

November 11, 2023

Report on the Loss of Earnings for Nancy J. Williams

[Demonstration Only — Fictional Names & Data; Not for Reliance]

Total Economic Loss of Market Work & Household Services Due to Death

Best Estimate: \$2,506,239

Conservative Subtotal: \$2,279,346

Absolute Lower Bound Estimate: \$1,810,766

This report is based upon information provided by the office of:

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Case No. 12-CI-00940; Nancy Williams v. ACME Construction, Inc.; In Division Two (2) of the Travis County Civil District Court

Information for Nancy Williams

Date of Birth: February 9, 1980

Date of Accident: October 27, 2023

Years of Age: 43.71

Expected Worklife: 21.44 years [2]

Education: Bachelor's Degree, The University of Texas at Tyler

Occupation: On-Site Construction Manager

Location: Travis County, Texas

Gender: Female

Family: Married to Bruce Williams (03/15/1978),

Mother of Sarah Mary Williams (09/16/2012)

1. Summary

Purpose. The purpose of this report is to estimate the loss of earning capacity resulting from the death of Mrs. Nancy J. Williams on October 27, 2023.

Framework. This report estimates economic damages related to loss of earning capacity consistent with Texas practice; the trier of fact determines any award.

Best vs. Lower-Bound Inputs. The lower-bound estimate is based on the average of Mrs. Williams’s last five years of compensation. Because Mrs. Williams received a significant and permanent raise in 2020, the average of the last three years more accurately reflects her earning capacity at the time of death. Earnings were reported on Mrs. Williams’s IRS tax forms and converted to 2023 dollars [1].

Compensation vs. Wages. “Compensation” here means wages plus employer-paid benefits (see table). Using compensation, rather than wages alone, avoids understating the value of employment-based benefits.

Year	Raw Earnings	Earnings in 2023 Dollars	Compensation in 2023 Dollars
2022	\$123,076	\$128,142	\$149,926
2021	\$121,983	\$137,168	\$160,487
2020	\$122,874	\$144,661	\$169,253
2019	\$105,437	\$125,664	\$147,027
2018	\$101,938	\$123,635	\$144,653

In addition to Mrs. Williams’ raw earnings, her employer, ACME Construction, Inc. provided health care benefits and Social Security payments. Per employer records provided by Mr. Williams, I determined the benefits ratio applied to her wages at ACME Construction, Inc., to be 17% (exclusive of the 5% employer 401(k) match, which is omitted to remain conservative). I performed a reasonableness check against the BLS ECEC to confirm validity [8].

Averages used in calculations:

Lower-bound compensation average (2018–2022): \$154,269.

Best-estimate compensation average (2020–2022): \$159,889.

2. Lost Earning Capacity

All amounts are stated in constant 2023 dollars [1]. Total Worklife Expectancy (TWE) already embeds periods not working (unemployment, disability, labor-force exits) [2], so no separate unemployment haircut is applied here.

Best Estimate of Lost Workplace Earning Potential Due to Death

Gross Earning Capacity	\$159,889	(Base Compensation)
<i>Less: Federal Income Taxes</i>	<i>-\$24,463</i>	<i>(Approx 15.3% effective tax rate) [9]</i>
<i>Less: Personal Consumption</i>	<i>-\$31,658</i>	<i>(Approx 19.8% maintenance deduction) [9]</i>
Net Annual Loss	\$103,768	(Recoverable Loss under § 18.091)
x Expected Worklife	21.44	Years
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Total Economic Loss	\$2,224,785	

Lower Bound Estimate of Lost Workplace Earning Potential Due to Death

Gross Earning Capacity	\$154,269	(Base Compensation)
<i>Less: Federal Income Taxes</i>	<i>-\$23,603</i>	<i>(Approx 15.3% effective tax rate) [9]</i>
<i>Less: Personal Consumption</i>	<i>-\$30,545</i>	<i>(Approx 19.8% maintenance deduction) [9]</i>
Net Annual Loss	\$100,121	(Recoverable Loss under § 18.091)
x Expected Worklife	21.44	Years
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Total Economic Loss	\$2,146,585	

Note: Mrs. Williams's earnings records show a material step-increase in 2020 relative to prior years, consistent with a permanent raise. Presenting losses in constant 2023 dollars with no real growth (and using flat three-year or five-year averages) does not model future promotions, skill-price growth, or role progression. Accordingly, the figures above should be interpreted as conservative; even the "best estimate" likely understates Mrs. Williams's long-run earning capacity.

3. Value of Lost Household Services

On November 9, 2023, I interviewed Mr. Bruce Williams regarding Mrs. Williams’s household contributions. He reported that she “took care of everything,” including routine household chores, childcare, yardwork, and minor home repairs. Based on this interview, I concluded that Mrs. Williams provided household services at a level above the national average. To remain conservative, however, I value her time using the 2022 national average daily hours for women [3].

For wage rates, the best-estimate values household services using the simple average of the mean hourly wages for Maids and Housekeeping Cleaners, Childcare Workers, and Landscaping and Groundskeeping Workers reported in the Bureau of Labor Statistics Occupational Employment and Wage Statistics for Texas (May 2023) [4]. For the lower-bound estimate, I apply the federal statutory minimum wage, which serves as a conservative legal floor for outsourcing these services.

BLS OEWS Data [4]

Occupation	Mean Hourly Wage
Maids and Housekeeping Cleaners (37-2012)	\$14.47
Childcare Workers (39-9011)	\$14.03
Landscaping and Groundskeeping Workers (37-3011)	\$17.61
Average	\$15.37

Best Estimate of Household Earning Capacity

\$ 15.37 (Household Services Average Wage)
x 2.34 (Household activity hours per day)
x 365 (Days in a year)
x 21.44 (Years of expected worklife)

\$ 281,454

Lower Bound Estimate of Household Earning Capacity

\$ 7.25 (Texas Minimum Wage)
x 2.34 (Household activity hours per day)
x 365 (Days in a year)
x 21.44 (Years of expected worklife)

\$ 132,761

4. Total Estimate of Lost Earning Potential Due to Death

All amounts are in constant 2023 dollars.

Best Estimate (constant 2023 dollars, total-offset)

\$ 2,224,785	(Loss of Market Earning Potential)
+ \$ 281,454	(Loss of Household Work)
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\$ 2,506,239	

Conservative Subtotal (pre-discount, constant 2023 dollars)

\$ 2,146,585	(Loss of Market Earning Potential)
+ \$ 132,761	(Loss of Household Work)
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\$ 2,279,346	

5. Discounting Factors for Time Value of Money [Optional, would usually be omitted for Total-Offset]

Best Estimate - Constant-Dollar (Total-Offset) Framework.

All best-estimate figures are presented in constant 2023 dollars with no separate real discount or real growth applied [5]. As is consistent with *Francisco Javier Rangel v. Bobby Robinson & Edward McDonald*, No. 01-05-00318-CV (Tex. App.—Houston [1st Dist.] Mar. 1, 2007) (mem. op.) and *Missouri Pac. R.R. Co. v. Kimbrell*, 334 S.W.2d 283, 286 (Tex. 1960), inflation and discount rates are assumed to cancel each other out. Under this total-offset presentation, no additional “time value” adjustment is applied to the constant-dollar stream. Therefore, the best estimate remains at \$2,506,239.

Absolute Lower-Bound Estimate - Nominal Escalation and 20-year Treasury Discount.

For the Absolute lower-bound estimate, annual losses are first escalated by the 20-year Breakeven Inflation Rate [6] and then discounted at the nominal 20-year U.S. Treasury yield as of the valuation date (or nearest prior business day) [7]. Algebraically, this is equivalent to discounting a constant-dollar stream at a real rate derived from those two inputs. Present values use the mid-year convention, meaning each year’s cash flow is assumed to occur on average six months into the year.

20-year Breakeven Inflation Rate (π): 2.61% [6]

20-year U.S. Treasury yield (r): 4.93% [7]

Total Worklife Expectancy (n): 21.44 [2]

$$PV = 2,279,346 / n * \left(\frac{(1+\pi)^{1/2}}{(1+r)^{1/2}} \right) * \left(\frac{1 - \left(\frac{1+\pi}{1+r}\right)^n}{1 - \frac{1+\pi}{1+r}} \right) = 1,810,766$$

6. Summary

This report provides two complementary valuations of Mrs. Williams's loss of earning capacity. The best estimate is presented in constant 2023 dollars under a total-offset framework, consistent with Texas authority recognizing that inflation and discount rates may be treated as offsetting. It uses Mrs. Williams's post-raise compensation (2020–2022 average, inclusive of employer-paid benefits), multiplies by her Total Worklife Expectancy, and adds the replacement cost of household services at a market occupation-mix rate. Because this framework does not assume real wage growth, does not model promotions or skill-price progression, and values household time at national-average hours, the best estimate should be interpreted as conservative. The best estimate total is \$2,506,239 as of the valuation date.

The lower-bound estimate is designed as a litigation-conservative floor. It begins with the more conservative five-year compensation average (which includes pre-raise years), values household services at a minimum-wage rate with national-average hours, and then applies a nominal escalate-then-discount approach: annual losses are escalated at the 20-year breakeven inflation rate and discounted at the 20-year U.S. Treasury yield using a mid-year convention. This produces a present value of \$1,810,766. By construction, this lower-bound materially understates expected earnings over the horizon because it layers multiple conservative choices (older earnings mix, minimum-wage household replacement, and a market discount rate that incorporates risk and liquidity premia). It is best viewed as an absolute lower bound rather than a central forecast.

Sources and Assumptions

- [1] Yearly income and benefit totals were converted to 2023 dollars using the US Bureau of Labor Statistics CPI Calculator.
<https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=1.00&year1=201805&year2=202305>
- [2] Worklife expectancy is based upon women with a college degree as reported in Kurt V. Krueger and Frank Slesnick “Total Worklife Expectancy” Journal of Forensic Economics 25(1), 2014 pp. 51-70.
- [3] Household hours worked is based upon “Table 1. Time spent in primary activities and percent of the civilian population engaging in each activity, averages per day by sex, 2022 annual averages” US Bureau of Labor Statistics.
- [4] BLS Occupational Employment and Wage Statistics for Texas. May 2023.
<https://data.bls.gov/oes/#/area/4800000>
- [5] As is consistent with Francisco Javier Rangel v. Bobby Robinson & Edward McDonald, No. 01-05-00318-CV (Tex. App.—Houston [1st Dist.] Mar. 1, 2007) (mem. op.) and Missouri Pac. R.R. Co. v. Kimbrell, 334 S.W.2d 283, 286 (Tex. 1960), inflation and discount rates are assumed to cancel each other out.
- [6] 20-year Breakeven Inflation Rate of 2.61% as of November, 2023.
<https://fred.stlouisfed.org/series/T20YIEM>
- [7] 20-Year Treasury Yield of 4.93% as of November 10, 2023.
https://home.treasury.gov/resource-center/data-chart-center/interest-rates/TextView?type=daily_treasury_yield_curve&field_tdr_date_value=2023
- [8] BLS ECEC (reasonableness check on benefits) <https://www.bls.gov/ecec/home.htm>
- [9] Personal Consumption factors based on Patton-Nelson Personal Consumption Tables 2021-2022 (Update for 2-person household). Tax rates based on effective federal tax rates for the decedent's income bracket (IRS).