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AN ANALYSIS OF THE EFFECT OF FEDERALLY
SPONSORED CONSTRUCTION ON UNION WAGE
RATES IN GREAT FALLS, MONTANA

By

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B.S., Austin College, 1961


Presented in partial fulfillment of the
requirements for the degree of
Master of Business Administration

UNIVERSITY OF MONTANA

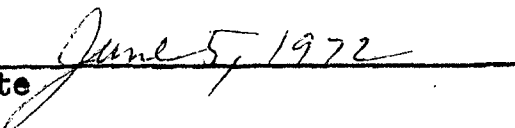
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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
II. ANALYSIS OF UNION WAGE RATES FOR BILLINGS AND GREAT FALLS	7
Analysis of Seven Selected Unions	8
Carpenters Union	
Iron Workers Union	
Laborers Union	
Bricklayers Union	
Electricians Union	
Painters Union	
Plumbers Union	
Analysis of General and Special Contractors Unions	19
General Contractor Unions	
Special Contractor Unions	
Analysis of the Average Wage Rates for Seven Selected Unions in Billings and Great Falls	21
III. CONCLUSION	25
Recommendations for Further Research	
APPENDIX	28
BIBLIOGRAPHY	49

LIST OF TABLES

Table	Page
1. Wage Rates for Selected General Contractor Unions in Great Falls and Billings 1960-1970	9
2. Index of Wage Rates - Carpenters Union	10
3. Index of Wage Rates - Iron Workers Union	12
4. Index of Wage Rates - Laborers Union	13
5. Wage Rates for Selected Special Contractor Unions in Great Falls and Billings 1960-1970	14
6. Index of Wage Rates - Bricklayers Union	15
7. Index of Wage Rates - Painters Union	16
8. Index of Wage Rates - Electricians Union	18
9. Index of Wage Rates - Plumbers Union	19
10. Average Wage Rates for Special and General Trade Contractors, and for Seven Selected Unions in Billings and Great Falls 1960-1970	20
11. Comparison of Wages and Fringe Benefits, U.S., Great Falls, and Billings Averages, 1968	23

CHAPTER I

INTRODUCTION

In its section on the construction industry, the Montana Economic Study highlighted the erratic nature of the level of construction activity in the state.¹ This instability was largely attributed to a number of federally funded projects which had had a significant, if temporary, impact on the economy of the state.² Not only has the impact been heavy, it has not been evenly distributed throughout the state. Great Falls, with Malmstrom Air Force Base nearby, has been the center of federally funded construction activity in Montana during the last decade. The construction of 150 Minuteman missile facilities during 1962 and 1963 and an additional 50 during 1965 and 1966 accounted for a large portion of federally funded projects during the 1960's. As a result of this activity, Great Falls experienced rather violent swings in employment in the construction

¹Maxine C. Johnson, Montana Economic Study, Part 2: The Industries of Montana, Vol. II (Missoula: University of Montana, June, 1970), p. 4.11.

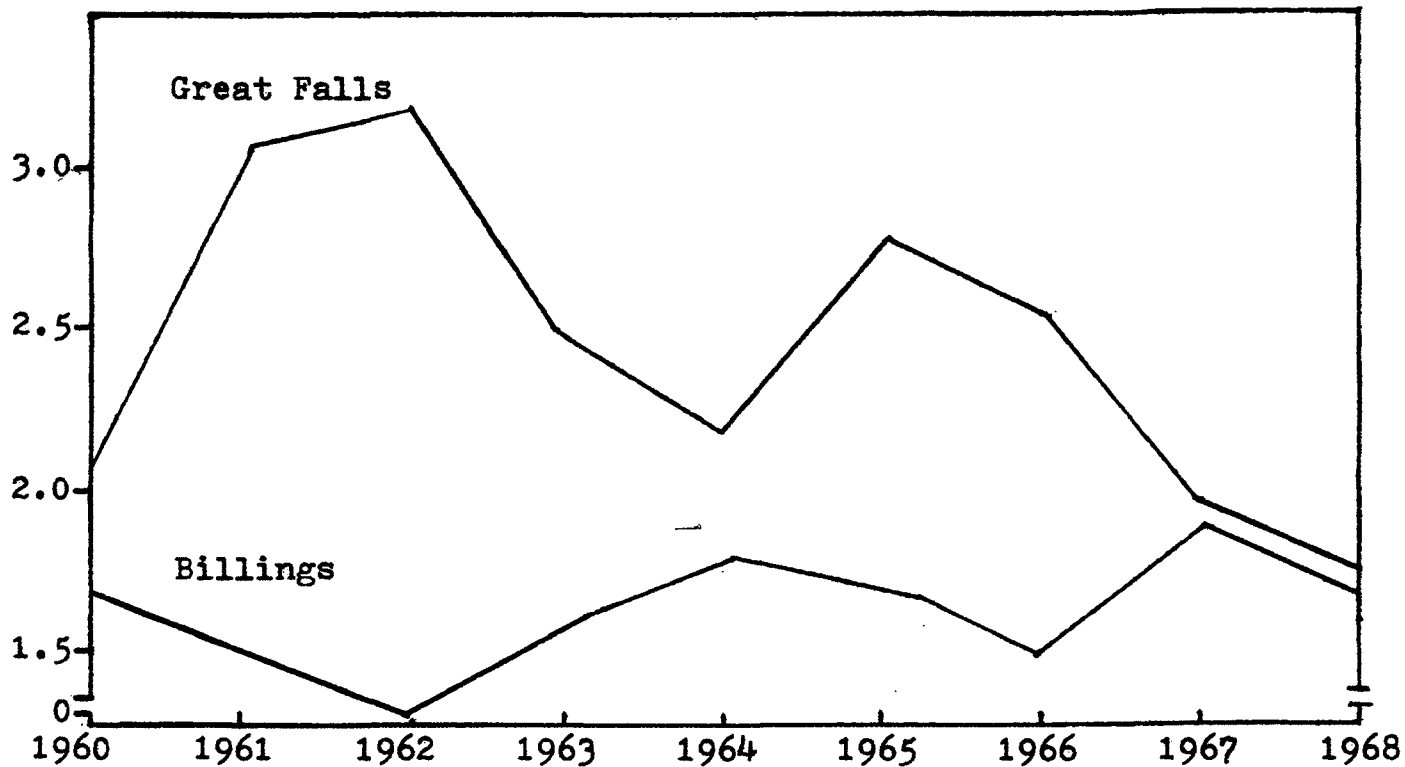
²Ibid., p. 4.9.

industry during the 1960's.³ As can be seen in Figure 1, the number of employees engaged in contract construction in Great Falls peaked in 1962 when 3200 persons were employed, and fell to 2200 in 1964, peaked again at 2800 in 1965, and fell to a decade low in 1968 of 1800.

While such infusions of federal capital are generally thought to stimulate growth in a local area by providing employment and business opportunities, there has become a growing conviction among Great Falls business leaders that normal economic development in the Great Falls area may have been adversely affected by the large federally funded projects in the area during the decade. In part, this thesis contends that the repeated forced expansion of the labor force in the construction industry may have artificially raised the price of such labor in the Great Falls area. In turn, these artificially high wage rates may have influenced the general wage level to rise at a faster rate than normal. If this theory is correct, it would be in the best interest of Great Falls to discourage further large federal construction outlays in the area in order to stabilize the local economic growth pattern. The purpose of this paper is to examine this theory as it relates to union wage rates in the

³U.S. Department of Labor, Employment and Earnings States and Areas 1939-68, Bulletin No. 1370-6 (Washington, D.C.: Government Printing Office, August, 1969), p. 296.

NUMBER OF EMPLOYEES IN CONTRACT CONSTRUCTION
BILLINGS AND GREAT FALLS^a (IN THOUSANDS)



^aU.S. Department of Labor, Employment 1939-68, No. 1370-6,
p. 296.

FIGURE 1

construction industry directly and, by inference, to the general level of wage rates.

In order to properly assess the effect of federal construction outlays on union wage rates in Great Falls, it is necessary to establish a basis of comparison. Billings, Montana, will be used for this purpose. The geographical separation of the two cities from each other, as well as their isolation from other cities should negate any outside influence on union wage rates.

It is shown by population data for the two cities that Billings not only grew at a faster rate than Great Falls, but also ended the decade with a larger population.⁴ The actual census figures portray a 16.5 per cent increase for Billings between 1960 and 1970. Great Falls' population increased 8.8 per cent during the same period.

The Standard Metropolitan Statistical Areas (SMSA) of Billings and Great Falls are defined as being synonymous with Yellowstone and Cascade counties.⁵ A total population in 1970 of 87,367 with 75,651 people living in urban areas and 11,716 living in rural areas is indicated for the Billings SMSA by census statistics. A total of 81,804

⁴U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population, Number of Inhabitants, Montana, Final Report PC(1)-A28 (Washington, D.C.: Government Printing Office, 1970), p. 11.

⁵Ibid., p. 18.

residents for Great Falls is recorded in SMSA statistics with 70,905 in urban areas and 10,899 in rural areas.

Construction activity in the two cities during the period of the study, as reflected in dollar value of building permits, was nearly equal. The value of building permits in Great Falls from 1960 through 1970 totaled \$101.9 million.⁶ Building permits in Billings for the same period were \$100.5 million.⁷ Great Falls experienced three years in which building permits exceeded \$10 million: 1960, 1963, and 1969. Billings experienced two years of over \$10 million activity: 1960 and 1969.

Statistics on federally sponsored construction indicate a much greater diversity in construction activity. During the same period, large federal projects in Cascade County totaled over \$45 million.⁸ Almost \$16.5 million of this amount was spent to construct housing at Malmstrom Air Force Base adjacent to Great Falls. The data for Cascade County do not include funds for construction of missile sites. Only one large federal project was constructed in

⁶Great Falls Chamber of Commerce, "Building Permits," 1959-1971, Great Falls, 1972.

⁷Billings Chamber of Commerce, "Building Permits," 1960-1970, Billings, 1972.

⁸McGraw-Hill Information System Company, F. W. Dodge Division, Dodge Construction Statistics, Region VIII Bulletin, 1960-1970 (New York, New York).

Yellowstone County during the decade. This project cost \$18 million.⁹

This large difference in federally sponsored construction is the focus of this study in subsequent sections of this paper. The effect of this difference in federally sponsored construction in relation to union wage rates will be analyzed.

⁹Ibid.

CHAPTER II

ANALYSIS OF UNION WAGE RATES FOR BILLINGS AND GREAT FALLS

Any comparison of recent union wage rate history in the construction industry for Montana must be accomplished in the contract construction industry. Union wage negotiations in the heavy construction industry are conducted on a statewide basis,¹ therefore, comparison of union wage rates in Great Falls and Billings will be limited to selected union locals in the contract construction sector.

The trades represented in this study include both general contractor skills and special trade contractor skills.² Special trade contractors include plumbing, heating, air conditioning, painting, paper-hanging, decorating, electrical, masonry, stonework, plastering, roofing, and sheet metal contractors. The special contractor skills to be represented in this analysis are bricklayers, painters, plumbers, and electricians. General contractor unions to be

¹Montana Contractors Association, Helena, Montana, result of inquiry.

²U.S. Department of Labor, Employment and Earnings States and Areas 1939-68, Bulletin No. 1370-6 (Washington, D.C.: Government Printing Office, August, 1969), p. 296.

analyzed are carpenters, laborers, and iron workers. Total basic wages and negotiated fringe benefits for journeyman workers in each union will be used in these comparisons. Provisions for overtime pay, holiday pay, travel pay, shift differentials, and other special pays will not be included.

The basic data on union wage rates in Great Falls was obtained from the North Central Montana Building and Construction Trades Council and is presented in its entirety in the Appendix. The same data for Billings were obtained from the Painters and Allied Trades Joint Industries Board in Billings and are also presented in the Appendix.

The analysis of each union includes the rate of increase over the decade for each city and for the nation, as well as dollar comparisons of wage rates for the cities. Both general contractor trades and special contractor trades were analyzed by grouping and, finally, the averages for all selected unions by city were analyzed.

Analysis of Seven Selected Unions

Carpenters Union

The Great Falls carpenters union started the decade at a disadvantage. The total of hourly wages and fringe benefits in 1960 were \$.20 lower for Great Falls than for Billings (Table 1). In 1961, the Great Falls carpenters union won a \$.55 increase (Table 1). This increase put

TABLE 1

WAGE RATES FOR SELECTED GENERAL CONTRACTOR UNIONS
IN GREAT FALLS^a AND BILLINGS^b 1960-1970
(Amounts in Dollars Per Hour Include Negotiated Fringes)

Year	Carpenters	Iron Workers	Laborers
1960			
Great Falls	\$3.00	\$3.70	\$2.62
Billings	3.20	3.75	2.57
1961			
Great Falls	3.55	3.75	2.69
Billings	3.35	3.875	2.72
1962			
Great Falls	3.70	3.875	2.825
Billings	3.50	4.05	2.82
1963			
Great Falls	3.85	4.05	2.875
Billings	3.65	4.20	2.925
1964			
Great Falls	3.95	4.20	2.915
Billings	3.775	4.45	3.055
1965			
Great Falls	4.10	4.45	3.205
Billings	3.875	4.70	3.205
1966			
Great Falls	4.225	4.95	3.375
Billings	4.035	4.95	3.375
1967			
Great Falls	4.325	4.95	3.525
Billings	4.195	5.20	3.525
1968			
Great Falls	4.675	5.70	3.795
Billings	4.595	5.85	3.775
1969			
Great Falls	5.125	6.10	4.195
Billings	4.995	6.20	4.105
1970			
Great Falls	5.575	7.03	4.695
Billings	5.395	7.07	4.475

^aNorth Central Montana Building and Construction Trades Council, "Wages and Fringes for Selected Crafts in Great Falls, Montana, and Per Cent Increase 1960-75," Great Falls, January, 1972. (Mimeographed.)

^bPainters and Allied Trades Joint Industries Board, "Wages and Fringes for Billings, Montana, and Per Cent Increase 1960-73," Billings, January, 1972. (Mimeographed.)

Great Falls' wage scale ahead of Billings by \$.20 per hour, a lead which Great Falls carpenters never lost again during the decade. The spread varied between \$.12 per hour in 1968 to \$.225 per hour in 1965. In 1970 the difference was \$.18 in Great Falls' favor.

The rate at which Billings and Great Falls carpenters unions hourly wages rose compared to the national average for that union is reflected in Table 2.

TABLE 2
INDEX OF WAGE RATES - CARPENTERS UNION
1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	69.3	76.2	75.0
1961	82.0	79.6	77.9
1962	85.5	83.4	80.9
1963	89.0	87.0	83.6
1964	91.3	89.9	86.6
1965	94.7	92.3	90.7
1966	97.6	96.1	94.6
1967	100.0	100.0	100.0
1968	108.0	109.5	107.0
1969	118.4	119.0	115.8
1970	128.9	128.6	128.9

^aGreat Falls and Billings rates computed from data in Table 1.

^bU.S. Department of Labor, Handbook of Labor Statistics, Bulletin No. 1705 (Washington, D.C.: Government Printing Office, 1971), p. 185.

Over the eleven year span, the Great Falls carpenters hourly wage increased at a faster rate than did Billings' or the national average. This over-all higher rate of increase is primarily attributable to the unusually large increase for 1961. For the remainder of the decade, the rate of increase for Great Falls was comparable to that of Billings and the national average.

Iron Workers Union

The Great Falls iron workers union started and finished the eleven year period behind Billings (Table 1). Hourly wage rates were never higher in Great Falls than they were in Billings and only in 1966 were they equal. The pattern which emerged in comparing the hourly wage rates was one of Great Falls iron workers playing catch-up. The wage rate in Great Falls was typically one year behind that of Billings.

The rate of increase in both Billings and Great Falls is similar as can be seen in Table 3. Wage rate increases for both unions were comparable, both to each other and to the national average from 1960 to 1967. Since 1967, however, the rate of increase has sharpened for both Billings and Great Falls. The rate of increase for both cities began to outstrip the national average rate by a significant amount.

TABLE 3
 INDEX OF WAGE RATES - IRON WORKERS UNION
 1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	74.7	72.1	75.1
1961	75.7	74.5	78.0
1962	78.2	77.8	81.4
1963	81.2	80.7	84.1
1964	84.8	85.5	87.2
1965	89.8	90.3	90.2
1966	100.0	95.1	94.8
1967	100.0	100.0	100.0
1968	115.1	116.5	106.8
1969	123.2	119.2	117.1
1970	142.0	135.9	129.5

^aGreat Falls and Billings rates computed from data in Table 1.

^bU.S. Department of Labor, Handbook, p. 185.

Laborers Union

Great Falls and Billings laborers unions started the decade only \$.05 apart and remained fairly close until 1965 when Billings laborers earned \$.18 per hour more than Great Falls laborers (Table 1). The wage rates for both cities coincided again during the next two years. Starting in 1968, Great Falls laborers again began making larger gains than Billings laborers, and by 1970 were earning \$.22 per hour more than their Billings counterparts.

The rate of wage increases for Billings remained very close to the national average throughout the study

period (Table 4). In Great Falls, the rate of wage increases was not as stable. The rate of increase deviated as much as five points below the national rate in 1965 and ended five points above the national rate in 1970. Since 1967 the rate of increase for Great Falls has accelerated faster than the rates for both the national average and Billings.

TABLE 4
INDEX OF WAGE RATES - LABORERS UNION
1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	74.3	72.9	74.0
1961	76.3	77.1	76.7
1962	80.1	80.0	80.3
1963	81.5	82.9	83.2
1964	82.6	86.6	86.8
1965	85.8	90.0	90.8
1966	95.7	95.7	94.6
1967	100.0	100.0	100.0
1968	107.6	107.0	105.9
1969	119.0	116.4	113.9
1970	133.1	126.9	128.1

^aGreat Falls and Billings rates computed from data in Table 1.

^bU.S. Department of Labor, Handbook, p. 185.

Bricklayers Union

The Great Falls bricklayers union started the decade at the greatest relative disadvantage of any of the seven unions studied (Table 5). Wages in Great Falls were only

TABLE 5

WAGE RATES FOR SELECTED SPECIAL CONTRACTOR UNIONS
 IN GREAT FALLS^a AND BILLINGS^b 1960-1970
 (Amounts in Dollars Per Hour Include Negotiated Fringes)

Year	Brick- Layers	Electricians	Painters	Plumbers
1960				
Great Falls	\$3.00	\$3.64	\$3.25	\$3.86
Billings	3.75	3.60	3.10	3.65
1961				
Great Falls	3.25	3.90	3.25	4.11
Billings	4.00	3.80	3.25	3.80
1962				
Great Falls	3.50	4.15	3.50	4.26
Billings	4.10	3.95	3.40	3.925
1963				
Great Falls	3.75	4.30	3.70	4.42
Billings	4.35	4.11	3.50	4.05
1964				
Great Falls	4.00	4.40	3.90	4.59
Billings	4.35	4.26	3.60	4.53
1965				
Great Falls	4.35	4.50	4.05	4.77
Billings	4.55	4.41	3.70	4.73
1966				
Great Falls	4.47	4.70	4.20	4.97
Billings	4.75	4.62	3.75	4.93
1967				
Great Falls	4.67	4.85	4.30	5.22
Billings	5.25	4.85	3.95	5.375
1968				
Great Falls	5.30	5.00	4.43	5.51
Billings	5.25	4.95	4.10	5.73
1969				
Great Falls	5.80	5.65	4.76	5.88
Billings	5.87	5.53	4.60	6.285
1970				
Great Falls	6.30	6.11	5.21	6.69
Billings	6.27	5.93	5.10	6.69

^aNorth Central Montana Trades Council, "Wages for Great Falls."

^bPainters and Allied Trades, "Wages for Billings."

Electricians Union

Electricians wages remained very close to each other in Billings and Great Falls throughout the study period (Table 5). Great Falls had slightly higher wages in all years of the study except 1967. Wages in the two cities were equal during that year.

The most indicative aspect of the analysis of the electricians unions came from the index figures for the national average (Table 7). It is shown by these data that

TABLE 7

INDEX OF WAGE RATES - ELECTRICIANS UNION
1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	75.0	74.2	76.4
1961	80.4	78.3	79.4
1962	85.5	81.4	83.6
1963	88.6	84.7	86.2
1964	90.7	87.8	89.2
1965	92.7	90.9	91.5
1966	96.9	95.2	94.9
1967	100.0	100.0	100.0
1968	103.0	102.0	106.5
1969	116.4	114.0	117.1
1970	123.9	122.2	130.4

^aGreat Falls and Billings rates computed from data in Table 5.

^bU.S. Department of Labor, Handbook, p. 185.

beginning in 1968, both Billings and Great Falls electricians union wage rates began falling behind the rate of increase for the nation as a whole. In 1970 the disparity in the rates of increase widened considerably.

Painters Union

The Great Falls painters union had higher wages than the Billings painters union in all years of the study except 1961, when the wages were equal (Table 5). Great Falls widened the gap in hourly wage rates each year between 1962 and 1966. The greatest difference occurred during 1966, with wages in Great Falls \$.45 per hour higher than wages in Billings. From 1967 to 1970, the difference was narrowed to \$.11 per hour.

The indexes of wage rates for the painters unions shown in Table 8 reflect nearly the same pattern as the dollars and cents figures for the union. The rate of increase for Great Falls painters did not keep pace with the rates for Billings or the national average. By 1970, the index for Great Falls stood at only 121.1 as compared to the national average of 126.6. Billings managed a faster rate of increase in the latter years of the decade, finishing at 129.1 (Table 8).

TABLE 8
 INDEX OF WAGE RATES - PAINTERS UNION
 1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	75.5	78.4	74.9
1961	75.5	82.2	77.7
1962	81.3	86.0	80.6
1963	86.0	88.6	84.3
1964	90.6	91.1	87.3
1965	94.1	93.6	90.9
1966	97.6	94.9	94.6
1967	100.0	100.0	100.0
1968	103.0	103.7	106.3
1969	110.6	116.4	115.1
1970	121.1	129.1	126.6

^aGreat Falls and Billings rates computed from data in Table 5.

^bU.S. Department of Labor, Handbook, p. 185.

Plumbers Union

Wage rate increases for the Great Falls unions were relatively steady during the period of the study while rate increases in Billings varied considerably from year to year (Table 5). Great Falls experienced a higher wage rate until 1967, at which time wage rates in Billings exceeded those in Great Falls. Wage rates in Billings remained higher until 1970. The wages in both cities were equal that year.

The index of wage rates for Great Falls closely paralleled those of the national average throughout the period of the study (Table 9). The rate of increase in

TABLE 9
 INDEX OF WAGE RATES - PLUMBERS UNION
 1967=100

Year	Great Falls ^a	Billings ^a	National Average ^b
1960	73.9	67.9	75.3
1961	78.7	70.6	78.1
1962	81.6	73.0	81.1
1963	84.6	75.3	84.4
1964	87.9	84.2	87.8
1965	91.3	88.0	91.4
1966	95.2	91.7	94.6
1967	100.0	100.0	100.0
1968	105.5	106.6	106.8
1969	112.6	116.6	115.9
1970	128.1	124.4	130.5

^aGreat Falls and Billings rates computed from data in Table 5.

^bU.S. Department of Labor, Handbook, p. 185.

Billings was higher during the early years of the study, but tailed off in the post-1967 period to a rate that was lower than either Great Falls or the national average.

Analysis of General and Special
 Contractor Unions

General Contractor Unions

As was expected, average wages in the general contractor unions were less than the average wage of the seven unions as a group (Table 10). From 1960 through 1969, the average general contractor wage rates in Great Falls and Billings never varied more than \$.07 from each other. In

TABLE 10

AVERAGE WAGE RATES FOR SPECIAL^a AND GENERAL^b TRADE
 CONTRACTORS, AND FOR SEVEN SELECTED UNIONS^c
 IN BILLINGS AND GREAT FALLS, 1960-1970
 (Amounts in Dollars Per Hour Include Negotiated Fringes)

Year	General Contractors	Special Contractors	Seven Union Average
1960			
Great Falls	\$3.11	\$3.44	\$3.30
Billings	3.17	3.53	3.37
1961			
Great Falls	3.33	3.63	3.50
Billings	3.32	3.71	3.54
1962			
Great Falls	3.47	3.85	3.69
Billings	3.46	3.84	3.68
1963			
Great Falls	3.60	4.04	3.84
Billings	3.59	4.00	3.83
1964			
Great Falls	3.69	4.22	3.99
Billings	3.76	4.19	4.00
1965			
Great Falls	3.86	4.42	4.18
Billings	3.93	4.34	4.17
1966			
Great Falls	4.18	4.59	4.41
Billings	4.12	4.51	4.34
1967			
Great Falls	4.27	4.76	4.55
Billings	4.31	4.79	4.63
1968			
Great Falls	4.72	5.06	4.92
Billings	4.74	5.01	4.89
1969			
Great Falls	5.13	5.52	5.36
Billings	5.10	5.57	5.39
1970			
Great Falls	5.77	6.08	5.94
Billings	5.65	6.00	5.85

^aComputed from data in Table 5.

^bComputed from data in Table 1.

^cComputed from data in Tables 1 and 5.

some years Great Falls wage rates were higher and in others Billings led. The largest differential occurred from 1969 to 1970, during which period Great Falls wages rose \$1.05 compared to \$.91 for Billings. Despite this late surge by Great Falls, the performance of the two groups during the test period was generally comparable. Wages for this group rose 85.5 per cent during the decade for Great Falls and 78.2 per cent for Billings.

Special Contractor Unions

The average wage rates for the four special contractor unions included in this study were higher in both Great Falls and Billings than the average of all seven unions (Table 10). The difference in wage rates in Billings and Great Falls was never more than \$.09 per hour. Neither city had consistently higher wage rates than the other. No significant difference can be found in wage rates for this group. The eleven year percentage rise for Great Falls was 76.8. Billings wages rose 70 per cent during the same period.

Analysis of the Average Wage Rates for Seven Selected Unions in Billings and Great Falls

Average wage rates for the selected unions in Great Falls rose from \$3.30 in 1960 to \$5.94 in 1970. This compares to \$3.37 in 1960 and \$5.85 in 1970 for Billings

(Table 10). While it is true that average wages during the period rose \$.16 more in Great Falls than in Billings, the difference cannot be considered significant. The difference works out to an average increase of \$.014 per year more for Great Falls than for Billings. An F test analysis of these data revealed virtually no statistical significance in the \$.16 difference at the .01 level of confidence. There is no discernible city pattern of leadership in setting wage rates. Both cities shared wage leadership about equally, with Billings having higher average wages in five years and Great Falls in six.

If any pattern of leadership existed, it was found in the general contractor unions as a group. This group of unions achieved increases of 85.5 per cent and 78.2 per cent respectively in Great Falls and Billings. The special contractor unions were only able to achieve increases of 76.8 per cent in Great Falls and 70 per cent in Billings.

The analysis of the wage rate increases for the seven selected unions disclosed no perceptible pattern of increases for unions in Great Falls that could be attributed solely to the repeated expansion and contraction of the labor force experienced by the building trades unions in that city. On the contrary, there was some evidence that the unions in Great Falls and Billings use each others' total compensation per hour as a guide in the negotiation of contracts. The

most obvious and clear-cut example of this occurred in the compensation of wages for the iron workers union from 1960 - 1965 (Table 1).

Average wage rates remained very close in the two cities despite great differences in the number of persons employed in the two cities in the building trades unions (Figure 1). Comparisons of wages in Billings and Great Falls with national averages as of 1968 are presented in Table 11 and indicate that local wage rates were decidedly lower than the national average.

TABLE 11
COMPARISON OF WAGES AND FRINGE BENEFITS
U.S.,^a GREAT FALLS,^b AND BILLINGS^c
AVERAGES, 1968

Union	U.S. Average With Fringes	Great Falls	Billings
Carpenters	\$5.92	\$4.675	\$4.595
Iron Workers	6.18	5.70	5.85
Laborers	4.47	3.795	3.775
Bricklayers	6.31	5.30	5.25
Electricians	6.11	5.00	4.95
Painters	5.43	4.43	4.10
Plumbers	6.65	5.51	5.73

^aU.S. Department of Labor, Union Wages and Hours: Building Trades July 1, 1968 and Trend 1907-68, Bulletin No. 1621 (June, 1969), p. 10.

^bNorth Central Montana Trades Council, "Wages for Great Falls."

^cPainters and Allied Trades, "Wages for Billings."

As the indexes of wage rates presented in Tables 2 through 4 and 6 through 8 indicated, the majority of the seven unions studied were not achieving a rate of wage increase materially different from the national average.

CHAPTER III

CONCLUSION

The hypothesis stated at the beginning of this paper was not supported by the analysis of the data. Union wage rate increases in Great Falls and Billings followed essentially parallel courses during the period of the study. The action of union wage rates in the contract construction industry could only have had a neutral effect on economic development of Great Falls at worst.

Whereas wage rates in the contract construction industry clearly cannot be the cause of any adverse effects on economic development in Great Falls, other effects of federally sponsored construction on economic development cannot be ruled out. If economic development had been hindered, research will have to be carried out in other areas to disclose it. Some suggestions for possible areas to study in this context, as well as some areas concerning unionism, are presented in the following section.

Recommendations for Further Research

While the hypothesis that wage rate increases have adversely affected normal economic development in Great Falls

has been disproven, the basic question of the rate of development in the area remains unanswered. One facet of the problem which bears further study is the allocations of labor and capital resources. It is possible that the recurrent high demands for labor in the building trades sector to support federally financed construction activities forced postponement or abandonment of planned private construction. If planned private expansion has been curtailed to support federally funded projects, then the long term benefits from the federal projects must be compared to the expected benefits from the private projects curtailed. One study along this line which would provide a point of departure for further research has been conducted by Ben-Chieh Liu.¹

Two inter-related aspects of unionism in the building trades deserve further investigation. They are collective bargaining on a state-wide basis and labor mobility.

Currently, wages and fringe benefits are negotiated at the local level for each union. The result, even with comparable total compensation, is a diversity of wage plans and fringe benefits. In this respect, Montana is not

¹Ben-Chieh Liu, "Impacts of Defense Expenditures on Metropolitan Economy: A Case Study on St. Louis," Land Economics, XLVIII, No. 1 (February, 1972), pp. 401-405.

dissimilar from most of the nation.² An investigation into the exact extent of the diversity, and a subsequent study of the feasibility of state-wide negotiations should prove profitable.

Despite the differences in the types and amounts of fringe benefits earned by union members in Billings and Great Falls, there is evidence that labor mobility between the two cities is quite high (Figure 1). The extent of this labor mobility and its causes would also provide valuable information on the extent to which Montana is forced to draw on its labor resources to support federally financed construction.

²Alan L. Gustman and Martin Segal, "Wages, Wage Supplements, and the Interaction of Union Bargains in the Construction Industry," Industrial and Labor Relations Review, Vol. 25: No. 2 (January, 1972), pp. 179-185.

APPENDIX

The following tables are required data for submission of newly negotiated wage rates under President's Executive Order #11588.

TABLE B Page 1

PAINTERS AND ALLIED TRADES JOINT INDUSTRIES BOARD
(Wages and Fringes* for Selected Crafts in
Billings, Montana and Per Cent Increase
1960-73)

Local Wage Area	Asbestos Workers	Boiler- makers	Brick- layers	Carpen- ters
1960 Wages + Fringes*	4.10	3.85	3.75	3.20
1961 Wages + Fringes*	4.27	4.11	4.00	3.35
1961 Per cent Increase				
1962 Wages + Fringes*	4.50	4.31	4.10	3.50
1962 Per cent Increase				
1963 Wages + Fringes*	4.62	4.51	4.35	3.65
1963 Per cent Increase				
1964 Wages + Fringes*	4.79	4.51	4.35	3.775
1964 Per cent Increase				
1965 Wages + Fringes*	5.14	4.76	4.55	3.875
1965 Per cent Increase				
1966 Wages + Fringes*	5.49	5.16	4.75	4.035
1966 Per cent Increase				
1967 Wages + Fringes*	5.84	5.77	5.25	4.195
1967 Per cent Increase				
1968 Wages + Fringes*	6.21	5.77	5.25	4.595
1968 Per cent Increase				

TABLE B Page 1--Continued

Cement Finishers	Elec-tricians	Elevator con-structors	Glaziers	Iron workers	Lathers
	3.60			3.75	3.25
	3.80			3.875	3.50
	3.95			4.05	3.50
	4.11			4.20	3.625 1
	4.26			4.45	3.75
	4.41			4.70	3.875
	4.62		3.625	4.95	4.035
	4.85		3.725	5.20	4.195
	4.95		3.825-Mar. 3.975-Sept	5.85	4.45

TABLE B Page 2

Local Wage Area	Asbestos Workers	Boiler- makers	Brick- layers	Carpen- ters
1969 Wages + Fringes*	7.02	6.47	5.87	4.995
1969 Per cent Increase				
1970 Wages + Fringes*	7.92	7.92	6.27	5.395
1970 Per cent Increase				
1971 Wages + Fringes*				
1971 Per cent Increase				
1972 Wages + Fringes*				
1972 Per cent Increase				
1973 Wages + Fringes*				
1973 Per cent Increase				

TABLE B Page 2--Continued

Cement Finishers	Elec-tricians	Elevator con-structors	Glaziers	Iron workers	Lathers
5.15	5.53		4.025-Mar. 4.47 -Sept.	6.20	4.20
	5.93	6.70	5.53	7.07	5.10

Deferred wage on Glaziers is 95 per cent mean average of 17 crafts. In 1972 it will be 100 per cent or 5.81 at the present rate. Allowed increases in all crafts will bring the 5.81 figure up substantially.

TABLE B Page 3

PAINTERS AND ALLIED TRADES JOINT INDUSTRIES BOARD
(Wages and Fringes* for Selected Crafts in
Billings, Montana and Per Cent Increase
1960-73)

Local Wage Area	Operating Engineers	Painters	Your Craft	Pipe Fitters
1960 Wages + Fringes*	3.18	3.10		3.65
1960 Per cent Increase				
1961 Wages + Fringes*	3.405	3.25		3.80
1961 Per cent Increase				
1962 Wages + Fringes*	3.585	3.40		3.925
1962 Per cent Increase				
1963 Wages + Fringes*	3.765	3.50		4.05
1963 Per cent Increase				
1964 Wages + Fringes*	3.945	3.60		4.53
1964 Per cent Increase				
1965 Wages + Fringes*	4.115	3.70		4.73
1965 Per cent Increase				
1966 Wages + Fringes*				
1966 Per cent Increase				
1967 Wages + Fringes*	4.665	3.95		5.375
1967 Per cent Increase				
1968 Wages + Fringes*	5.04	4.10		5.73
1968 Per cent Increase				

TABLE B Page 3--Continued

Plas- terers	Plumbers	Roofers	Sheet Metal Workers	Team- sters	Laborers
3.30	3.65		3.38		2.57
3.45	3.80		3.50		2.72
3.55	3.925		3.65		2.82
3.70	4.05		3.85 1		2.925
3.825	4.53		3.95		3.055
3.925	4.73		4.075		3.205
4.08	4.93		4.20		3.375
4.23	5.375		4.40		3.525
4.50	5.73		4.56		3.775

TABLE B Page 4

Local Wage Area	Operating Engineers	Painters	Your Craft	Pipe Fitters
1969 Wages + Fringes*	5.69	4.60		6.285
1969 Per cent Increase				
1970 Wages + Fringes*	6.14	5.10		6.69
1970 Per cent Increase				
1971 Wages + Fringes				
1971 Per cent Increase				
1972 Wages + Fringes*				
1972 Per cent Increase				
1973 Wages + Fringes*				
1973 Per cent Increase				

*Fringes include Health and Welfare, Pensions, Vacations and others which are calculated and/or contributed based on the hours worked.

TABLE B Page 4--Continued

Plas- terers	Plumbers	Roofers	Sheet Metal Workers	Team- sters	Laborers
4.75	6.285	4.575	5.06		4.105
5.20	6.69		5.66		4.475

TABLE B Page 1

NORTH CENTRAL MONTANA BUILDING & CONSTRUCTION TRADES COUNCIL
(Wages and Fringes* for Selected Crafts in Great Falls,
Montana and Per Cent Increase 1960-75)

Local Wage Area	Operating Engineers	Painters	Pipe Fitters	Plas-terers
1960-Wages & Fringes*	3.484		3.81-3.86	
1961-Wages & Fringes*	3.635	3.25	4.01-4.11	
1961 Per cent Increase	4.3			
1962-Wages & Fringes*	3.835	3.50	4.26	
1962 Per cent Increase	5.5			
1963-Wages & Fringes*	4.035	3.70	4.42	
1963 Per cent Increase	5.2			
1964-Wages & Fringes*	4.235	3.90	4.59	
1964 Per cent Increase	5.0			
1965-Wages & Fringes*	4.405	4.05	4.77	
1965 Per cent Increase	4.0			
1966-Wages & Fringes*	4.64	4.20	4.97	
1966 Per cent Increase	5.3			
1967-Wages & Fringes*	4.935	4.30	5.22	
1967 Per cent Increase	6.4			
1968-Wages & Fringes*	5.35	4.43	5.51	
1968 Per cent Increase	8.4			
1969-Wages & Fringes*	6.05	4.76	5.88	
1969 Per cent Increase	13.1			

TABLE B Page 1--Continued

Plumbers	Roofers	Sheet Metal Workers	Teamsters	Laborers
3.81-3.86	3.25	3.50	3.035	2.62
4.01-4.11	3.40	3.67	3.035	2.69
	4.6		--	2.7
4.26	3.55	3.79	3.255	2.825
	4.4		7.2	5.0
4.42	3.70	4.12	3.495	2.875
	4.2		7.4	1.8
4.59	3.80	4.27	3.655	2.915
	2.7		4.6	13.9
4.77	3.80	4.37	3.805	3.205
	-0-		4.1	9.9
4.97	3.95	4.55	3.965	3.375
	3.9		4.2	5.3
5.22	4.05	5.00	4.26	3.525
	2.5		7.4	4.4
5.51	4.15	4.95	4.51	3.795
	2.4		5.9	7.7
5.88	4.55	5.45	4.76	4.195
	9.6		5.5	10.5

TABLE B Page 2

Local Wage Area	Operating Engineers	Painters	Pipe Fitters	terers
1970 Wages & Fringes*	6.45	5.21	6.28-6.69	
1970 Per cent Increase	6.6			
1971 Wages & Fringes*	7.43	5.51	7.40	
1971 Per cent Increase	15.2			
1972 Wages & Fringes*	8.27		8.11 to Feb.28,'73	
1972 Per cent Increase	11.3			
1973 Wages & Fringes*	9.02			
1973 Per cent Increase	9.1			

*Fringes include Health and Welfare, Pensions, Vacations and others which are calculated and/or contributed based on hours worked.

TABLE B Page 2--Continued

Plumbers	Roofers	Sheet Metal Workers	Teamsters	Laborers
6.28-6.69	4.95	5.97	5.18	4.695
	8.7		8.8	11.9
7.40	5.95	6.47	6.18	5.695
	20.2		19.3	21.3
	6.80	7.02	7.03	6.545
	14.3		13.8	14.9
	7.55	7.27	7.78	7.295
	11.0	1	9.6	11.5

TABLE B Page 3

NORTH CENTRAL MONTANA BUILDING & CONSTRUCTION TRADES COUNCIL
 (Wages and Fringes* for Selected Crafts in Great Falls,
 Montana and Per Cent Increase 1960-75)

Local Wage Area	Asbestos Workers	Boiler- makers	Brick- layers	Carpenters
1960 Wages & Fringes*		3.85	3.00	3.00
1961 Wages & Fringes*		4.00	3.25	3.55
1961 Per cent Increase			8.3	4.4
1962 Wages & Fringes*		4.25	3.50	3.70
1962 Per cent Increase			7.7	4.2
1963 Wages & Fringes*		4.45	3.75	3.85
1963 Per cent Increase			7.1	4.1
1964 Wages & Fringes		4.55	4.00	3.95
1964 Per cent Increase			6.7	2.6
1965 Wages & Fringes*		4.70	4.35	4.10
1965 Per cent Increase			8.8	3.8
1966 Wages & Fringes*		4.80	4.47	4.225
1966 Per cent Increase			2.8	3.0
1967 Wages & Fringes*		5.25	4.67	4.325
1967 Per cent Increase			4.5	2.4
1968 Wages & Fringes*		5.45	5.30	4.675
1968 Per cent Increase			13.5	8.1
1969 Wages & Fringes*		6.00	5.80	5.125
1969 Per cent Increase			9.4	9.6

TABLE B Page 3--Continued

Cement Finishers	Elec- tricians	Elevator constructors	Glaziers	Iron Workers	Lathers
3.50	3.64		2.67½	3.70	
3.60	3.90		2.78	3.75	
	9.3				
3.80	4.15		3.05	3.87½	
	6.4				
3.95	4.30		3.05	4.05	
	3.6				
4.10	4.40		3.05	4.20	
	2.3				
4.20	4.50		3.40	4.45	
	2.3				6.0
4.42½	4.70		3.55	4.95	
	4.4				11.2
4.57½	4.85		3.75	4.95	
	3.2				-0-
5.03	5.00		4.25	5.70	
	3.1				15.2
5.43	5.65		4.53	6.10	
	13.0				7.0

TABLE B Page 4

Local Wage Area	Asbestos Workers	Boiler- makers	Brick- layers	Carpenters
1970 Wages & Fringes*		7.10	6.30	5.575
1970 Per cent Increase			8.6	8.8
1971 Wages & Fringes*		7.95	7.30	6.575
1971 Per cent Increase			15.9	17.9
1972 Wages & Fringes*		8.75	8.15	7.425
1972 Per cent Increase			11.6	12.9
1973 Wages & Fringes*			8.90	8.175
1973 Per cent Increase			9.2	10.1

TABLE B Page 4--Continued

Cement Finishers	Elec- tricians	Elevator constructors	Glaziers	Iron Workers	Lathers
5.83	6.11		4.73	7.03	
		8.1			15.2
5.83 to April 14	7.11		5.05	8.03	
		16.4			14.2
	8.12			8.88	
		14.2			10.6
	-			9.63	
					8.4

NORTH CENTRAL MONTANA BUILDING & CONSTRUCTION TRADES COUNCIL^a

Organization & Local Union #	Present Wage	Foreman's Wage	Next Adjustment	Health & Welfare	Pension	Vacation
PAINTERS LOCAL UNION # 260	5.25	25¢ per hour above highest paid employee		21¢ per hour	---	---
LABORERS INTERNATIONAL LOCAL UNION # 273	4.74 minimum	50¢ per hour over highest laborers rate supervised	10/1/71	25¢	15¢	---
IBEW LOCAL UNION #122	6.35	50¢ per hour over	3/1/72	20¢ per hour	1%	none
PLUMBERS & PIPE- FITTERS LOCAL UNION #139	6.66	Foreman 15% above scale. Gen Foreman 20% above	3/1/72 7.21	 35¢ hour	35¢	54¢ hour deducted from pay
IRON WORKERS LOCAL UNION #815 & #708	6.88	Not less than 40¢ per hour above journeyman scale		35¢ per hour	50¢ per hour	---

45

BRICKLAYERS LOCAL UNION #3	6.80	7.05	4/1/72	25¢ per hour	---	---
CARPENTERS LOCAL UNION #286	7/1/71- 5.47½	7/1/71- 5.97½	5/1/72	25¢ per hour	35¢ per hour	none
	11/1/71- 5.72½	11/1/71- 6.22½				

^aAuthor's Note: This table includes only the seven selected unions.

NORTH CENTRAL MONTANA BUILDING & CONSTRUCTION TRADES COUNCIL^a--Continued

Organization & Local Union #	Overtime Pay	Holiday Pay	Appr. Training	Contract Expires	Travel Pay	Subsistence or Per Diem
PAINTERS LOCAL UNION #260	Double time	Double time if worked	---	4/30/72	Straight time pay each hour spent in traveling 15¢ per mile	12.00 per day
LABORERS INTERNATIONAL LOCAL UNION #273	Double time	Double time if worked	3¢ per hour	4/30/72	10¢ per mile	20-30-2.00 30-40-3.00 40-50-4.00 50 & over-6.00 per day
IBEW LOCAL UNION #122	Double time	Double time if worked	1½% per hour	3/1/73	13¢ per mile both ways	After 50 miles - \$13.00 per day
PLUMBERS & PIPE-FITTERS LOCAL UNION #139	1½ for jobs under \$2500 Double time for jobs over \$2500	Double time if worked	4¢	2/28/73	Straight time pay for travel plus 15¢ per mile	\$15.00 per day to 2/28/73

47

IRON WORKERS LOCAL UNION #815 & #708	Double time	Double time if worked	4¢	6/30/72	Bus fare and straight time pay	7/1/71 \$10.00 per day
BRICKLAYERS LOCAL UNION #3	Double time	Double time if worked	---	3/31/74	4/1/71 up to 60 miles from Gt. Falls - 10¢ per mile Over 60 miles-\$10 per day. 4/1/72 up to 60 miles from Gt. Falls - 15¢ per mile Over 60 miles - \$12.00	
CARPENTERS LOCAL UNION #286	Double time	None	---	4/30/74	0-20 Free 20-30 3.00 30-40 4.00 40-50 5.00 50-60 6.00 Over 60- 8.00	—

^aAuthor's Note: This table includes only the seven selected unions.

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