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A STUDY OF URBAN EXPRESSWAYS

Part I

**COSTS OF CERTAIN PORTIONS OF THE JOHN C. LODGE AND
EDSEL FORD EXPRESSWAYS
IN DETROIT**

**W. C. Broughton
Testing and Research Division
Michigan State Highway Department**

LIBRARY
**Research Laboratory Division
Office of Testing & Research
Mich. Dept. of State Hwys.**

In order to make comparisons between different types of urban expressways and to estimate costs more accurately for further extensions and additions to the expressway system, the late Mr. H. C. Coons authorized "A Study of Urban Expressways" (See Appendix I).

This report is Part I of that study which is essentially a breakdown of the cost of the Edsel Ford Expressway from Wyoming to the John C. Lodge Interchange, separate breakdown of this Interchange - the John C. Lodge Expressway from its southern terminal to the Interchange, and the John C. Lodge Expressway from the Interchange north to Holden Street.

Tabular breakdown of all items is shown on sheets numbered from one to ten. Table I is a consolidated tabulation of the total costs of the various sections under study for Engineering, Construction, Utilities, and Right-of-way. From this table the average costs per mile and per foot of the various sections are:

| | Edsel Ford to Interchange | Interchange | John C. Lodge South of Interchange | John C. Lodge North of Interchange |
|-----------------------|---------------------------------|---------------|--|--|
| Avg. Cost Per Mile | \$8,705,412.01 | 10,057,721.30 | 9,404,468.13 | 6,687,708.38 |
| Avg. Cost Per Ft. | 1,658.75 | 1,904.87 | 1,781.15 | 1,266.61 |

Figure No. 1 is a schematic layout of the sections included in this study.

ACKNOWLEDGMENTS

The full cooperation of the Finance and Right-of-Way Divisions was received in this study. We are particularly indebted to Roy Forman for his assistance and valuable advice and to Mrs. Ruth Whiting, Supervisor, Expressway Construction Funds, for her unflagging interest and help.

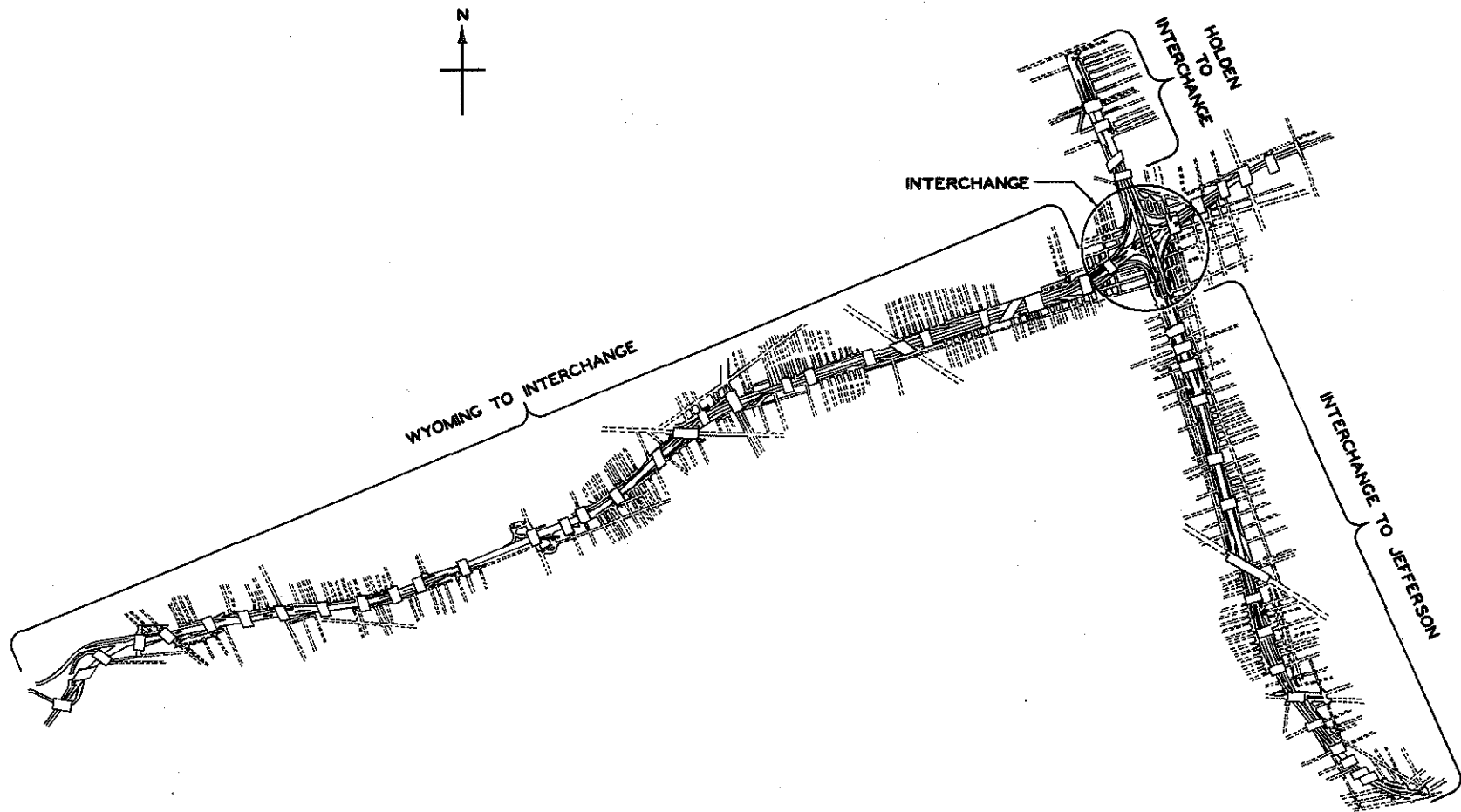


FIGURE 1
SCHEMATIC LAYOUT OF UNITS INCLUDED IN THE COST ANALYSIS

TABLE I
TABULATED BREAKDOWN COST OF DETROIT EXPRESSWAY

| | CONTROL SECTION 82023 FORD TO INTERCHANGE | CONTROL SECTION 82023-82112 INTERCHANGE | CONTROL SECTION 82112-82111 LODGE SOUTH OF INTERCHANGE | CONTROL SECTION 82112 LODGE NORTH OF INTERCHANGE | TOTAL |
|--|--|---|---|---|---------------|
| LENGTH IN MILES | 4.300 | 0.968 | 2.417 | 0.565 | |
| BID PRICE | 22,519,553.52 | 5,030,876.82 | 16,943,273.70 | 2,657,262.23 | 47,150,966.27 |
| PAID TO ORIG. CONTRACTOR | 23,065,540.62 | 5,177,006.38 | 14,878,742.05 | 2,712,201.88 | 45,833,490.93 |
| PAID TO OTHERS | 1,131,730.87 | 71,712.01 | 283,532.61 | 53,143.36 | 1,540,118.85 |
| FINANCE RECORDS TOTAL PAID | 24,197,271.49 | 5,248,718.39 | 15,162,274.66 | 2,765,345.24 | 47,373,609.78 |
| ENGINEERING COSTS | | | | | |
| SURVEYS | 229,369.42 | 39,015.24 | 257,420.33 | 30,396.58 | 556,201.57 |
| PLANS | 1,060,003.93 | 239,845.72 | 1,685,317.30 | 185,530.83 | 3,170,697.78 |
| INSPECTION | 970,945.97 | 213,184.27 | 628,305.91 | 123,562.49 | 1,935,998.64 |
| TOTAL | 2,260,319.32 | 492,045.23 | 2,571,043.54 | 339,489.90 | 5,662,897.99 |
| CONSTRUCTION COSTS | | | | | |
| ROADS | 6,012,045.35 | 1,261,086.87 | 2,928,151.46 | 556,154.92 | 10,757,438.60 |
| BRIDGES | 13,040,425.86 | 3,168,700.61 | 6,623,049.15 | 1,663,697.21 | 24,495,872.83 |
| DRAINAGE | 696,634.03 | 276,341.58 | 267,861.58 | 30,256.34 | 1,271,093.53 |
| TRAFFIC CHARGES | 75,320.69 | 10,721.35 | 66,812.40 | 2,814.12 | 155,668.56 |
| TOTAL | 19,824,425.93 | 4,716,850.41 | 9,885,874.59 | 2,252,922.59 | 36,680,073.52 |
| UTILITY COSTS | 4,360,454.31 | 521,655.48 | 5,191,035.96 | 487,122.65 | 10,560,268.40 |
| RIGHT OF WAY COSTS | | | | | |
| DEMOLITION | 12,391.25 | 10,212.50 | 85,364.11 | 25,300.00 | 133,267.86 |
| ORIG. PURCHASE PRICE | 11,991,462.91 | 3,995,110.60 | 6,106,697.10 | 920,846.79 | 23,014,117.40 |
| INCOME FROM RENTAL & SALES | 1,015,782.06 | | 1,109,415.84 | 247,126.19 | 2,372,324.09 |
| NET | 10,988,072.10 | 4,005,323.10 | 5,082,645.37 | 699,020.60 | 20,775,061.17 |
| TOTAL COSTS = ENGR. + CONST. + UTILITIES + R. O. W. | 37,433,271.66 | 9,735,874.22 | 22,730,599.46 | 3,778,555.74 | 73,678,301.08 |
| AVERAGE COST PER MILE = $\frac{\text{TOTAL COST}}{\text{MILES}}$ | 8,705,412.01 | 10,057,721.30 | 9,404,468.13 | 6,687,708.38 | |
| AVERAGE COST PER FT. | 1,658.75 | 1,904.87 | 1,781.15 | 1,266.61 | |

MICHIGAN
STATE HIGHWAY DEPARTMENT
LANSING



CHARLES M. ZIEGLER
STATE HIGHWAY COMMISSIONER

INTEROFFICE COMMUNICATION

December 20, 1954

TO: H. C. Coons
Deputy Commissioner-Chief Engineer

SUBJECT: Study of Urban Expressways

Recently I discussed with you the need for making a study of urban expressways, in view of the greatly enlarged programs that are being considered, and received your approval to go ahead. The first part of this study would be a cost analysis of the expressways constructed in Detroit, of which a sufficient mileage has been built, to make such a study significant.

The attached sheet shows the breakdown of expressway costs which will be needed. The units to be studied are as follows: The Edsel Ford Expressway from Wyoming to the interchange; the John C. Lodge Expressway from the river to the interchange; and a separate breakdown of the interchange itself.

This project has been discussed informally with Roy Forman, who advises that the cost figures wanted are readily available in the Finance Division. Extra copies of this communication will be sent to you, and if you place your approval stamp on them the study will get underway.

W. W. McLaughlin
Testing and Research Engineer

WMB:BI

cc: W. J. McDonald
R. Forman

APPROVED

DEC 23 1954

DEPUTY COMMISSIONER
CHIEF ENGINEER

BREAKDOWN OF EXPRESSWAY COSTS

| | <u>Contract No.</u> | <u>Length</u> | <u>Cost</u> | <u>Credit</u> |
|--|---------------------|---------------|-------------|-----------------|
| I. ENGINEERING | | | X | |
| II. RIGHT-OF-WAY | | | | |
| Land | | | X | Excess property |
| Buildings | | | X | Rent |
| Business Loss | | | X | |
| Demolition | | | X | |
| III. CONSTRUCTION | | | | |
| Roads | X | X | X | |
| Bridges | X | | X | |
| Drainage (Pump houses, etc.) | X | | X | |
| Traffic Control | | | X | |
| IV. UTILITIES | | | | |
| Water mains (Tunnels, relocations, etc.) | | | | |
| Sewers | | | | |
| Misc. (Telephone conduits and pole lines, gas mains, steam tunnels, etc.) | | | | |

Cost to be separated by years to permit influence of the fluctuating value of construction dollar to be considered.

APPENDIX

- Sheet 1 }
Sheet 2 }
Sheet 3 } Tabular breakdown of Edsel Ford Expressway. Part of
Sheet 4 } Control Section 82023U.
Sheet 5 }
- Sheet 6 Totals of Edsel Ford Expressway & John C. Lodge Inter-
change. Part of Control Sections 82023 & 82112.
- Sheet 7 }
Sheet 8 } Tabular breakdown of John C. Lodge Expressway in Control
Section 82111 south of Merrick Avenue.
- Sheet 9 Tabular breakdown of John C. Lodge Expressway south of
Merrick Avenue Bridge to Jefferson Avenue. Part of Control
Section 82111 & 82112.
- Sheet 10 Tabular breakdown of John C. Lodge Expressway. Part of
Control Section 82112 north of Interchange.

Tabular Breakdown of Edsel Ford Expressway, Part of Control Section 32023U
 Corrected to agree with the completed status as of May, 1956, Finance Records
 Sheet 4 of 10 Sheets

| Proj. No. | Contr. No. | Year Let | Cost Item | Location | Contractor | Length in Miles | Bid Price | Paid to Orig. Contractor | Paid to Others | Finance Records Total Paid | Engineering Costs | | | | | Construction Costs | | | | | Right of Way Costs | | | Total Costs = Engr. + Constr. + Utilities + R. O. W. | | | |
|-----------|------------|----------|--|----------|----------------------------------|-----------------|-------------|--------------------------|----------------|----------------------------|-------------------|-----------|------------|-----------|--------------------------|--------------------|------------|----------|-----------------|------------|--------------------|------------|----------------------|--|----------------------------|------------|-------------|
| | | | | | | | | | | | Surveys | Plans | Inspection | Total | % Engr. Costs Total Paid | Roads | Bridges | Drainage | Traffic Charges | Total | Utility Costs | Demolition | Orig. Purchase Price | | Income from Rental & Sales | Net | |
| U1-B23 | 1 | 1949 | Bridge at Addison Ave. | | Darin & Armstrong | | 2824153.7 | 2879434.8 | 582845.4 | 3462280.2 | 1.40568 | 2348221.0 | 1.81511 | 342291.2 | 9.9 | | 3240187.3 | | | 3240187.3 | 222092.9 | | 508158.7 | 18297.5 | 489861.2 | 4121052.2 | |
| " | 2 | " | Structure | | Detroit Water Dept. | | 17750.0 | 10004.6 | | 10004.6 | 3.00 | 15170.0 | 4.40 | 47.0 | 4.7 | | | | | | 10004.6 | | | | 11384.6 | 4121052.2 | |
| " | 3 | " | Connect & Chlorinate Water Mains | | Detroit Fire Dept. | | 16500.0 | 7064.4 | | 7064.4 | 3.00 | 330.0 | 3.50 | 1.0 | 4.6 | | | | | | 7064.4 | | | | 8054.4 | 4121052.2 | |
| " | 4 | " | Fire Department Changes | | Detroit Public Works | | 4900.0 | 299.1 | | 299.1 | 1.00 | 1.0 | 1.0 | 1.0 | 3.4 | | | | 299.1 | 299.1 | | | | | 2.00 | 4121052.2 | |
| " | 5 | 1950 | Barricades | | L. A. Davidson | | 1742860.1 | 1828312.4 | 9637.1 | 1837949.5 | 4820.0 | 80510.0 | 156227.4 | 241557.4 | 13.1 | | 1654363.2 | | | 1654363.2 | 183786.3 | | | | 167990.4 | 2247497.3 | |
| " | 6 | 1949 | Retaining Walls | | Detroit Water Dept. | | 47000.0 | 41259.7 | 5300 | 41789.7 | 11.00 | 1840.0 | 1950.0 | | 4.7 | | | | | | 41789.7 | | | | 38200.0 | 47759.7 | |
| " | | | Connect & Chlorinate Water Mains | | Detroit Water Dept. | | | | | | | | | | | | | | | | | | | | | | |
| " | | | Total | | | | 4654173.8* | 4766375.0* | 593012.5* | 5359387.5* | 14060.0* | 2348300* | 337738.6* | 586628.6* | | | 4894550.5* | | | 4894550.5* | 464537.9* | | 508158.7* | 18297.5* | 489861.2* | 6435877.3* | |
| U1-B24 | 1 | 1950 | Pedestrian Bridge Trenton Ave. | | Joseph Ploax Inc. | | 760005.4 | 793676.1 | 16269.9 | 809946.0 | 15825.8 | 70234.8 | 44784.1 | 130844.7 | 16.2 | | 804990.6 | | | 4955.4 | 809946.0 | | | | | 940790.7 | |
| " | | | Total | | | | 760005.4* | 793676.1* | 16269.9* | 809946.0* | 15825.8* | 70234.8* | 44784.1* | 130844.7* | | | 804990.6* | | | 4955.4* | 809946.0* | | | | | 940790.7* | |
| U1-B25 | 1 | 1951 | Pedestrian Bridge Lumley Ave. | | Jutton Kelly Co. | | 723456.5 | 761830.0 | 225168.4 | 986998.4 | 7825.3 | 107984.7 | 106971.7 | 222781.7 | 22.6 | | 929776.5 | | | 8374.6 | 938151.1 | | | | | 1209530.3 | |
| " | | | Total | | | | 723456.5* | 761830.0* | 225168.4* | 986998.4* | 7825.3* | 107984.7* | 106971.7* | 222781.7* | | | 929776.5* | | | 8374.6* | 938151.1* | | | | | 1209530.3* | |
| U1-B26 | 1 | | Pedestrian Bridge Tarnow | | E. Jarvik Constr. Co. | | 654621.0 | 668763.6 | 138930.5 | 807694.1 | 7047.4 | 49016.9 | 43168.2 | 99232.5 | 11.3 | | 806761.4 | | | | 806761.4 | | | | | 906926.6 | |
| " | | | Total | | | | 654621.0* | 668763.6* | 138930.5* | 807694.1* | 7047.4* | 49016.9* | 43168.2* | 99232.5* | | | 806761.4* | | | | 806761.4* | | | | | 906926.6* | |
| U1-B27 | 1 | 1950 | Bridge Wesson Ave. | | L. Garavaglia | | 2782383.3 | 2825199.0 | 454610.1 | 3279809.1 | 15802.1 | 139670.8 | 400.0 | 268523.2 | 8.2 | | 2545915.5 | | | 2922.1 | 2545915.5 | 733893.6 | | 352247.2 | | 352247.2 | 3899449.5 |
| " | 2 | " | Erect & Remove Traffic Signals | | Detroit Traffic Bureau | | 4930.0 | 292.1 | | 292.1 | 2.00 | 2.00 | 2.00 | 2.00 | 7.5 | | | | | | 292.1 | 292.1 | | | | 3452.1 | |
| " | 3 | " | Barricades | | Detroit Public Works | | 3720.0 | 808.6 | | 808.6 | 1.00 | 5.00 | 5.00 | 6.00 | 7.5 | | | | | | 808.6 | 808.6 | | | | 948.6 | |
| " | 4 | " | Connect & Chlorinate Water Mains | | Detroit Water Dept. | | 13000.0 | 8903.5 | | 8903.5 | 4.00 | 380.0 | 420.0 | 420.0 | 4.7 | | | | | | 8903.5 | | | | | 10063.5 | |
| " | | | Total | | | | 2804033.3* | 2837833.2* | 454610.1* | 3292443.3* | 15800.0* | 139670.8* | 400.0* | 268523.2* | | | 2545915.5* | | | 2922.1* | 2545915.5* | 733893.6 | | 352247.2* | | 352247.2* | 3913913.7* |
| U1-B28 | 1 | 1950 | Bridge 30th St. | | L. Garavaglia | | 2683187.5 | 2878125.9 | 49410.7 | 2927537.6 | 9775.0 | 127253.0 | 113753.2 | 269232.2 | | | 2545915.5 | | | | 2296768.5 | | | | | 3219666.6 | |
| " | 2 | " | Structure | | Detroit Water Dept. | | 15900.0 | 9438.6 | | 9438.6 | 3.00 | 410.0 | 450.0 | 450.0 | 4.0 | | | | | | 9438.6 | 9438.6 | 3000.0 | | | 9878.6 | |
| " | 3 | " | Connect & Chlorinate Water Mains | | Detroit Traffic Bureau | | 2730.0 | 1268.3 | | 1268.3 | 6.00 | 7.00 | 7.00 | 7.00 | 5.60 | | | | | | 1268.3 | 1268.3 | | | | 1972.4 | |
| " | 4 | " | Barricades | | Detroit Public Works | | 4960.0 | 3003.7 | | 3003.7 | 1.00 | 130.0 | 140.0 | 140.0 | 4.7 | | | | | | 3003.7 | 3003.7 | | | | 3143.7 | |
| " | | | Total | | | | 2706377.5* | 2891837.5* | 49410.7* | 2941245.2* | 9770.0* | 127270.0* | 113753.2* | 269232.2* | | | 2545915.5* | | | | 2296768.5* | | | | | 3000.0* | 3234661.3* |
| U1-B29 | 1 | 1950 | Bridge & Water Main Tunnel Warren Ave. | | F. C. Atwood | | 2698457.0 | 2856729.6 | 85494.1 | 2942223.7 | 17898.6 | 404880.5 | 146811.5 | 233071.5 | 7.9 | | 28030.9 | | | | 2914192.8 | | | 370808.1 | | 370808.1 | 3250975.2 |
| " | 2 | " | Tunnel | | Detroit Water Dept. | | 24000.0 | 11027.1 | | 11027.1 | 3.00 | 320.0 | 320.0 | 320.0 | 2.9 | | | | | | 11027.1 | 11027.1 | | | | 11627.1 | |
| " | 3 | " | Connect & Chlorinate Water Mains | | L. Garavaglia | | 10654975.6 | 11287895.7 | -22110.0 | 11285685.7 | 14010.0 | 316860.0 | 346419.1 | 67288.9 | 6.0 | | 9634563.3 | | | | 9408.1 | 9643971.4 | 1626714.3 | 5000.0 | | 2951781.8 | 12253152.9 |
| " | 4 | " | Structure | | Street Railway Dept. | | 130600.0 | 78580.8 | | 78580.8 | 1.00 | 2210.0 | 2310.0 | 2310.0 | 2.8 | | | | | | | 2020.0 | | | | 82910.8 | |
| " | 5 | " | Street Railway Changes | | Detroit Traffic Bureau | | 4200.0 | 1739.4 | | 1739.4 | 3.00 | 50.0 | 50.0 | 50.0 | 3.9 | | | | | | 1739.4 | 1739.4 | | | | 1829.4 | |
| " | 6 | " | Erect & Remove Signs | | Detroit Public Works | | 41500.0 | 26381.7 | | 26381.7 | 3.00 | 740.0 | 770.0 | 770.0 | 2.8 | | | | | | 26381.7 | 26381.7 | | | | 27831.7 | |
| " | 7 | " | Barricades | | Detroit Police Dept. | | 21400.0 | 9665.1 | | 9665.1 | 1.00 | 270.0 | 280.0 | 280.0 | 2.8 | | | | | | | 9665.1 | | | | 10195.1 | |
| " | 8 | " | Fire Dept. Changes | | Detroit Fire Dept. | | 29200.0 | 25443.7 | | 25443.7 | 3.00 | 710.0 | 875.0 | 875.0 | 3.3 | | | | | | | 25443.7 | | | | 26687.7 | |
| " | 9 | " | Connect & Chlorinate Water Mains | | Detroit Water Dept. | | 37100.0 | 24152.6 | | 24152.6 | 3.00 | 680.0 | 710.0 | 710.0 | 2.8 | | | | | | | 24152.6 | | | | 25482.6 | |
| " | 10 | " | Lighting Changes | | Detroit Lighting Commission | | 23000.0 | 16020.7 | | 16020.7 | 2.00 | 450.0 | 470.0 | 470.0 | 2.8 | | | | | | | 16020.7 | | | | 16900.7 | |
| " | | | Total | | | | 13666432.6* | 14337638.4* | 832831* | 14420921.5* | 17890.0* | 404890.0* | 493365.6* | 916145.6* | | | 9634563.3* | | | 655601* | 9700123.4* | 4715798.1* | 5000.0* | 370808.1* | | 375808.1* | 15707875.2* |
| U1-B40 | 1 | 1950 | Bridge Jot. Ave. | | L. Garavaglia | | 2340427.5 | 2373053.1 | 396381.8 | 2769434.9 | 17621.2 | 221680.2 | 149727.1 | 387777.1 | 14.0 | | 2173538.4 | | | | 2173538.4 | 595896.5 | | 949699.0 | | 949699.0 | 4101951.0 |
| " | 2 | " | Structure | | Detroit Water Dept. | | 14100.0 | 9079.8 | | 9079.8 | 6.00 | 720.0 | 780.0 | 780.0 | 8.7 | | | | | | 9079.8 | 9079.8 | | | | 1259.8 | |
| " | 3 | " | Connect & Chlorinate Water Mains | | Detroit Traffic Bureau | | 7050.0 | 4774.5 | -1524.9 | 3249.6 | 2.00 | 260.0 | 280.0 | 280.0 | 8.7 | | | | | | | 4774.5 | | | | 4539.6 | |
| " | 4 | " | Barricades | | Detroit Public Works | | 2600.0 | 2198.5 | | 2198.5 | 1.00 | 180.0 | 190.0 | 190.0 | 8.7 | | | | | | | 2198.5 | | | | 3138.5 | |
| " | 5 | " | From Finance Records | | | | | | | | | | | | | | | | | | | | | | | 10.0 | |
| " | | | Total | | | | 2364177.5* | 2389105.9* | 394856.9* | 2783962.8* | 17620.0* | 221680.0* | 149827.1* | 389127.1* | | | 2173538.4* | | | 54481* | 2178986.5* | 604976.3* | | 949699.0* | | 949699.0* | 4122788.9* |
| UG1-X08 | 1 | 1946 | Railroad Crossing | | Jarvis Engineering | | 827652.0 | 908318.2 | 745014.5 | 1653332.7 | 22664.9 | 109307.8 | 139252.0 | 76110.0 | 4.6 | | 1653332.7 | | | | 1653332.7 | | | 836441.6 | 74325.0 | 762116.6 | 1943301.3 |
| " | 2 | " | Structural Steel | | Jutton Kelly Co. | | 3577147.5 | 4006364.4 | 37587.2 | 4043951.6 | 15560.0 | 75020.0 | 168590.4 | 259170.4 | 6.4 | | 3987571.2 | | | 258.0 | 3990151.8 | | | | | 523086.0 | 4826190.0 |
| " | 3 | " | Material & Pole Line Changes | | C & O & Pere Marquette Railroads | | 150306.2 | 83263.7 | | 83263.7 | 3.00 | 1940.0 | 1970.0 | 3830.0 | 4.6 | | | | | | | 83263.7 | | | | 97863.7 | |
| " | 4 | " | Connect & Chlorinate Water Mains | | Detroit Water Dept. | | 9000.0 | 4374.0 | | 4374.0 | 2.00 | 80.0 | 100.0 | 200.0 | 4.6 | | | | | | | 4374.0 | | | | 5144.0 | |
| " | 5 | " | Force Account (Power Line) | | Harris McBurney | | 6361.9 | 6361.9 | | 6361.9 | 2.00 | 180.0 | 190.0 | 2920.0 | 4.6 | | | | | | | 6361.9 | | | | 7476.9 | |
| " | 6 | 1951 | Slope Paving | | Garritt Posthumus | | 43135.0 | 43428.0 | | 43428.0 | 170.0 | 810.0 | 1021.4 | 11194.7 | 2.3 | | 43428.0 | | | | | 43428.0 | | | | 5620.0 | 60242.7 |
| " | | | Total | | | | 4666859.8* | 5109367.4* | 782601.7* | 5891969.1* | 22670.0* | 109310.0* | 221445.1* | 353425.1* | | | 5684331.9* | | | 2580.6* | 5686912.5* | 205056.6* | | 836441.6* | 74325.0* | 762116.6* | 7007510.8* |
| " | | | Total Sheet 4 | | | | | | | | | | | | | | | | | | | | | | | | |

Tabular Breakdown of Costs, John C. Lodge Expressway
 South of Merrick Ave. Bridge to Jefferson Ave. as of May 1956 Finance Records
 Part of Control Sec. 82111 and 82112
 Sheet 9 of 10 Sheets

| Project No. | Constr. No. | Year | Cost Item | Location | Contractor | Length in Miles | Bid Price | Paid to Orig. Contractor | Paid to Others | Finance Records Total Paid | Engineering Costs | | | | Construction Costs | | | | | Right of Way Costs | | | | Total Costs = Engr. + Constr. + Utilities + R.O.W. | | | | | |
|------------------|-------------|------|---|----------|--------------------------|-----------------|------------|--------------------------|----------------|----------------------------|-------------------|---------------|--------------|---------------|--------------------------|-------|--------------|--------------|-----------------|--------------------|---------------|--------------|----------------------|--|----------------------------|---------------|--------------|--------------|--------------|
| | | | | | | | | | | | Surveys | Plans | Inspection | Total | % Engr. Costs Total Paid | Roads | Bridges | Draughts | Traffic Charges | Total | Utility Costs | Demolition | Orig. Purchase Price | | Income from Rental & Sales | Net | | | |
| B 13 of 82-22-12 | 1 | 1948 | Bridge at Forest Avenue Structure | | L. Garavaglia | | 33,144.50 | 34,525.00 | 25,144.00 | 34,776.44 | 6,711.90 | 1,554.15 | 7,977.14 | 3,121.65 | 9.0 | | 28,317.23 | | 6,131.4 | 28,378.92 | 6,397.82 | | | | | 37,898.10 | | | |
| " | 2 | " | Comment & Chlorinate Water Main (Force Acct.) | | Det. Water Dept. | | 9,350.00 | 7,523.20 | | 7,225.20 | 6,639.70 | 1,537.44 | 3,327.00 | 6.9 | | | | | 1,707.00 | 2,178.00 | | | | | | 8,043.00 | | | |
| " | 3 | " | Temporary Lighting Detours (Force Acct.) | | Det. Light Comm. | | 1,023.00 | 1,762.50 | | 1,762.50 | 1,440.00 | 1,440.00 | 77.34 | 6.9 | | | | | 399.84 | 1,212.70 | | | | | | 1,883.26 | | | |
| " | 4 | " | Furnish, Erect, & Remove Barricades (Force Acct.) | | Det. Traffic Bureau | | 1,027.17 | 924.50 | -2,663.00 | 6,013.30 | 336.00 | 77.34 | 293.20 | 150.43 | 6.9 | | | | 456.30 | 1,762.50 | | | | | | 7,057.80 | | | |
| " | 5 | " | Relocate Signal Lines (Force Acct.) | | Det. Police Dept. | | 1,575.83 | 894.70 | -2,933.70 | 6,013.30 | 1,150.00 | 265.70 | 1,364.00 | 6.9 | | | | | | 413.60 | | | | | | | 6,426.90 | | |
| | | | Total B 13 of 82-22-12 | | | | 33,600.60 | 34,959.71 | 1,954.73 | 35,154.40 | 6,711.90 | 1,554.15 | 12,263.91 | 31,476.62 | | | 28,317.23 | | 3,038.88 | 28,621.12 | 6,397.82 | | | | | | 38,302.06 | | |
| B 14 of 82-22-12 | 1 | 1949 | Bridge at Warren Avenue Structure | | Dakin & Armstrong | | 29,590.32 | 30,017.54 | 42,060.70 | 30,438.15 | 1,382.04 | 1,840.87 | 1,224.10 | 3,681.97 | 12.1 | | 25,915.91 | | 6,145.90 | 25,915.91 | 4,522.24 | | | | | 34,120.12 | | | |
| " | 2 | " | Temporary Lighting (Force Acct.) | | Det. Light Comm. | | 2,200.00 | 814.59 | | 6,145.90 | 1,348.17 | 1,795.76 | 1,751.39 | 414.10 | 6.7 | | | | 6,145.90 | 6,145.90 | | | | | | 6,550.00 | | | |
| " | 3 | " | Erect & Remove Signs (Force Acct.) | | Det. Traffic Bureau | | 1,540.00 | 914.27 | -2,692.40 | 6,450.30 | 273.30 | 362.60 | 24.50 | 414.10 | 6.7 | | | | 6,450.30 | 6,145.90 | | | | | | 6,834.90 | | | |
| " | 4 | " | 12" Water Main (Force Acct.) | | Det. Water Dept. | | 1,120.00 | 986.32 | | 986.32 | 43.70 | 58.00 | 38.70 | 65.40 | 6.7 | | | | | 65.40 | | | | | | | 1,052.76 | | |
| " | 5 | " | Relocate Comm. Lines (Force Acct.) | | Det. Fire Dept. | | 6,200.00 | 5,854.48 | -6,754.90 | 5,178.99 | 2,204.00 | 3,055.00 | 2,032.00 | 3,488.10 | 6.7 | | | | | 3,488.10 | | | | | | | 5,927.80 | | |
| " | 6 | " | Furnish Erect & Remove Signs (Force Acct.) | | Detroit Pub. Wks. | | 4,150.00 | 2,213.30 | | 2,213.30 | 9.70 | 130.60 | 8.70 | 149.00 | 6.7 | | | | | 2,213.30 | 2,213.30 | | | | | | 2,352.30 | | |
| | | | Total B 14 of 82-22-12 | | | | 30,600.82 | 30,876.64 | 32,613.40 | 31,202.76 | 1,382.04 | 1,840.87 | 1,754.39 | 3,733.47 | | | 25,915.91 | | 14,809.50 | 26,064.00 | 5,138.71 | | | | | | 34,936.25 | | |
| B 33 of 82-22-12 | 1 | 1952 | Bridge at Merrick Avenue | | Jarrick Construction Co. | | 10,208.01 | 10,620.77 | 2,850.80 | 10,649.28 | 5,388.00 | 1,012.82 | 7,780.12 | 1,844.73 | 17.40 | | 10,649.28 | | | 10,649.28 | | | | | | | 12,493.94 | | |
| | | | Total Sheet 9 | | | | 74,410.44 | 76,456.36 | 3,501.15 | 77,006.46 | 2,592.03 | 4,407.85 | 4,058.80 | 8,729.85 | | | 64,882.42 | | 4,519.83 | 65,344.12 | 11,672.04 | | | | | | 85,732.31 | | |
| | | | Total Sheet 8 | | | | 86,886.63 | 70,348.42 | -1,306.70 | 70,217.78 | 4,699.85 | 6,631.43 | 2,951.82 | 10,053.82 | | | 9,974.22 | | 2,516.64 | 62,672.50 | 73,303.97 | 2,148.41 | | | | | 89,139.87 | | |
| | | | Total Sheet 7 | | | | 751,050.42 | 707,933.36 | 2,910,985.30 | 737,043.18 | 20,783.44 | 97,809.52 | 2,925,351.00 | 14,754,667.00 | | | 2,928,151.46 | | 6,623,049.15 | 2,678,615.80 | 6,681,240.00 | 4,341,275.00 | 6,388,000.00 | | | | 1,359,288.28 | | |
| | | | Total John C. Lodge South of Interchange | | | | 2,417.1 | 694,327.30 | 1,487,874.20 | 2,833,261.10 | 1,516,227.46 | 25,742,033.00 | 1,685,317.00 | 62,830,591.00 | 2,571,043.54 | | | 2,928,151.46 | | 6,623,049.15 | 2,678,615.80 | 6,681,240.00 | 9,885,874.50 | 5,191,035.96 | 8,536,411.00 | 61,066,971.00 | 1,109,415.84 | 5,082,645.37 | 2,273,099.46 |

Footnotes:
 *Actual cost to be prorated
 †Indicates a cost figure, either actual or prorated, or a combination of both
 *Totals

