



EXECUTIVE SUMMARY

Summary of Results

WAGES examines the impact an apprenticeship’s model of governance and funding has on apprentice and taxpayer outcomes for the program, comparing the performance of joint labor-management partnership (“JLMP”) apprenticeship programs in Washington state to non-union multi-employer partnership (“MEP”) programs,¹ publicly subsidized employer apprenticeships (“PSEA”)² and plant programs. WAGES’ analysis of Washington state and federal data for 2017 finds that, overall, JLMP apprenticeship programs outperform non-union apprenticeship programs in enrollment, completion rates, journey wages and the inclusion and performance of underrepresented groups. A detailed analysis of large programs in the construction trades reveals that JLMP programs also provide a greater return on investment (“ROI”) for individual apprentices and taxpayers than comparable MEP programs. Moreover, while public officials have invested millions of taxpayer dollars in newly created PSEA programs, WAGES’ analysis finds that JLMP programs in high-growth and strategic industries actually do a better job of providing high-wage, sustainable careers for apprentices. In light of these results, officials should ensure that tax dollars support apprenticeships exhibiting the unique characteristics that make JLMP programs successful. Apprenticeship programs that receive public funding should provide high journey wages, ensure the democratic participation of workers in governance and standard setting, and employ a sustainable funding model that doesn’t require taxpayers to finance day-to-day operations.

Data and Methodology

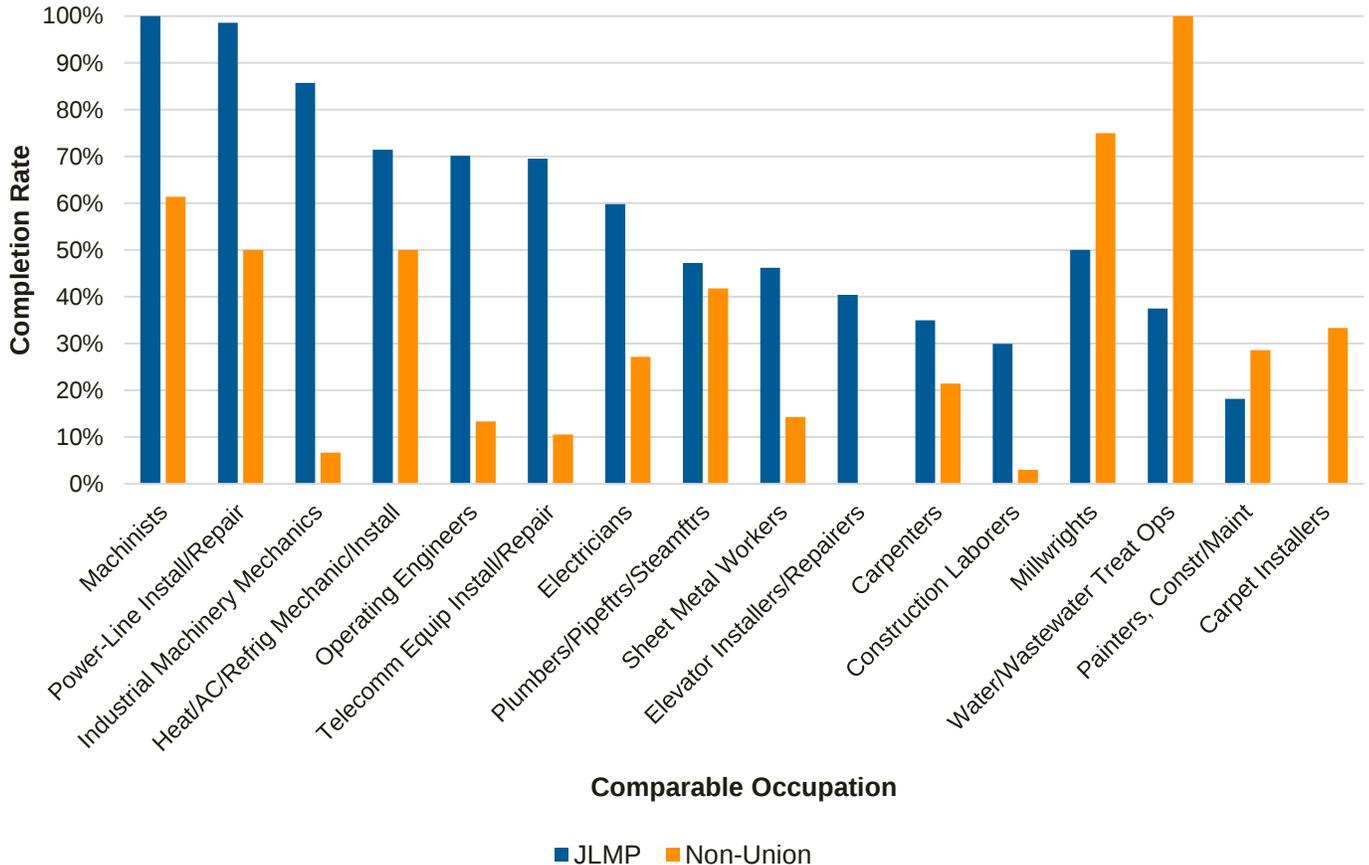
- **WAGES relies on individual apprentice and journey wage data from L&I, occupational wage and demographic data from BLS, and economic estimates from the WAGES ROI Model.** The most recent data available are combined to examine the performance of different apprenticeship models.
- **WAGES uses completion rates,³ journey wages,⁴ inclusion of underrepresented groups, net impact and ROI to compare JLMP and non-union apprenticeships.** The Study compares JLMP and non-union (MEP, PSEA and Plant programs) overall performance, the ROI of JLMP and MEP programs, and alternatives to PSEA programs. WAGES is the first comprehensive examination of the performance of different apprenticeship models in Washington state.
- **The WAGES ROI Model uses completion status, journey wage, average wage, hours worked and occupational wage data to compare twelve established JLMP and MEP construction apprenticeship programs.** The Model uses realistic assumptions to estimate the net impact and ROI for individuals and taxpayers of programs training apprentices in the six largest comparable occupations.
- **WAGES analyzes the performance of three Washington PSEA programs serving high-growth and strategic industries and compares them to similar JLMP programs.** WAGES examines completion rates, journey wages and local occupational average wages to compare the PSEA and JLMP models.

Program Performance

Enrollment and Completion Rates

- JLMP apprenticeship programs train 83% of all apprentices in Washington.** In 2017, 14,253 apprentices trained in 205 JLMP programs, while 2,897 apprentices trained in 98 MEP, PSEA and Plant non-union programs.
- The completion rate for JLMP programs was 8 percentage points higher (43.0% vs. 34.8%) than non-union programs.** In 2017, 6 of every 7 successful apprentices in Washington state journeyed out of JLMP programs.
- Across comparable occupations,⁵ JLMP programs had a completion rate that was more than 11 percentage points higher than non-union programs (44.0% vs. 32.2%).** JLMP programs had a higher completion rate in 12 of 16 occupations where both JLMP and non-union programs trained apprentices (**Figure 1**).

Figure 1. Successful Completion Rate for Apprentices by Occupation
2017 Apprentices by Comparable Standard Occupational Classification

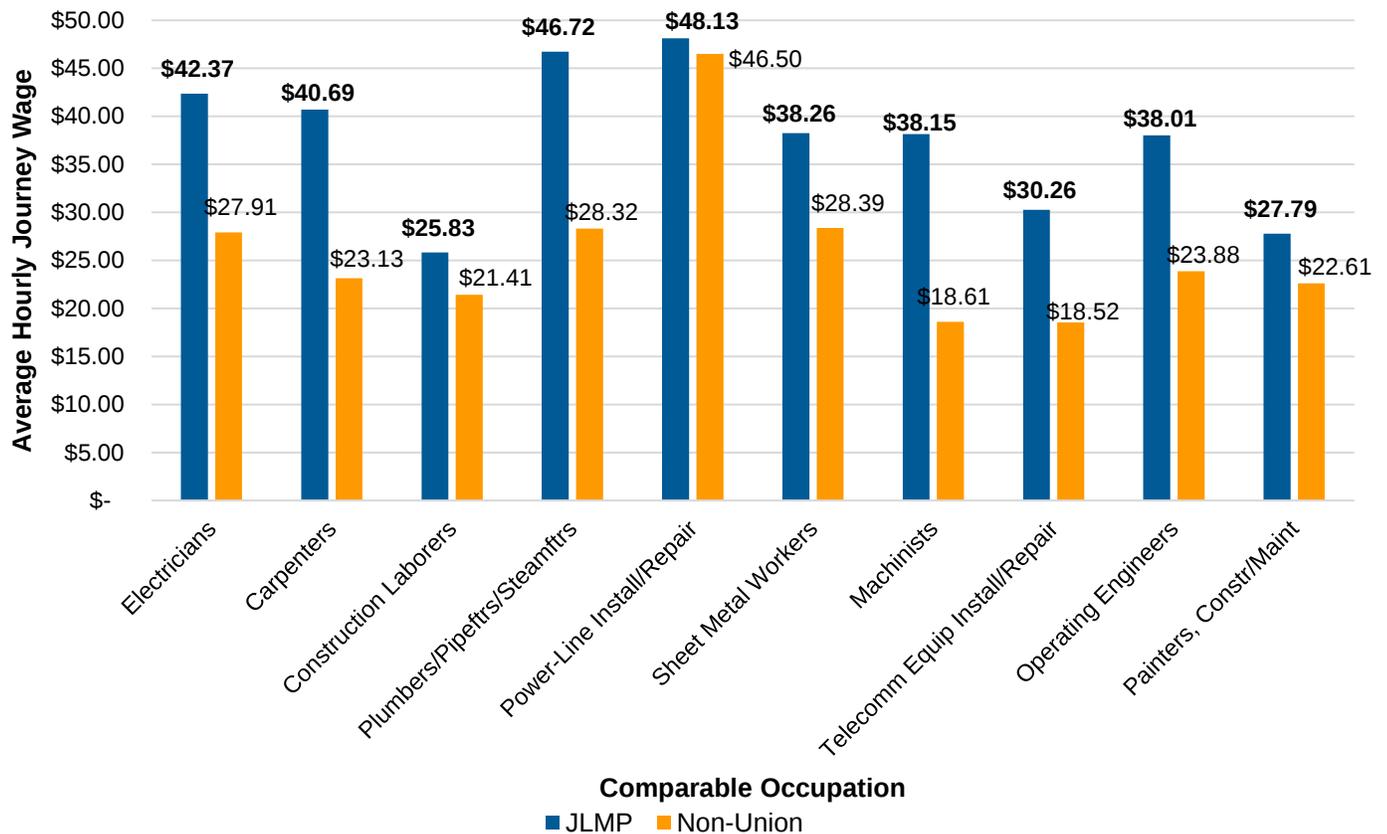


Source: ARTS, Washington State Department of Labor and Industries.

Journey Wages

- **Successful JLMP apprentices achieved journey wages 50.1% higher than non-union completers (\$34.42/hour vs. \$22.93/hour).** JLMP journey wages were higher across the 10 largest comparable occupations (**Figure 2**) and 13 of 14 comparable occupations overall, sometimes more than doubling non-union journey wages.

Figure 2. Average Journey Wages of 2017 Completing Apprentices
10 Largest Comparable SOC Occupations



Note: All dollar values are expressed in May 2017 dollars. Journey wages in WAGES, drawn from L&I data, represent the lowest regional journey wage for each apprenticeship program. However, some statewide programs pay significantly higher wages in certain regions. L&I reports a journey wage of \$26.01/hour for the Northwest Laborers - Employers Training Trust Fund apprenticeship, for instance, but the program pays Journeyman General Laborers \$37.27/hour in Western Washington. Journey wage data should therefore be interpreted as a lower bound estimate.

Source: Apprenticeship Program Details, Washington Department of Labor and Industries; Apprenticeship Registration and Tracking System, Washington State Department of Labor and Industries.

- **JLMP journey wages placed successful apprentices 16.4% above their local occupational average,⁶ while non-union journey wages were 15.2% below.** For 40 of 51 occupations, JLMP journeymen finished their program earning above the average local hourly wage, compared to just 10 of 30 occupations for non-union programs.
- **In 14 comparable occupations, JLMP journey wages exceeded the local occupational average 100.0% of the time, while non-union journey wages did so in only 35.7% of fields.** JLMP program journey wages were higher than the local occupational average wage for 14 of 14 occupations, while non-union programs exceeded the average for only 5 of 14 occupations.

Gender Inclusion and Outcomes

- **JLMP programs increased female participation relative to occupational averages by a larger amount than non-union programs, training 571 more female apprentices than expected.** In 2017, the weighted average of female participation in JLMP programs was more than double the national average for those occupations (8.8% vs. 4.2%). For non-union programs, participation was also slightly above the weighted national occupational average for occupations they trained (13.5% vs. 11.3%).
- **For 14 comparable occupations, JLMP programs boosted weighted female participation by significantly more than non-union programs.** JLMP programs more than tripled weighted average national female participation (7.9% vs. 2.8%) in these male-dominated fields, while non-union programs increased it more modestly (4.9% vs. 3.1%).
- **Non-union programs enrolled a slightly higher percentage of women overall, driven by two apprenticeships serving the healthcare and beauty industries.** Women comprised 13.6% of non-union and 8.4% of JLMP apprentices in 2017. However, women training to be medical and dental assistants in Washington Association for Community Health (“WACH”) programs, and beauty industry workers in SAGE Apprentice Programs, represented 49.9% of all non-union female apprentices.

Table 1. Average Journey Wages for Completing Female Apprentices in 2017
9 Largest L&I Occupations for Completing Women

Rank	JLMP Programs			Non-Union Programs		
	Occupation	#	Journey Wage	Occupation	#	Journey Wage
1	Workers Comp Adjudicator	32	\$22.76	Medical Assistant	22	\$12.13
2	Laborer	15	\$25.25	Dental Assistant	4	\$13.29
3	Retail Meatcutter	10	\$22.37	Machinist (Aircraft Oriented)	2	\$18.61
4	Fire Fighter	8	\$21.36	Cosmetologist	2	\$12.13
5	Carpenter	7	\$40.69	Carpenter	1	\$22.56
6	Electrician	7	\$42.24	Production Welder	1	\$27.85
7	Operating Engineer	5	\$36.92	Barber	1	\$12.13
8	Instructional Assistant	5	\$13.79	Web Developer	1	\$36.40
9	Ironworker	3	\$32.03	Dispensing Optician	1	\$17.47
All	All Occupations	116	\$27.03	All Occupations	35	\$14.23

Note: Journey wages in WAGES represent the lower bound estimate for journey wages in each occupation.

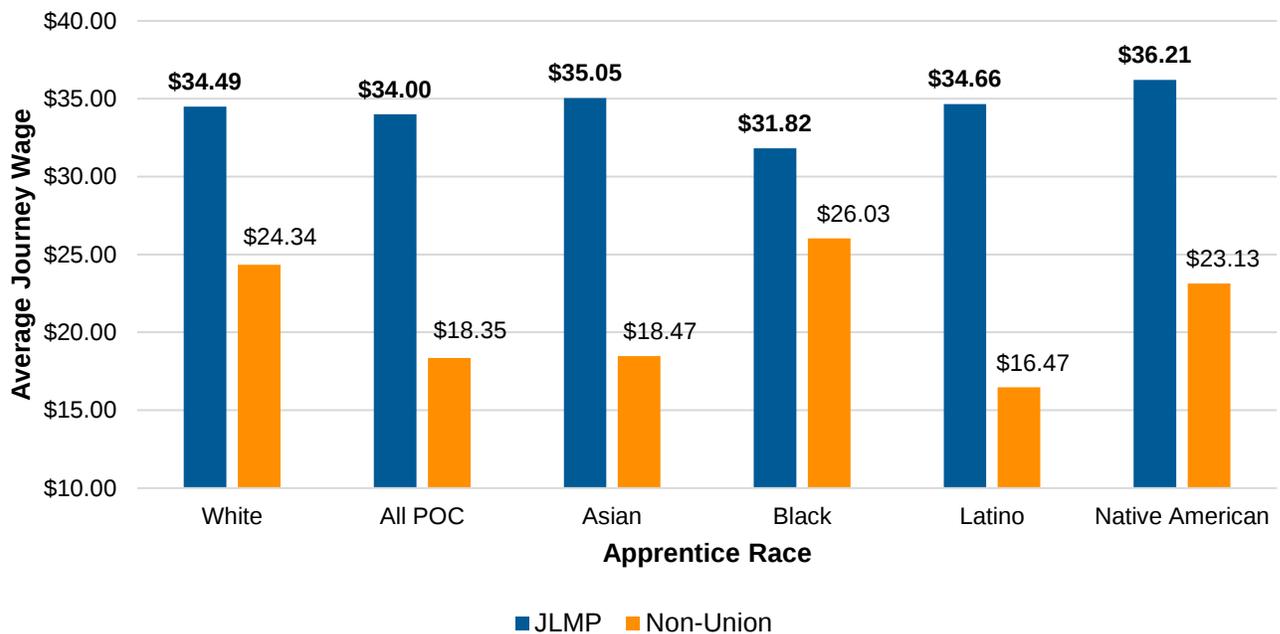
Source: Apprenticeship Program Details, Washington Department of Labor and Industries; Apprenticeship Registration and Tracking System, Washington State Department of Labor and Industries.

- **In 2017 in comparable occupations, female JLMP apprentices completed their programs at 8 times the rate of non-union female apprentices.** Approximately 1 in 3 JLMP apprentices completed their programs in 7 comparable fields, compared to only 1 in 25 non-union apprentices.
- **Female completion rates for all occupations in JLMP (41.3%) and non-union (41.7%) programs were nearly identical, driven almost entirely by high completion rates in the WACH program.** Overall, 26 of the 35 women who successfully completed non-union programs in 2017 were WACH medical and dental assistants, who journeyed out earning \$12.13/hour and \$13.29/hour, respectively.
- **Female JLMP apprentices earned journey wages that were twice as high as non-union female journey wages (\$27.03 vs. \$14.23).** In the one comparable occupation, carpentry, JLMP journeywomen out-earned non-union journeywomen \$40.69/hour to \$22.56/hour. (**Table 1**)

Racial Inclusion and Outcomes

- **JLMP programs trained a slightly higher percentage of apprentices of color.** In 2017, 28.5% of JLMP apprentices and 25.6% of non-union apprentices were apprentices of color.
- **For the majority of comparable occupations, JLMP programs had a higher share of apprentices of color.** Across 18 comparable occupations, apprentices of color made up a higher share of JLMP programs in 10, non-union programs in 7, and an equal share in 1 occupation.
- **Apprentices of color journeyed out of JLMP programs at a higher rate for the majority of comparable occupations, although non-union apprenticeships held a slight edge overall.** For the 10 comparable occupations, JLMP programs had a higher completion rate for apprentices of color (33.8% vs. 24.3%) than for non-union programs. However, non-union programs had a slight edge overall (34.0% vs. 30.7%).
- **Apprentices of color journeyed out of JLMP programs earning journey wages \$15.65/hour higher than successful non-union apprentices of color.** Overall, successful JLMP apprentices of color achieved an average journey wage of \$34.00/hour compared to just \$18.35/hour for apprentices of color journeying out of non-union programs (**Figure 3**).

Figure 3. Average Journey Wages for Completing Apprentices by Race
JLMP vs. Non-Union Programs in 2017



Source: Apprenticeship Program Details, Washington Department of Labor and Industries; Apprenticeship Registration and Tracking System, Washington State Department of Labor and Industries.

- **The journey wage gap between white apprentices and apprentices of color was 12 times larger across all non-union programs than across JLMP programs.** In 2017, white JLMP apprentices completed their programs earning an average journey wage of \$34.49/hour, compared to a \$34.00/hour journey wage for completing JLMP apprentices of color. However, white non-union apprentices earned \$24.34/hour in journey wages upon completion, compared to an average of \$18.35/hour in journey wages for non-union apprentices of color who journeyed out of their non-union program in 2017.

Veteran Inclusion and Outcomes

- **JLMP apprenticeship programs enroll a higher percentage of veterans (13.7%) than non-union programs (12.8%).** The overall percentage of veterans in apprenticeship is higher than for Washington state as a whole, where 9.6% of adults are veterans.
- **Veterans journeyed out of JLMP programs at a higher rate (35.8%) than non-union programs (32.8%).** In 2017, more than five times as many veterans completed JLMP programs (115 apprentices) than non-union programs (22 apprentices).
- **Veterans completing JLMP programs earned an average of \$9.55 more per hour in journey wages than those completing non-union programs (\$35.64/hour vs. \$26.09/hour).** Overall, 71.1% of JLMP veteran completers earned journey wages above the local hourly occupational average, while only 22.7% of veterans completing non-union apprenticeships journeyed out above the local occupational average.