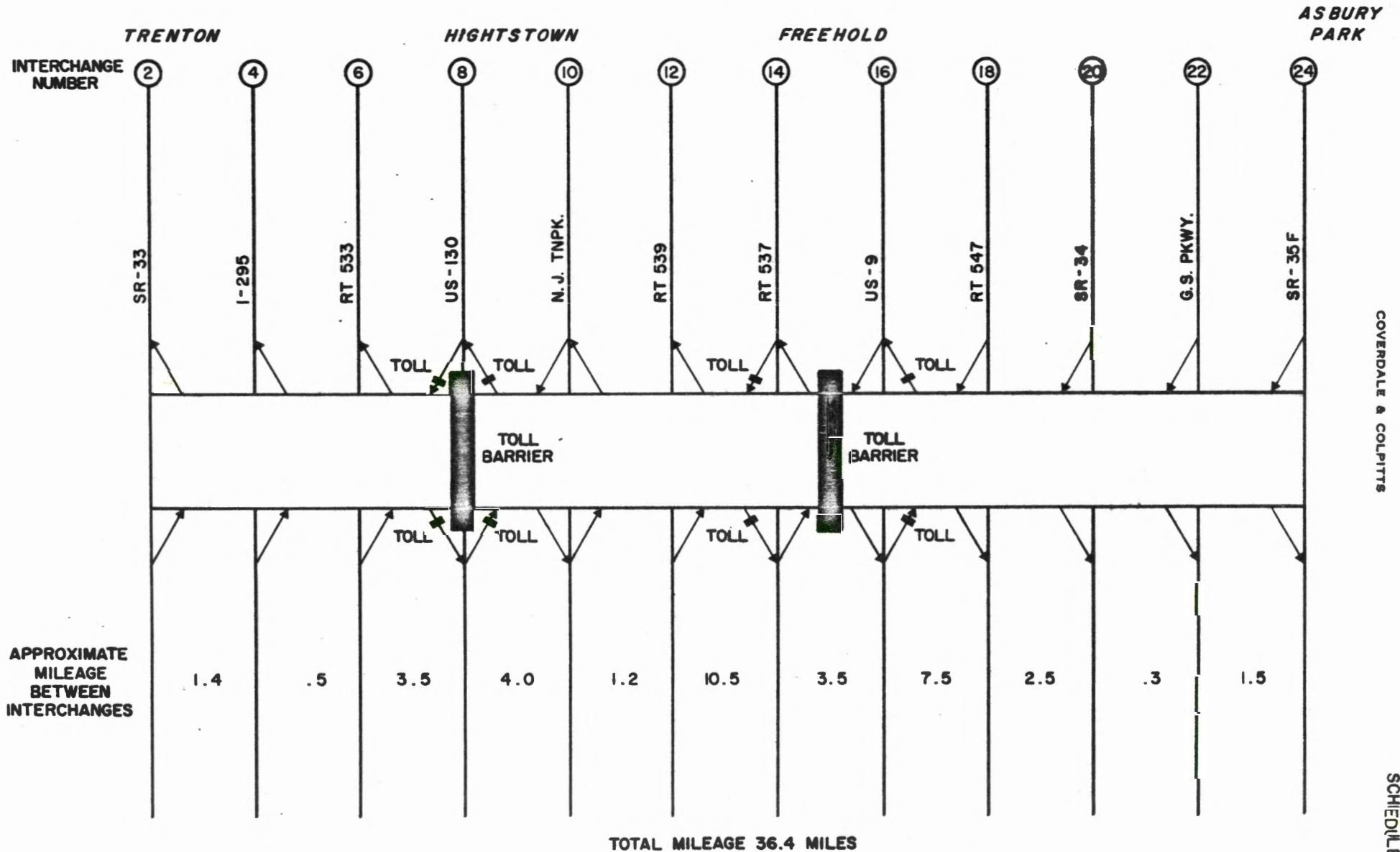
As to Existing and New Highways:

- (F) SR-33 will be widened and improved between Hightstown and SR-34.
- (G) SR-35F will be constructed as a high-speed freeway between N.J.-18 Freeway (Eatontown) and Point Pleasant.
- (H) The circumferential section of Interstate-295 around Trenton will be constructed between Interstate-95 north-west of Trenton (near Scudders Falls) and Bordentown.
- (I) Interstate 95 will be constructed between Scudders Falls and Interstate-287 near Bound Brook.
- (J) SR-18F will be constructed as a high-speed freeway between US-9 and Eatontown.

TRENTON-ASBURY PARK EXPRESSWAYSURVEY STATION LOCATIONS, ESTIMATED 1963 VOLUMES,
AND TRAFFIC INTERVIEWED

No.	Traffic Survey Stations Location	Estimated 1963 Volumes		Traffic Through Station During Survey Period	No. of Vehicles Inter- viewed	% of Vehicles Inter- viewed
		Annual	Daily			
1	US 9 - South of Freehold	6,542,300	17,924	66,259	17,106	26%
2	SR 33 - East of Hightstown	2,791,900	7,649	30,807	6,345	21
3	SR 70 - East of Lakehurst	1,514,500	4,149	16,939	4,705	28
4	SR 33 - East of Freehold	3,022,200	8,280	32,000	8,699	27
5	US 130 - South of Hightstown	5,791,300	15,867	59,765	14,006	23
6	Rt. 524 - East of US 130	1,064,200	2,916	10,287	2,116	21
7	Rt. 526 - East of US 130	1,652,300	4,527	13,513	2,427	18
8	SR 79 - North of Freehold	1,363,400	3,735	11,239	2,349	21
9	Rt. 537 - East of Freehold	2,007,400	5,500	16,040	2,784	17
10	Rt. 526 - West of Lakewood	804,300	2,204	6,695	1,314	20
11	Rt. 528/547 - West of Lakewood	1,164,500	3,190	8,032	1,416	18
Total		27,718,300	75,941	271,576	63,267	23%

TRENTON - ASBURY PARK EXPRESSWAY **INTERCHANGE AND TOLL FACILITY LOCATIONS**



TRENTON-ASBURY PARK EXPRESSWAYTIME AND DISTANCE BETWEEN SIGNIFICANT POINTS VIA
FREE ROADS AND VIA PROPOSED EXPRESSWAY

	Via Free Roads		Via Expressway		Savings or (-Loss)		Passenger Car Diversion Percents
	Distance Miles	Time Minutes	Distance Miles	Time Minutes	Distance Miles	Time Minutes	
<u>Trenton and</u> Hightstown	14.2	25	15.0	24	(-.8)	1	20 - 40%
Freehold	27.4	43	27.5	33	(-.1)	10	30 - 65
Asbury Park	42.7	66	45.7	53	(-3.0)	13	30 - 65
Belmar	43.4	67	41.5	47	1.9	20	40 - 75
New Brunswick Interchange (#9) of N.J. Turnpike	27.7	37	31.0	36	(-3.3)	1	15 - 40
<u>Hightstown and</u> Freehold	13.2	18	17.7	21	(-4.5)	(-3)	10
Asbury Park	28.5	40	36.0	41	(-7.5)	(-1)	20
Belmar	29.2	42	31.8	35	(-2.6)	7	30
<u>Freehold and</u> Asbury Park	15.3	23	21.1	27	(-5.8)	(-4)	10
Belmar	16.1	24	16.9	22	(-.8)	2	15

Note: Mileage and time savings (or losses) for actual trips
will depend on specific origin and destinations.

TRENTON-ASBURY PARK EXPRESSWAY

TOTAL POTENTIAL AND DIVERTED TRAFFIC AND GROSS TOLL REVENUE

1963 BASE YEAR

	Estimated Annual Volume	Duplicate and Non-Potential Traffic	Potential Traffic	Percent Diverted (A)	Diverted Traffic	Gross Toll Revenue
<u>Traffic Measured at 11 Survey Stations</u>						
Passenger Cars and Light Trucks	24,487,400	16,802,335	7,685,065	27.6%	2,122,358	\$ 779,275
Heavy Trucks	3,230,900	2,586,749	644,151	17.8	114,552	81,626
Total Surveyed	27,718,300	19,389,084	8,329,216	26.9	2,236,910	\$ 860,901
<u>Traffic Measured on US-1 by Tri-State Transportation Committee</u>	7,757,000	5,914,845	1,842,155	32.9	605,280	163,703
Total Traffic	35,475,300	25,303,929	10,171,371	27.9	2,842,190	\$1,024,604

(A) Average for all movements - percent diverted for individual movements ranges from 5 to 75 percent.

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

TRENTON-ASBURY PARK EXPRESSWAY

TOTAL POTENTIAL AND DIVERTED TRAFFIC AND GROSS TOLL REVENUE

1963 BASE YEAR

ASSUMING N.J.-33 IS NOT IMPROVED

	Estimated Annual Volume	Duplicate and Non-Potential Traffic	Potential Traffic	Percent Diverted	Diverted Traffic	Gross Toll Revenue
<u>Traffic Measured at 11 Survey Stations</u>						
Passenger Cars and Light Trucks	24,487,400	16,802,335	7,685,065	30.3%	2,324,988	\$ 890,543
Heavy Trucks	3,230,900	2,586,749	644,151	17.8	114,552	81,626
Total Surveyed	27,718,300	19,389,084	8,329,216	29.3	2,439,540	\$ 972,169
<u>Traffic Measured on US-1 by Tri-State Transportation Committee</u>	7,757,000	5,914,845	1,842,155	32.9	605,280	163,703
Total Traffic	35,475,300	25,303,929	10,171,371	29.9	3,044,820	\$1,135,872

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

TRENTON-ASBURY PARK EXPRESSWAYDIVERTED TRAFFIC AND GROSS TOLL REVENUE BY AREA1963 BASE YEAR

	Diverted Traffic	Gross Toll Revenue	
		Dollars	Percent
<u>Trenton Area to:</u>			
Shore Points	511,906	\$ 401,372	39%
Freehold Area	178,901	94,139	9
Hightstown Area	1,016,612	156,143	15
Subtotal	1,707,419	651,654	63
<u>Hightstown Area to:</u>			
Shore Points	269,951	140,343	14
Freehold Area	82,190	21,638	2
Subtotal	352,141	161,981	16
<u>Freehold Area to:</u>			
Shore Points	177,350	47,266	5
Total	2,236,910	860,901	84
Tri-State U.S. 1	605,280	163,703	16
Total Traffic and Revenue	2,842,190	\$1,024,604	100%
<u>Shore Points to:</u>			
Trenton Area	511,906	\$ 401,372	39%
Hightstown Area	269,951	140,343	14
Freehold Area	177,350	47,266	5
Subtotal	959,207	588,981	58
<u>Freehold Area to:</u>			
Trenton Area	178,901	94,139	9
Hightstown Area	82,190	21,638	2
Subtotal	261,091	115,777	11
<u>Hightstown Area to:</u>			
Trenton Area	1,016,612	156,143	15
Total	2,236,910	860,901	84
Tri-State U.S. 1	605,280	163,703	16
Total Traffic and Revenue	2,842,190	\$1,024,604	100%

TRENTON-ASBURY PARK EXPRESSWAYTRAFFIC DENSITY BETWEEN INTERCHANGES1968 AVERAGE DAILY TRAFFIC

Interchange		Density
No.	Route	
2	SR-33	5,647
4	I-295	7,406
6	Rt. 533	7,712
8	US-130	4,328
10	N.J. Turnpike	3,165
12	Rt. 539	3,478
14	Rt. 537	2,631
16	US-9	2,794
18	Rt. 547	2,708
20	SR-34	2,520
22	Garden State Parkway	2,112
24	SR-35F	

TRENTON-ASBURY PARK EXPRESSWAYESTIMATED TRAFFIC, GROSS TOLL AND CONCESSION REVENUE

	Annual Traffic	Annual Gross Revenue
	(Thousands Omitted)	
Base Year - 1963	2,842	\$1,025
Growth, 1963-1968	617	222
Subtotal Induced	3,459 346	1,247 125
First Year of Operation - 1968	3,805	1,372
Concession Revenue	-	55
First Year of Operation - Total	3,805	\$1,427
1969	3,957	\$1,484
1970	4,115	1,543
1971	4,238	1,589
1972	4,365	1,637
1973	4,496	1,686
1974	4,629	1,736
1975	4,762	1,786
1976	4,895	1,836
1977	5,028	1,886
10-Year Average	4,429	\$1,661
1978	5,161	\$1,936
1979	5,294	1,986
1980	5,427	2,036
1981	5,560	2,086
1982	5,693	2,136
1983	5,826	2,186
1984	5,959	2,236
1985	6,092	2,286
1986	6,225	2,336
1987	6,358	2,386
20-Year Average	5,094	\$1,911

TRENTON-ASBURY PARK EXPRESSWAYESTIMATED TRAFFIC AND GROSS TOLL AND CONCESSION REVENUE
ASSUMING N.J.-33 IS NOT IMPROVED

	Annual Traffic	Annual Gross Revenue
	(Thousands Omitted)	
Base Year - 1963	3,045	\$1,136
Growth, 1963-1968	661	247
Subtotal	3,706	1,383
Induced	371	138
First Year of Operation - 1968	4,077	1,521
Concession Revenue	-	61
First Year of Operation - Total	4,077	\$1,582
1969	4,240	\$1,645
1970	4,410	1,711
1971	4,542	1,762
1972	4,678	1,815
1973	4,818	1,869
1974	4,960	1,924
1975	5,102	1,979
1976	5,244	2,034
1977	5,386	2,089
10-Year Average	4,746	\$1,841
1978	5,528	\$2,144
1979	5,670	2,199
1980	5,812	2,254
1981	5,954	2,309
1982	6,096	2,364
1983	6,238	2,419
1984	6,380	2,474
1985	6,522	2,529
1986	6,664	2,584
1987	6,806	2,639
20-Year Average	5,456	\$2,116

TRENTON-ASBURY PARK EXPRESSWAYESTIMATED BOND ISSUE REQUIRED

Cost of Project (as estimated by P.B.Q. & D.)	\$61,180,000
Capitalized Interest on Bonds (3 years at 4-1/2%)	9,200,000
Financing Costs	420,000
Additional Reserve for Contingencies	600,000
	\$71,400,000
Less: Earnings from Investment of Construction Fund	3,400,000
Principal Amount of Bonds	\$68,000,000

TRENTON-ASBURY PARK EXPRESSWAY

ESTIMATED NET REVENUES AND DEBT SERVICE COVERAGE

Fiscal Year Beginning January 1	Gross Revenues(1)	Maintenance and Operation Expense(2)	Net Revenues	Interest at 4-1/2% (3)		Amortization Requirements	Principal and Interest Requirements	
				Amount	Times Covered		Amount	Times Covered
	(Dollars in Thousands)							
1968	\$1,427	\$1,360	\$ 67	(4)	-			
1969	1,484	1,387	97	\$3,060	0.03			
1970	1,543	1,415	128	3,060	0.04			
1971	1,589	1,443	146	3,060	0.05			
1972	1,637	1,472	165	3,060	0.05			
1973	1,686	1,502	184	3,060	0.06			
1974	1,736	1,532	204	3,060	0.07			
1975	1,786	1,562	224	3,060	0.07			
1976	1,836	1,593	243	3,060	0.08			
1977	1,886	1,625	261	3,060	0.09			
1978	1,936	1,658	278	3,060	0.09			
1979	1,986	1,691	295	3,060	0.10			
1980	2,036	1,725	311	3,060	0.10			
1981	2,086	1,759	327	3,060	0.11			
1982	2,136	1,794	342	3,060	0.11			
1983	2,186	1,830	356	3,060	0.12			
1984	2,236	1,867	369	3,060	0.12			
1985	2,286	1,904	382	3,060	0.12			
1986	2,336	1,942	394	3,060	0.13			
1987	2,386	1,981	405	3,060	0.13			

(1) As estimated by Coverdale & Colpitts.

(2) As estimated by Parsons, Brinckerhoff, Quade & Douglas.

(3) On estimated bond issue of \$68,000,000.

(4) Interest capitalized.

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

