

APPENDIX

TABLE I
CONSTRUCTION SECTION
Contracts Completed and Accepted, July 1, 1963 - June 30, 1964

CONTRACT	DIVISION	CONTRACT DESCRIPTION
I-1 (21), (23), (24)	F	Basin Road Interchange
I-1 (26)	F	Paving—Christiana Interchange
I-2 (2)	F	Grading, Drainage, Paving & Appurtenances
S.D.—92	K	Rodric Village
882	N	Drawyer's Creek Bridge & Approaches
1090	N	Taylor's Bridge
1383	K	Garrison's Pond Dam
1447	K	Willow Grove to Wyoming
1563	S	Route 14 thru Dewey Beach
1568	N	New Castle Avenue
1599	N	Limestone Road
1623	S	Millsboro Street Improvements
1795	S	Cokesbury Church to Rte. U.S. 13
1819	N	New Bridge Road
1846	N	Belvedere
1854	S	Bridge 357 on Road 451
1857	N	Temporary Connnection — Limestone Rd. at Pa. Line
1880—3 & 1935	S	Indian River Inlet Bridge & Beach Fill
1955	K	Maryland Line to Kenton
1959	S	Bethany Beach to Clarksville
1975	N	Union Street
1986	S	Bridge 555 on Road 60
2012	S	Dirt Roads
2082—85	S	Dirt Roads
2088	N	Resurfacing Program 1962-63
2092	N	Hot-Mix Patching Program 1962-63
2099	K	Dirt Roads
2105	S	Dirt Roads
2115	S	Bridge 102 on Road 612
2116	S	Bridge 146—Bridgeville
2121	F	Demolition & Removal—20 Dwellings
2123	F	Demolition & Removal—30 Dwellings
2125	K	Bridge 212A on Road 212
2129	K	Bridge 364B on Road 364
2134	K	Proposed Hot-Mix Program 1963-64
2135	N	Proposed Hot-Mix Program 1963-64
2139	N	Repairs to Bridge 391 on Road 424
2141	K	Hot-Mix Surfacing—Rte. 14 Milford
2142	N	Eleventh St. Bridge Deck Repairs
2153	N	Bridge 420 on Road 461
2154	N	Bridge 377 on Road 435
2157	S	Rehoboth Beach Groins
8252	S	Replace Heating System—Seaford Garage
8257	N	Repair Existing Scale Platform—Troop #2

CONTRACT MILEAGE:

NEW CASTLE DIVISION — 16 contracts were completed and accepted for a total of 6.617 miles.

KENT DIVISION — 9 contracts were completed and accepted for a total of 26.545 miles.

SUSSEX DIVISION — 14 contracts were completed and accepted for a total of 49.54 miles.

FREEWAY DIVISION — 5 contracts were completed and accepted for a total of 1.38 miles.

TURNPIKE DIVISION — (not included in this report)

44 contracts were completed and accepted totaling 84.082 miles, not including the Turnpike Division.

ESTIMATE PAYMENTS:

Including Delaware Turnpike, 317 progressive and final estimates were processed for payments totaling \$25,237,645.75, of which 54 were final estimates.

Submitted by
T. HOOD SIMPSON
Construction Engineer

TABLE II
BRIDGE SECTION
CONSTRUCTION PROJECTS ADVERTISED
 July 1, 1963 - June 30, 1964

Contract No.	County	Bridge No.	Description	Length	Width	Cost Total Bid Price	Total Bridge Cost
Primary Projects (Designed by Dept. Personnel)							
1859	S	514	Millsboro (Dam & Bridge) & Approach	23'	46'	\$ 165,556.60	\$ 97,450.00
1959	S	429	Bethany Beach to Clarksville—State Road 26 (Bridge Widening)	6'	5'	222,188.00	2,520.00
64-01-065	NC	—	Basin Road (Retaining Wall)	442'	—	532,702.32	28,610.00
64-01-066	NC	—	Limestone Rd., Mill Crk. to Pa. Line (Culvert)	10'	49'	832,847.80	11,290.00
Secondary Projects (Designed by Dept. Personnel)							
64-01-036 & 64-01-043	S	668	Route 20 Millsboro to Hardscrabble (Bridge Widening)	31'	12'	547,746.85	6,300.00
64-01-051	K	—	Lebanon Rd. (Bridge)	300'	28'	850,208.63	238,900.00
Bridge Replacements & Widening Projects (Designed by Dept. Personnel)							
1988	S	525	Road 331 (Bridge)	34'	32'	33,798.15	33,798.15
2125	K	212A	Road 212 (Bridge Replacement)	40'	24'	38,785.30	38,785.30
2129	K	364B	Road 364 (Timber Bridge)	16'	28'	17,727.95	17,727.95
2154	NC	337	Road 435 (Prestressed Conc. Bridge)	28'	17'	5,995.00	5,995.00
64-01-003	NC	434	Road 40 (2-Cell Reinf. Conc. Culvert)	23'	32'	22,236.02	22,236.02
64-01-005	K	94A	Road 94 (2-Cell Reinf. Conc. Culvert)	30'	32'	25,936.50	25,936.50
64-01-031	NC	444	Road 424 (Replacement of Bridge with 144 fe. 72" Reinf. Conc. Pipe)	—	—	9,476.40	9,476.40
Misc. Dam & Bridge Projects (Designed by Dept. Personnel)							
1383	K	—	Garrison's Pond, Dam & Spillway	Dam 120'	Spillway 60'	60,122.00	60,122.00
1951-1	NC	—	Buttonwood Drainage & Sluiceway with Gates (3-42" Corr. Met. Pipe & 1500 L.F. Earth Dyke)			23,748.00	23,748.00
2139	NC	391	Emergency Repairs, North Fenimore Bridge, Timber, reinf. with Steel Beams	126'	14'	6,900.00	6,900.00
2142	NC	—	11th St. Bridge Repairs bet. Piers 2 & 3 and over Pier 4. Replace damaged Conc. Deck	79'	44'	24,675.00	24,675.00
2143	S	307	Portsville Dam (Bridge Repairs)	22'	28'	39,236.00	39,236.00
2157	S	—	Rehoboth Beach Groins (Timber)	340'	—	32,902.80	32,902.80
64-02-001	S	—	Silver Lake (Spillway) Milford	60'	40'	21,968.00	21,968.00
64-02-002	K	380A	Andrews Lake Bridge & Dam. Prestressed Bridge & Sheet Pile Dam	Br. 36'	Br. 28'	37,845.30	37,845.30
Non-Interstate Sub-Total						\$ 3,552,593.62	\$ 786,422.42

TABLE II (continued)

Contract No.	County	Bridge No.	Description	Length	Width	Cost Total Bid Price	Total Bridge Cost
			Consultant's Design (approved by Dept. Personnel) Interstate Highway Routes I-95, I-295 & I-495				
64-01-063	NC	6-6	Christiana River Interchange, Bridge 6-6 Connection "A" (Conc. & Steel)	160'	41'		104,796.80
		6-7	Christiana River Interchange, Bridge 6-7 Connection "A" (Conc. & Steel)	210'	41'		154,985.17
		6-8	Christiana River Interchange, Bridge 6-8, Connection "F" (Conc. & Steel)	192'	41'		134,965.98
Total						421,527.75	394,747.95
Interstate Highway Routes I-95 & I-495 at Naaman's Interchange							
64-04-022 & 64-06-007	NC	—	2 3-Span Steel Beam Bridges, I-95 over Darley Road				
		—	North Bound Bridge	128'	37'		78,882.00
			South Bound Bridge	128'	37'		77,310.00
			Darley Road over South Branch Naaman's Creek (Prestressed)	40'	44'		80,553.00
			14x7 Box Culvert under Ramp "G"	14'	100'		28,703.00
			14x7 Box Culvert under I-95 & Ramp "F"	14'	293'		72,496.00
			14x7 Box Culvert under I-495 North Bound	14'	87'		23,362.00
			I-495 South Bound over I-95 & Ramp "F" (5-Span Steel Beam)	356'	37'		243,034.00
			Ramp "F" over I-495 North Bound (3-Span Steel Beam)	177'	20'		79,690.00
64-04-022 & 64-06-007	NC	—	Naaman's Road Relocated over I-95 & I-495				
	NC	—	North Bound (4-Span Steel Beam)	245'	80'		241,797.00
			Naaman's Road Relocated over I-495 South Bound (3-Span Steel Beam)	141'	68'		146,454.00
			Twin Box Culvert carrying I-495 over South Branch Naaman's Creek	32'	201'		92,911.00
Total						2,983,012.95	1,105,182.00
Interstate Highway Route I-95, So. Wilm. Viaduct							
64-01-050	NC	—	South Wilmington Viaduct—Phase 1. Dual Lanes N.B. & S.B. (Parallel Structures)	2440'	38' ea. Str.	4,491,417.75	4,491,417.75
64-03-004	NC	—	South Wilmington Viaduct—Phase 2. Dual Lanes N.B. & S.B. with Connecting Ramps	3028'	38' ea. Str.	5,532,129.00	5,532,129.00
Interstate Sub-Total						\$13,428,087.45	\$11,523,476.70
Grand Total						\$16,980,681.07	\$12,309,899.12

TABLE III
PLANNING AND REVIEW SECTION
State and County Maps Available for Distribution

STATE MAPS
Maps Showing the Complete State

	Size	Scale	Printing Date	Price Each
1. State Highway Map	30" x 55"	1" ≡ 2 miles	1961	\$1.00
2. Traffic Flow Map	25" x 39"	1" ≡ 3 miles	1961	1.50
3. Sufficiency Rating Map, Primary System	25" x 39"	1" ≡ 3 miles	1960	1.50
4. Sufficiency Rating Map, Secondary System	25" x 39"	1" ≡ 3 miles	1960	1.50
5. Delaware Official Road Map	18" x 30"	1" ≡ 3½ miles	1964	Free
6. Highway Condition Bulletin	19" x 24"	1" ≡ 4 miles	1964	Free

COUNTY MAPS
Sussex County Maintenance Maps

1. Large	36" x 48"	1" ≡ 1 mile	1962	.75
2. Small	18" x 24"	1" ≡ 2 miles	1962	.50

HUNDRED DIVISION MAPS

Small .. .	18" x 24"	1" ≡ 2 miles	1962	.75
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COUNTY GENERAL HIGHWAY MAPS
Kent County 1963 — New Castle County 1964

1. Kent & New Castle County*	36" x 53"	1" ≡ 1 mile		1.50
2. Kent & New Castle County*	18" x 27"	1" ≡ 2 miles		.75
3. Dover Area Supplement Sheet**	32" x 36"	2" ≡ 1 mile		1.00
4. New Castle County Supplement Sheet***	36" x 53"	2" ≡ 1 mile		1.50

* Maps of entire county
 ** Detail of Dover Area
 *** Detail of Upper New Castle County
 (Sussex County Map is in progress)

INCORPORATED TOWN MAPS
Maps of the Incorporated Cities and Towns of Delaware
(To Order Individual Maps, Specify Town or City)

1. Incorporated Town Maps	20" x 27"	Varies	1959	.35
2. Incorporated Town Maps	10" x 13"	Varies	1959	.25
3. Book of 51 Town Maps	10" x 13"	Varies	1959	10.00

MAP DESCRIPTIONS

STATE HIGHWAY MAP—Complete state map printed in black and white with water detail in blue. Shows state maintained roads, road types, cities, towns and villages, U.S. Route Numbers, state route numbers and other detail.

TRAFFIC FLOW MAP—A map of the primary and secondary highway systems showing 1959 annual average traffic figures and with three colors superimposed over the roads to separate the major routes into three traffic groups.

SUFFICIENCY RATING MAPS—State maps showing results of a highway condition evaluation survey. Colors superimposed over the highways classify them into three sufficiency rating groups.

DELAWARE OFFICIAL ROADS MAPS—Official tourist map of the complete state. Printed in full color and illustrates interesting features of the state with photographs and descriptive notes. Shows state roads, U.S. Route and State Route Numbers, and other details.

HIGHWAY CONDITION BULLETIN—A state map showing major construction projects and detours in effect during the construction period, published monthly except January, February and March.

COUNTY MAINTENANCE MAPS—Black and white prints of the three counties of Delaware with water detail in blue. Shows state maintained roads, road types, cities, towns, and villages, U.S. route numbers, state route numbers, county maintenance numbers, and other detail.

COUNTY GENERAL HIGHWAY MAPS—Six color maps of the counties showing all public roads, road types, cities, towns and villages, U.S. and state routes, state reference numbers, roadside culture and other details. (Roadside culture not shown in congested areas.)

HUNDRED DIVISION MAPS—Small maintenance maps with hundred names overprinted in red and red lines delineating hundreds boundaries.

INCORPORATED TOWN MAPS—Maps of the fifty-one incorporated cities and towns of Delaware showing street types, street names, state and U.S. numbered routes, population, and main business sections. Large size are blue line ozalid prints, small size and black line offset prints. (See below for listing.)

HOW TO REMIT

The rules of this office require that remittances be made in advance of shipment of maps by check or money order payable to the Delaware State Highway Department. Currency may be sent at sender's risk. *Please do not send stamps.* Postage charges are included in the listed price unless special handling is requested.

A 25% discount is granted to U. S. Government, state, county, and municipal agencies.

MAP LISTING OF CITIES AND TOWNS

- | | | |
|-------------------|--------------------|---------------------|
| 1. Bellefonte | 18. Fenwick Island | 35. Millville |
| 2. Bethany Beach | 19. Frankford | 36. Milton |
| 3. Bethel | 20. Frederica | 37. New Castle |
| 4. Blades | 21. Georgetown | 38. Newark |
| 5. Bowers | 22. Greenwood | 39. Newport |
| 6. Bridgeville | 23. Harrington | 40. Ocean View |
| 7. Camden | 24. Hartly | 41. Odessa |
| 8. Cheswold | 25. Houston | 42. Rehoboth Beach |
| 9. Clayton | 26. Kenton | 43. Seaford |
| 10. Dagsboro | 27. Laurel | 44. Selbyville |
| 11. Delaware City | 28. Leipsic | 45. Smyrna |
| 12. Delmar | 29. Lewes | 46. Slaughter Beach |
| 13. Dover | 30. Little Creek | 47. Townsend |
| 14. Ellendale | 31. Magnolia | 48. Viola |
| 15. Elsmere | 32. Middletown | 49. Woodside |
| 16. Farmington | 33. Milford | 50. Wyoming |
| 17. Felton | 34. Millsboro | 51. Wilmington |

* The Wilmington map does not show all street names and other detail.

TABLE IV
PLANNING AND REVIEW SECTION
MILEAGE OF STREETS AND HIGHWAYS BY SURFACE TYPE BY COUNTY
DELAWARE
JULY 1, 1964

SURFACE TYPE	KENT	NEW CASTLE	SUSSEX	TOTALS
Concrete	93.98	106.03	106.78	306.79
Bituminous Concrete	165.50	539.79	258.63	963.92
TOTAL PAVED	259.48	645.82	365.41	1,270.71
Other Low Type Bituminous	7.62	66.88	32.90	107.40
Bituminous Surface Treated	548.90	422.82	1,080.98	2,052.70
Soil Surfaced ..	217.14	30.07	175.08	422.29
TOTAL SURFACED	773.66	519.77	1,288.96	2,582.39
Graded and Drained Earth	1.79	3.48	216.78	222.05
Unimproved	—	—	1.34	1.34
Primitive ..	0.07	1.98	1.07	3.12
TOTAL UNSURFACED	1.86	5.46	219.19	226.51
TOTAL NON-DIVIDED HIGHWAYS	1,035.00	1,171.05	1,873.56	4,079.61

DIVIDED HIGHWAYS

Concrete	37.34	48.08	27.56	112.98
Bituminous Concrete	9.09	51.82	13.37	74.28
Low Type Bituminous	—	0.29	—	0.29
Bituminous Surface Treated	—	0.21	0.58	0.79
TOTAL DIVIDED HIGHWAYS	46.43	100.40	41.51	188.34
TOTAL ALL HIGHWAYS	1,081.43	1,271.45	1,915.07	4,267.95

MILEAGE OF STREETS AND HIGHWAYS BY SYSTEM CLASSIFICATION BY COUNTY

Interstate (F.A.P.)	—	37.01	—	37.01
Primary (F.A.P.)	127.99	185.23	262.18	575.40
Secondary (F.A.S.)	418.75	346.09	700.31	1,465.15
Tertiary ..	*534.69	*703.12	*952.58	*2,190.39
TOTAL	1,081.43	1,271.45	1,915.07	4,267.95
* Includes: H.B. 256	10.01	370.82	6.58	387.41
S.B. 387	8.77	36.98	33.27	79.02
TOTAL	18.78	407.80	39.85	466.43

ADDITIONAL BREAKDOWN OF SYSTEMS

Interstate ..	—	37.01	—	37.01
Primary Rural	102.22	90.11	238.43	430.76
Primary Urban	21.00	91.91	2.60	115.51
Primary Municipal	4.77	3.21	21.15	29.13
Secondary Rural	381.26	238.10	668.66	1,288.02
Secondary Urban ..	19.84	105.50	4.64	129.98
Secondary Municipal	17.65	2.49	27.01	47.15
Tertiary Rural	519.63	647.27	941.53	2,108.43
Tertiary Urban ..	7.65	54.74	0.58	62.97
Tertiary Municipal	7.41	1.11	10.47	18.99
TOTAL	1,081.43	1,271.45	1,915.07	4,267.95

TABLE V
PLANNING AND REVIEW SECTION
CONSULTANT FIRMS

Consultant	Project	Estimated Construction Cost
Goodkind & O'Dea	Interstate Rte. I-495	\$ 7,250,000.00
Goodkind & O'Dea	Rte. 14—Divided Hwy, to Rte. 16	3,000,000.00
Rummel, Klepper & Kahl	Interstate Rte. I-95	10,000,000.00
Rummel, Klepper & Kahl	Rte. 113—Maryland Line to Rd. 432	3,700,000.00
Whitman, Requardt & Associates	Interstate Rte. I-95 Thru Wilmington	5,100,000.00
J. E. Greiner	Interstate Rte. I-95	22,600,000.00
J. E. Greiner	Third Street Bridge— Wilmington	462,000.00
Michael Baker, Jr.	Interstate Rte. I-95 & I-495	6,600,000.00
Howard, Needles, Tammen & Bergendoff	Brandywine River Bridge (I-95)	4,276,000.00
Tippetts-Abbett-McCarthy & Stratton	I-95 South Wilmington Viaduct	10,023,546.75
Tippetts-Abbett-McCarthy & Stratton	Route 141 Study	27,850,000.00
Buchart-Horn	Harvey Rd.—N. C. Co.	627,000.00
Buchart-Horn	North St. Extended & Salisbury Road	635,000.00
Associated Delaware Engineers	2nd St.—Wilmington	265,000.00
Benjamin Beavin	Rte. 2—Md. Line to Newark	728,000.00
Boswell Engineering Company	Stanton to Newport	1,357,000.00
Deleuw, Cather & Company	Dover By-Pass (Study & Report)	6,200,000.00
*Parsons, Brinckerhoff, Quade & Douglas	Lewes Ferry Approach Road	1,500,000.00

TABLE VI
FREEWAYS DIVISION

ACTIVE FREEWAYS CONTRACTS

The following is a tabulation of 1963-64 active contracts
under the supervision of the Freeways Division:

CONTRACT	DATE OF AWARD	PROPOSED COMPLETION DATE
FAI-1 (21)-2 Southbound Basin Road \$2,090,939.15	June 8, 1962	September 22, 1963
FAI-1 (21)-1, (23) & (24) Northbound Basin Road and Grading of Interchange \$12,977,428.99		I-1 (21)-1 September 19, 1962 I-1 (23) & (24) July 16, 1963
FAI-1 (26) Paving portions of Interchange \$634,953.86	June 26, 1961 May 22, 1963	November 15, 1963
Contract 64-01-063 Three Bridges \$421,521.75	March 19, 1964	April 23, 1965
FAI-2 (1) Three Bridges \$2,457,008.75	August 16, 1962	February 23, 1964
FAI-2 (42) Brandywine Crossing Sub-structure \$1,191,254.00	June 13, 1962	February 2, 1964
FAI-2 (43) Brandywine Crossing Structural Steel \$1,932,420.00	June 13, 1962	August 21, 1964
Contract 64-01-050 South Wilmington Viaduct Section I \$4,491,417.75	March 4, 1964	October 23, 1965
Contract 64-03-004 South Wilmington Viaduct Section II \$5,532,129.00	May 25, 1964	June 24, 1966

TOTAL BID VALUE OF FREEWAYS DIVISION ACTIVE CONTRACTS, DEMOLITIONS NOT IN- CLUDED	\$35,326,435.25
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To perform the necessary construction lay-out and inspection of the previously noted projects the Freeways Division operated with an average of fifty employees. A total of fifty-two estimates were processed with a total value of \$6,424,555.40 for payment for construction completed during the 1963-64 fiscal year.