

Attachment 5

City of Seattle Construction Hiring Analysis

APPRENTICESHIP ANALYSIS

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OUTLINE

1 INFORMATION AND BACKGROUND

- Background
- Research Questions
- Terms and Concepts

2 CURRENT DEMOGRAPHIC CHARACTERISTICS

- Race, Gender, and Place of Residence
- Breakouts for Electrician, Carpenter, and Laborer Apprentices

3 COMPLETIONS AND CANCELLATIONS

- Race, Gender, and Place of Residence
- Breakouts for Electrician, Carpenter, and Laborer Apprentices

4 MAJOR TAKEAWAYS

BACKGROUND

In 2014, the City of Seattle commissioned Community Attributes to analyze data on apprenticeship performance. Given recent changes in the workforce landscape, the City of Seattle desires an update with additional information to describe the current characteristics of apprentices in the tri-county, King County, and Seattle areas.

RESEARCH QUESTIONS

There are three primary research questions:

- What is the average completion time for construction apprentices and what is the completion rate? Do these metrics vary by race, gender, or place of residence?
- What are the current demographic characteristics of construction apprentices in terms of race, gender, or place of residence?
- Are any of these metrics different for electrician, carpenter, and laborer apprenticeships?

TERMS AND CONCEPTS

Races discussed in this report follow standards used by federal and state government entities. Races are self-reported by apprentices. Namely, the major race categories are:

- White
- Black or African American
- Asian
- American Indian or Native Alaskan
- Native Hawaiian or Other Pacific Islander
- Hispanic—while federal sources define ‘Hispanic’ as an ethnicity, not a race, apprentices can self-identify their race as Hispanic
- Unknown

People of Color includes non-white construction workers. This definition is consistent with the definition used in past construction hiring analysis for the City of Seattle.

The **Completion Rate** for apprentices is defined as the number of apprenticeship completions in a given year divided by the sum of apprentice completions, cancellations, transfers, and suspensions from the same year.

The **Cancellation Rate** for apprentices is defined as the number of apprenticeship cancellations in a given year divided by the sum of apprentice completions, cancellations, transfers, and suspensions from the same year.

Apprentice Location refers to the counties or cities where individual apprentices live.

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ACTIVE CONSTRUCTION APPRENTICES BY RACE AND GEOGRAPHY

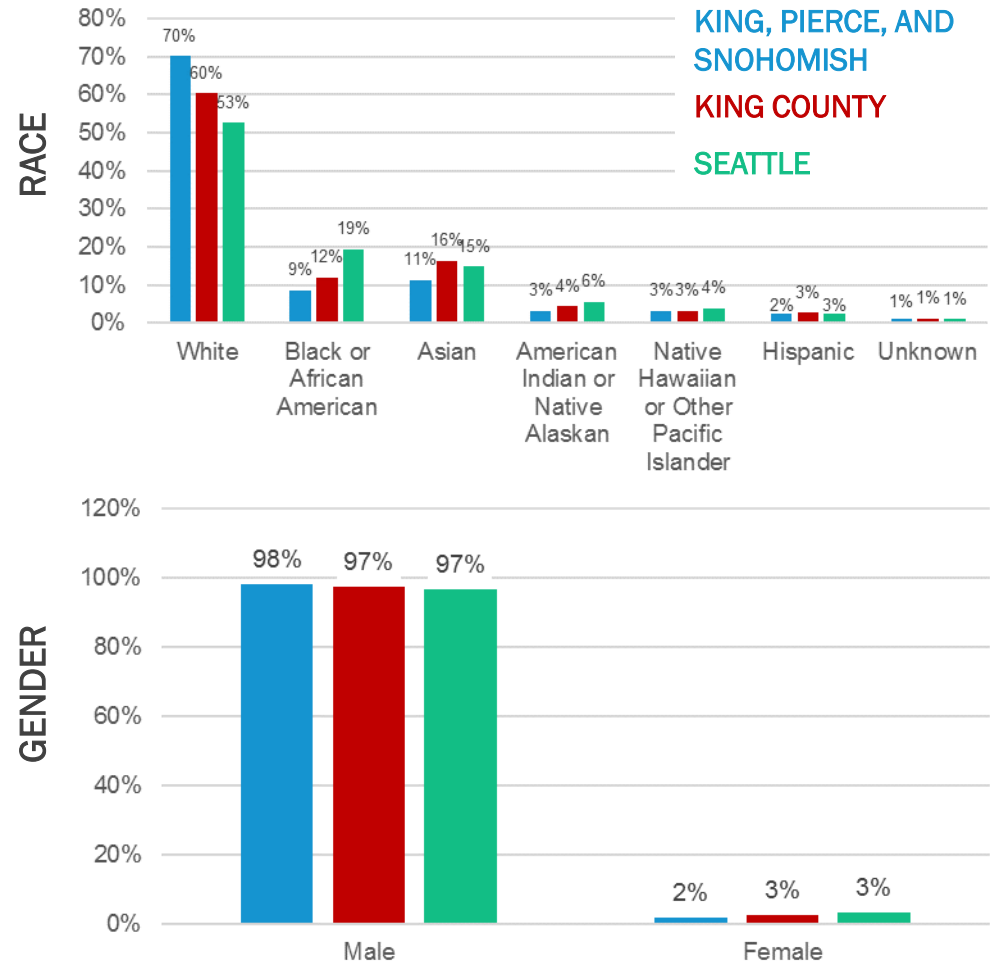
Active construction apprentices during the 2011-2015 period had several notable demographic characteristics between the three geographic levels of King, Pierce, and Snohomish Counties; King County; and Seattle.

Higher shares of people of color in active apprenticeships lived in King County than the broader geography of King, Pierce, and Snohomish Counties.

In King, Pierce, and Snohomish Counties, 30% of construction apprentices were people of color in the 2011-2015 period (921 apprentices). In King County, 39% were people of color (425 apprentices). In Seattle, 46% were people of color (148 apprentices).

EXHIBIT 1. ACTIVE CONSTRUCTION APPRENTICES BY RACE AND GENDER

King, Pierce, and Snohomish Counties; King County; and Seattle, 2011-2015



ACTIVE CONSTRUCTION APPRENTICES BY RACE AND GEOGRAPHY

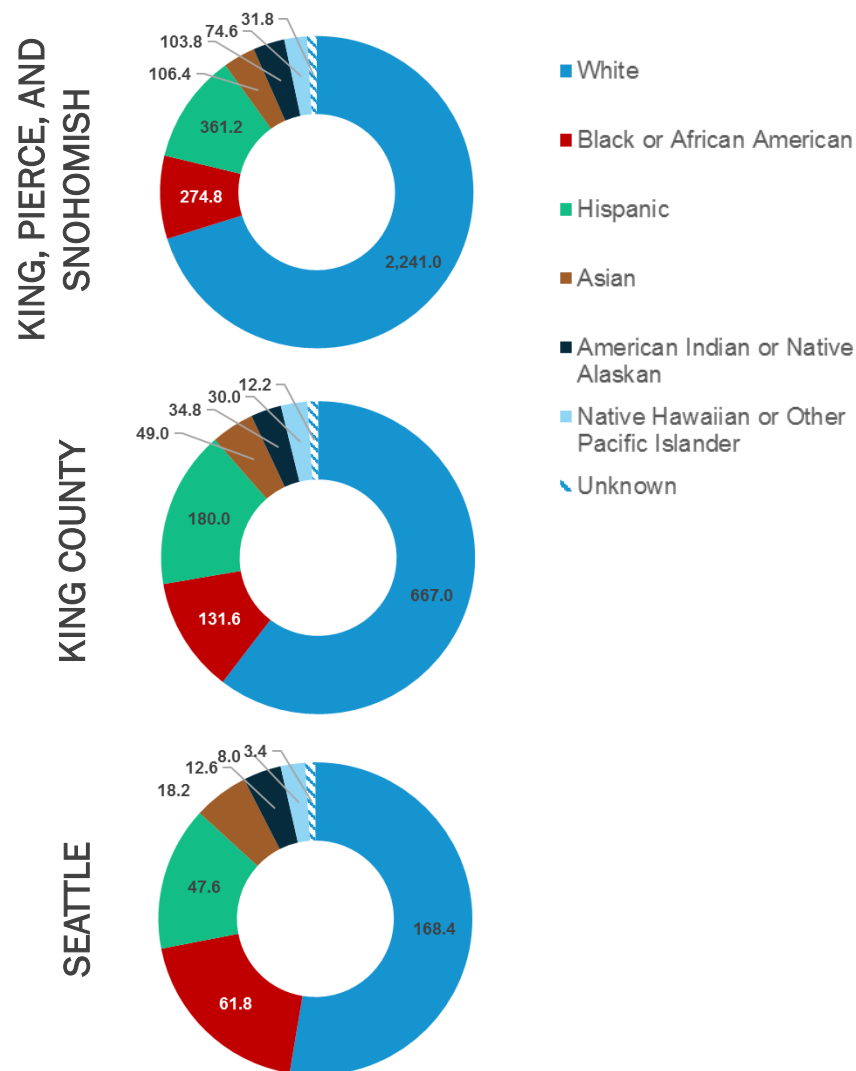
From 2011 through 2015, there were roughly 3,196 annual average active apprentices living in King, Pierce, and Snohomish Counties. Of those apprentices, roughly a third lived in King County, a total of 1,105 average annual apprentices. Seattle was home to 320 of these apprentices.

Approximately 70% of these apprentices were white. The next-largest group of apprentices by race was Hispanic at 11% followed by Black or African American at 9%.

These shares varied significantly in King County and Seattle. In particular, the ratio of white apprentices to all other apprentices was lower in King County than the broader region of King, Pierce, and Snohomish Counties. Focusing in even further to Seattle, the ratio of white apprentices to all other apprentices was even lower.

EXHIBIT 2. ACTIVE CONSTRUCTION APPRENTICES BY RACE

King, Pierce, and Snohomish Counties; King County; and Seattle, 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

ACTIVE FEMALE CONSTRUCTION APPRENTICES BY RACE AND GEOGRAPHY

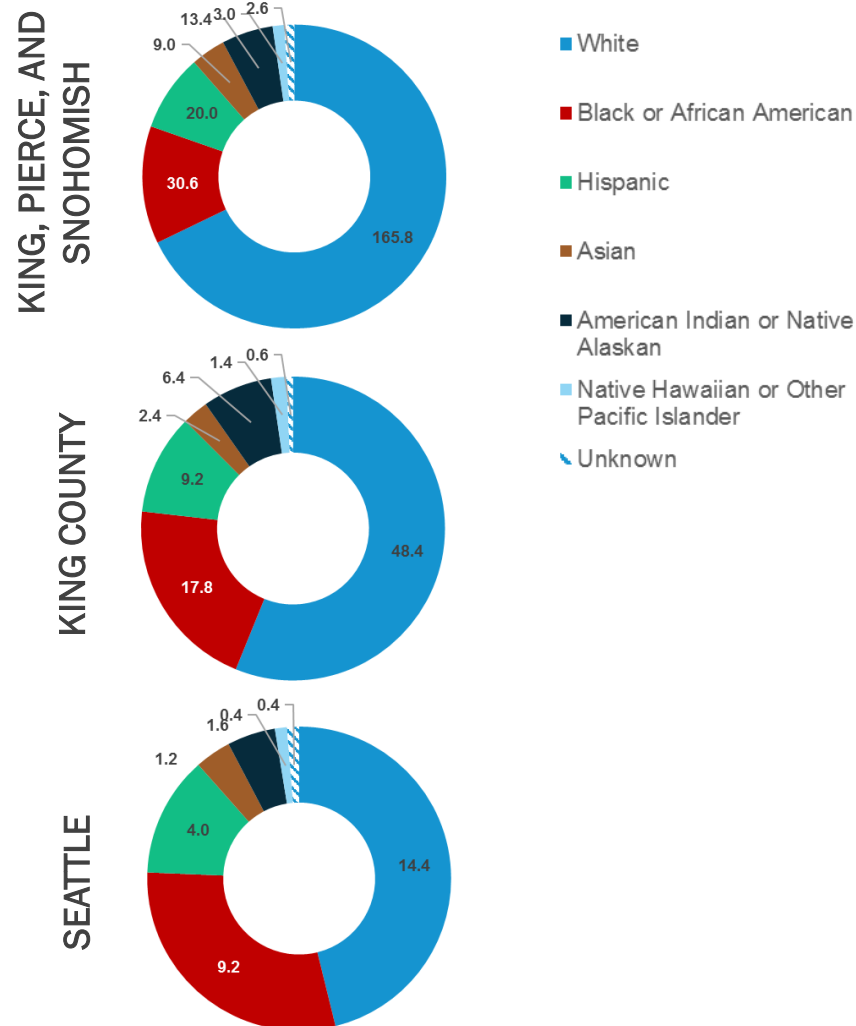
Overall, 31% of female construction apprentices from 2011 through 2015 identified as people of color.

Female construction apprentices were notably more likely to identify as people of color in this time period: at the King, Pierce, and Snohomish Counties level, 31% of female construction apprentices were people of color compared to 29% for all construction apprentices. In King County, 43% of female construction apprentices were people of color while 39% of total apprentices were white. The same trend is evident within the City of Seattle, where 53% of female construction apprentices were people of color compared to 46% of total apprentices.

It is also important to note that female people of color were more likely to be Black or African American. In this time period, 13% of female construction apprentices were Black or African American compared to 9% for all active apprentices.

EXHIBIT 3. ACTIVE FEMALE CONSTRUCTION APPRENTICES BY RACE

King, Pierce, and Snohomish Counties; King County; and Seattle, 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

ACTIVE MALE CONSTRUCTION APPRENTICES BY RACE AND GEOGRAPHY

From 2011 through 2015, 29% of male construction apprentices identified as people of color.

Male construction apprentices were more likely to identify as white than female apprentices: from 2011 through 2015, 70% of active male construction apprentices were white compared to 68% of female construction apprentices.

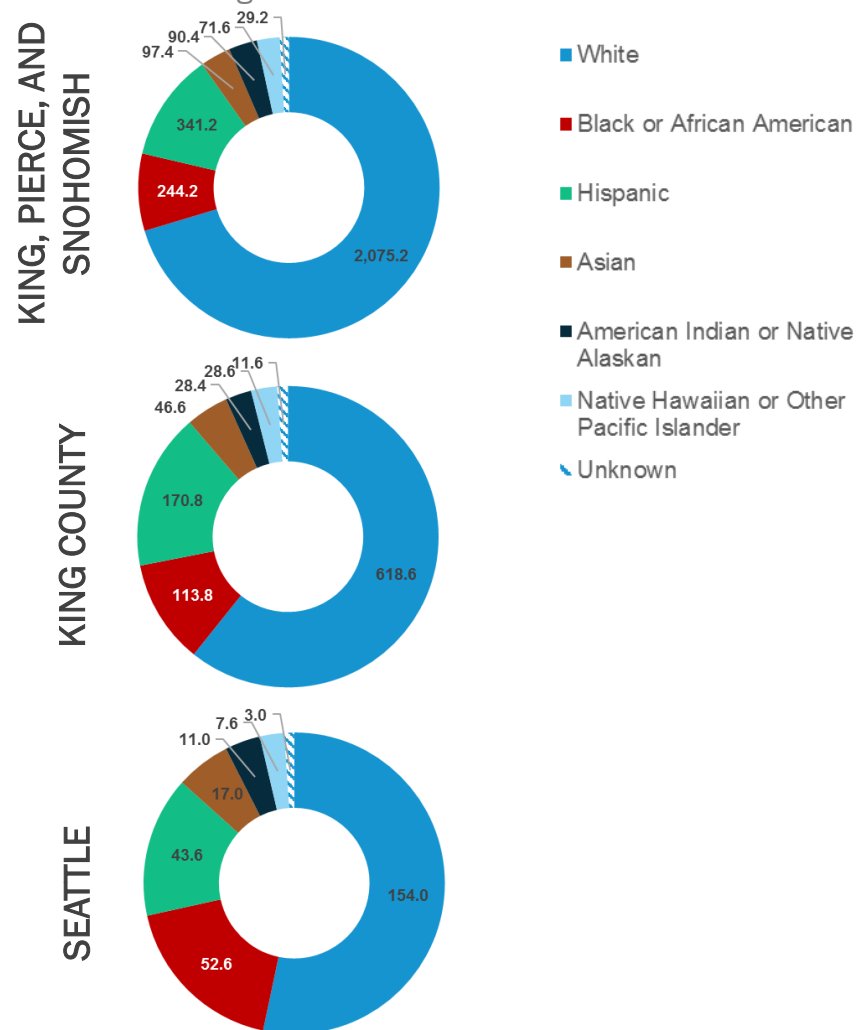
Narrowing the geographic lens to just King County, the same is true with 61% of male apprentices identifying as white compared to 56% of female apprentices.

Looking at Seattle only, 53% of male construction apprentices were white compared to 46% of female construction apprentices.

Comparing the race breakdown of male and female apprentices, female apprentices are notably more likely to identify as Black or African American than male apprentices: 13% for female apprentices compared to 8% for male apprentices in all of King, Pierce, and Snohomish Counties.

EXHIBIT 4. ACTIVE MALE CONSTRUCTION APPRENTICES BY RACE

King, Pierce, and Snohomish Counties; King County; and Seattle, 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

EDUCATIONAL STATUS OF CONSTRUCTION APPRENTICES

From 2011 through 2015, the average educational attainment levels of active apprentices revealed one key observation: construction apprentices in the City of Seattle had higher shares of the most educated and least educated apprentices than the two broader geographies.

EXHIBIT 5. EDUCATIONAL STATUS OF CONSTRUCTION APPRENTICES

King, Pierce, and Snohomish Counties, 2011-2015 average

| Education | Total | Share |
|-----------------------------|-------|-------|
| High School Graduate | 1,502 | 47% |
| College or Greater | 702 | 22% |
| GED | 580 | 18% |
| Some High School (9th-12th) | 169 | 5% |
| 8th grade or less | 20 | 1% |
| Not Specified | 223 | 7% |
| Total | 3,196 | 100% |

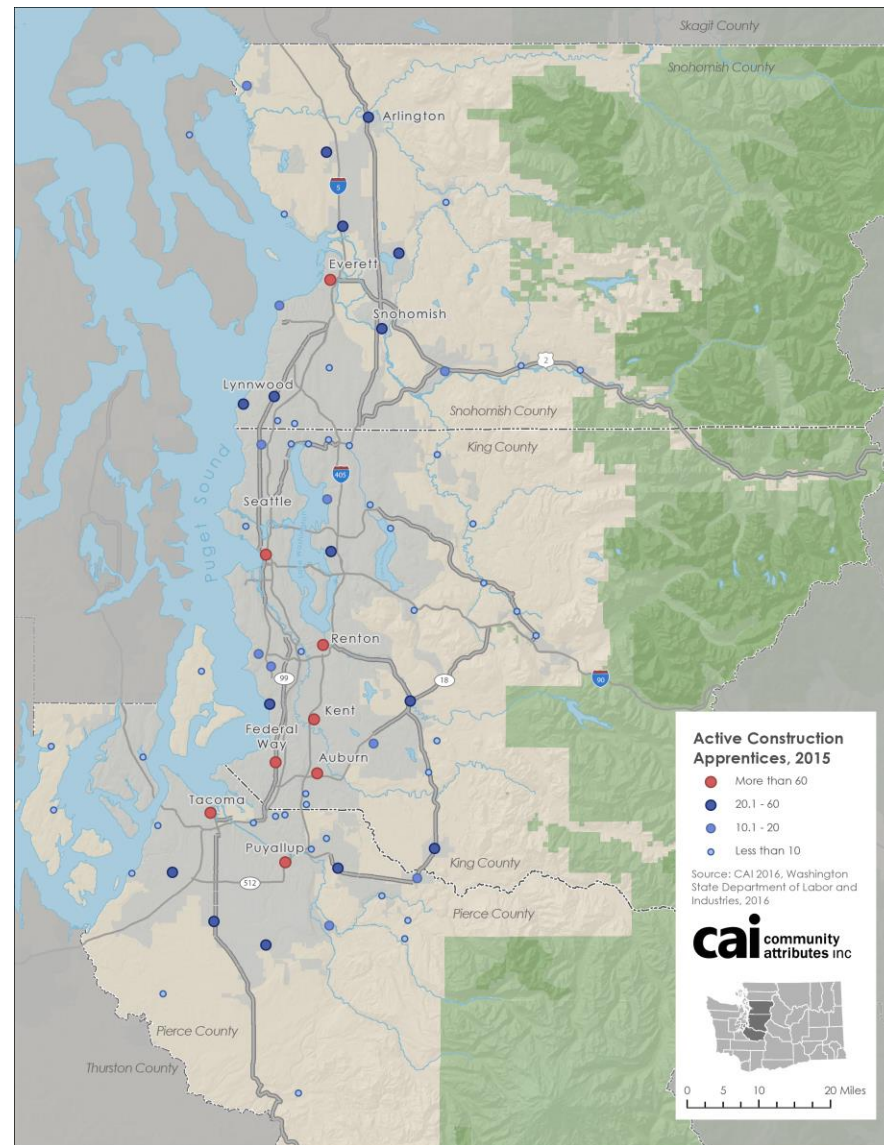
Source: Washington State Department of Labor and Industries, 2016;
Community Attributes Inc., 2016.

ACTIVE CONSTRUCTION APPRENTICES

The region's construction apprentices can be found across King, Pierce, and Snohomish Counties. Large concentrations of apprentices live in the region's major cities, especially Seattle, Everett, Kent, Renton, Federal Way, Tacoma, and Puyallup.

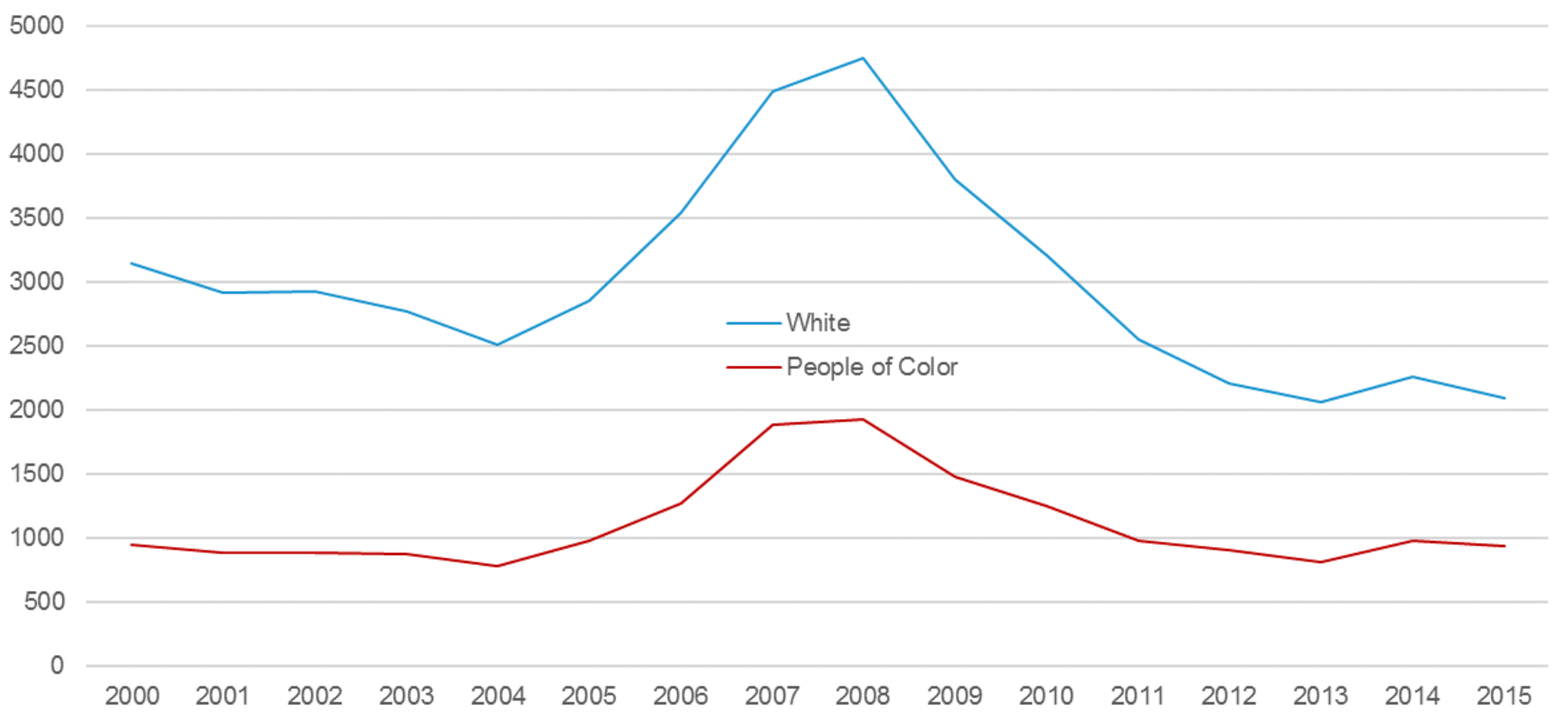
There are smaller numbers of active apprentices in other cities and neighborhoods across the region, with many clustered in areas adjacent to the region's major cities.

EXHIBIT 6. ACTIVE CONSTRUCTION APPRENTICES, 2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

EXHIBIT 7. ACTIVE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.
 Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations. Apprentices who did not report a race are not included in either line.

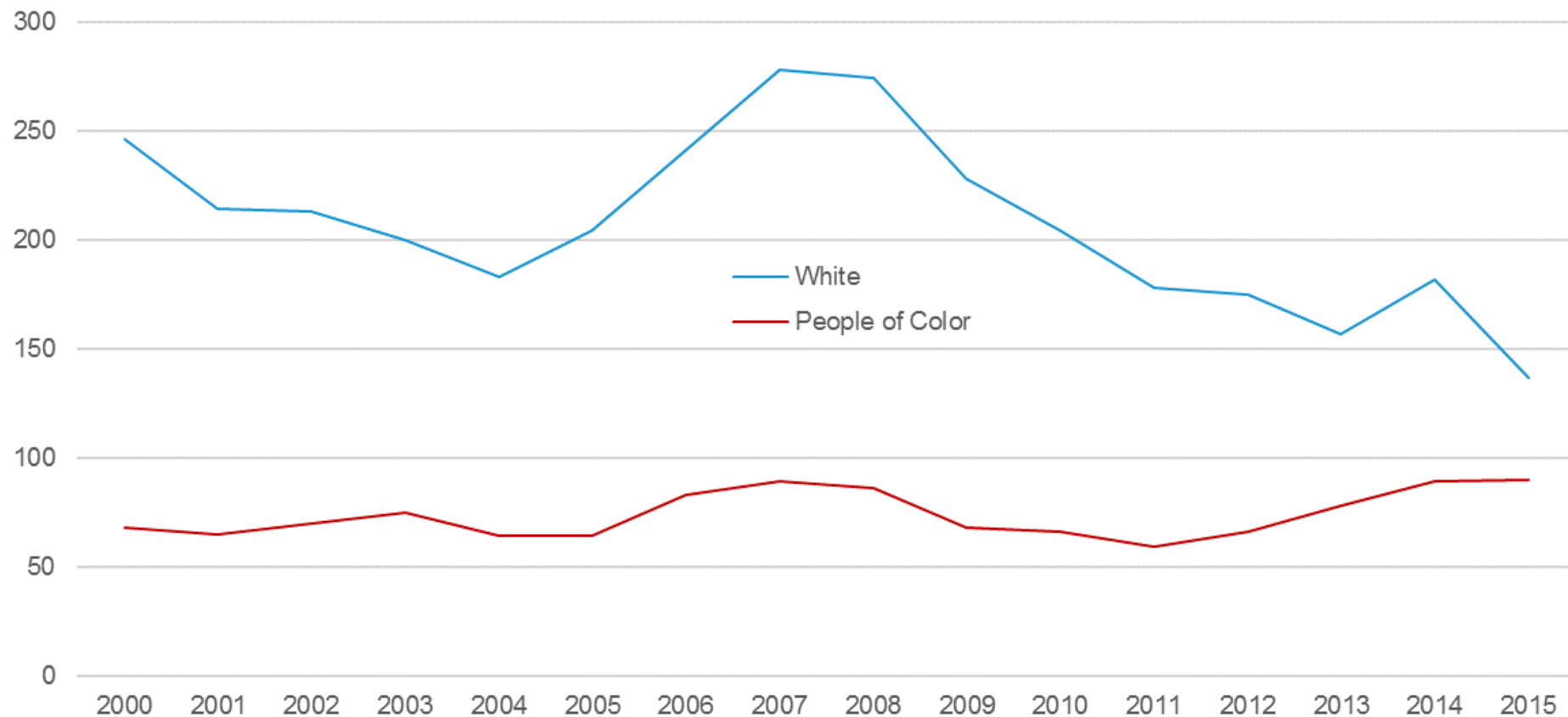
EXHIBIT 8. ACTIVE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015

| | Total | | | | | | | | | | | | | | |
|--------------|-------|-----|---------------------------|-----|----------|-----|-------|----|-----------------------------------|----|-------------------------------------------|----|---------|----|-------|
| | White | | Black or African American | | Hispanic | | Asian | | American Indian or Native Alaskan | | Native Hawaiian or Other Pacific Islander | | Unknown | | Total |
| 2000 | 3,146 | 75% | 309 | 7% | 351 | 8% | 192 | 5% | 97 | 2% | 2 | 0% | 118 | 3% | 4,216 |
| 2001 | 2,922 | 75% | 313 | 8% | 326 | 8% | 161 | 4% | 83 | 2% | 9 | 0% | 103 | 3% | 3,918 |
| 2002 | 2,929 | 75% | 279 | 7% | 352 | 9% | 157 | 4% | 88 | 2% | 14 | 0% | 107 | 3% | 3,927 |
| 2003 | 2,778 | 74% | 286 | 8% | 349 | 9% | 144 | 4% | 87 | 2% | 13 | 0% | 76 | 2% | 3,734 |
| 2004 | 2,516 | 75% | 283 | 8% | 279 | 8% | 120 | 4% | 84 | 3% | 21 | 1% | 49 | 1% | 3,352 |
| 2005 | 2,854 | 74% | 361 | 9% | 328 | 8% | 133 | 3% | 115 | 3% | 44 | 1% | 43 | 1% | 3,878 |
| 2006 | 3,542 | 73% | 462 | 9% | 440 | 9% | 146 | 3% | 158 | 3% | 67 | 1% | 54 | 1% | 4,871 |
| 2007 | 4,495 | 70% | 619 | 10% | 758 | 12% | 197 | 3% | 195 | 3% | 122 | 2% | 61 | 1% | 6,448 |
| 2008 | 4,760 | 70% | 560 | 8% | 844 | 12% | 205 | 3% | 199 | 3% | 123 | 2% | 67 | 1% | 6,760 |
| 2009 | 3,803 | 71% | 430 | 8% | 633 | 12% | 170 | 3% | 153 | 3% | 100 | 2% | 54 | 1% | 5,343 |
| 2010 | 3,212 | 71% | 343 | 8% | 529 | 12% | 153 | 3% | 142 | 3% | 86 | 2% | 43 | 1% | 4,508 |
| 2011 | 2,560 | 72% | 276 | 8% | 384 | 11% | 121 | 3% | 121 | 3% | 76 | 2% | 30 | 1% | 3,568 |
| 2012 | 2,215 | 70% | 270 | 9% | 349 | 11% | 118 | 4% | 98 | 3% | 75 | 2% | 22 | 1% | 3,147 |
| 2013 | 2,070 | 71% | 259 | 9% | 304 | 10% | 91 | 3% | 99 | 3% | 65 | 2% | 19 | 1% | 2,907 |
| 2014 | 2,267 | 69% | 296 | 9% | 398 | 12% | 100 | 3% | 97 | 3% | 79 | 2% | 21 | 1% | 3,265 |
| 2015 | 2,093 | 68% | 273 | 9% | 371 | 12% | 102 | 3% | 104 | 3% | 78 | 3% | 67 | 2% | 3,095 |
| 2000-2015 | | | | | | | | | | | | | | | |
| Total Growth | -33% | | -12% | | 6% | | -47% | | 7% | | NA | | -43% | | -27% |
| CAGR | -3% | | -1% | | 0% | | -4% | | 0% | | NA | | -4% | | -2% |

Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations.

EXHIBIT 9. ACTIVE FEMALE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations. Apprentices who did not report a race are not included in either line.

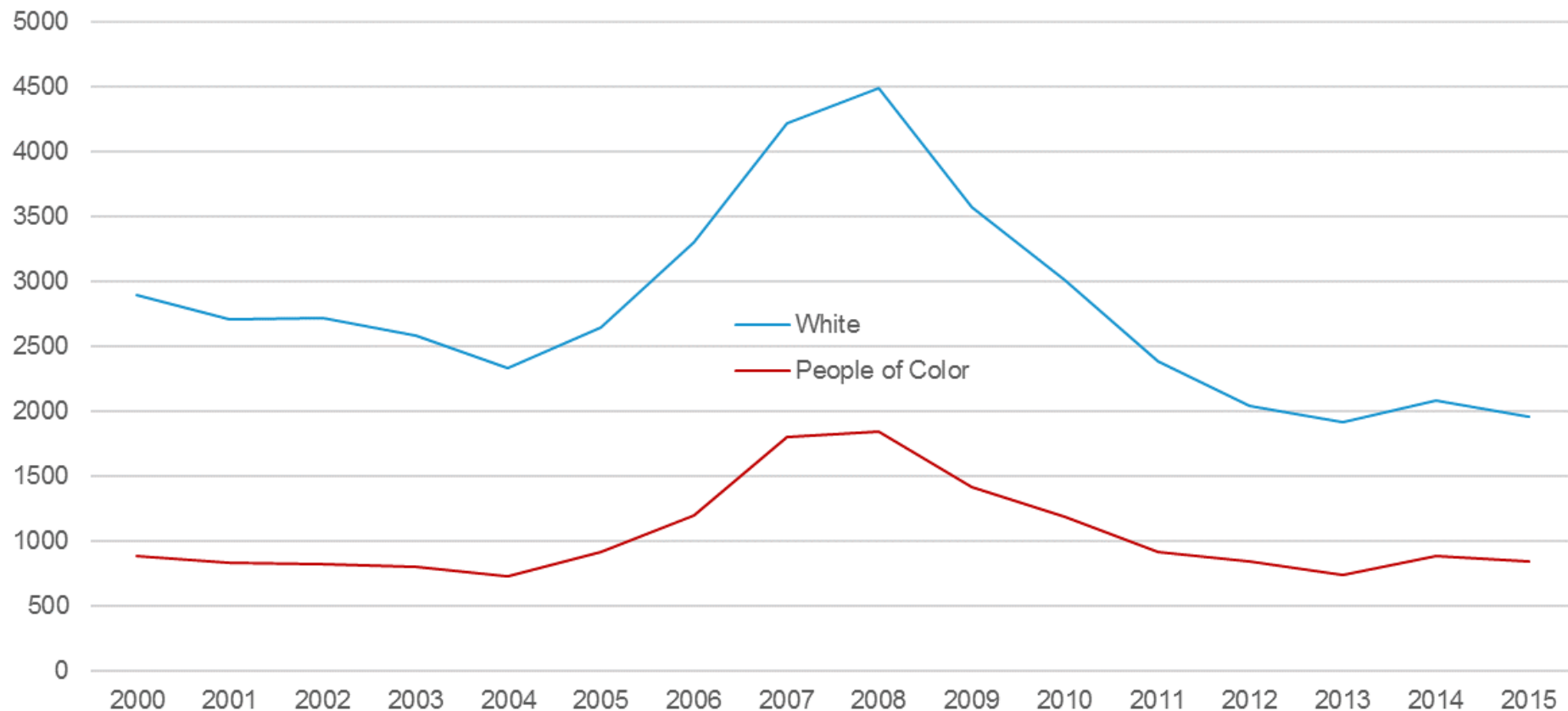
EXHIBIT 10. ACTIVE FEMALE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015

| | Female | | | | | | | | | | | | | | | |
|--------------|--------|-----|---------------------------|-----|----------|-----|-------|----|-----------------------------------|----|-------------------------------------------|----|---------|----|-------|--|
| | | | | | | | | | American Indian or Native Alaskan | | Native Hawaiian or Other Pacific Islander | | Unknown | | Total | |
| | White | | Black or African American | | Hispanic | | Asian | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 2000 | 246 | 77% | 29 | 9% | 16 | 5% | 12 | 4% | 11 | 3% | - | 0% | 7 | 2% | 321 | |
| 2001 | 214 | 75% | 26 | 9% | 18 | 6% | 11 | 4% | 10 | 3% | - | 0% | 7 | 2% | 286 | |
| 2002 | 213 | 73% | 25 | 9% | 21 | 7% | 8 | 3% | 16 | 5% | - | 0% | 9 | 3% | 292 | |
| 2003 | 200 | 71% | 38 | 14% | 17 | 6% | 5 | 2% | 14 | 5% | 1 | 0% | 6 | 2% | 281 | |
| 2004 | 183 | 73% | 23 | 9% | 18 | 7% | 7 | 3% | 15 | 6% | 1 | 0% | 2 | 1% | 249 | |
| 2005 | 204 | 75% | 19 | 7% | 16 | 6% | 10 | 4% | 15 | 6% | 4 | 1% | 3 | 1% | 271 | |
| 2006 | 241 | 74% | 31 | 9% | 19 | 6% | 9 | 3% | 22 | 7% | 2 | 1% | 3 | 1% | 327 | |
| 2007 | 278 | 75% | 33 | 9% | 22 | 6% | 11 | 3% | 21 | 6% | 2 | 1% | 3 | 1% | 370 | |
| 2008 | 274 | 75% | 23 | 6% | 31 | 8% | 8 | 2% | 22 | 6% | 2 | 1% | 6 | 2% | 366 | |
| 2009 | 228 | 76% | 22 | 7% | 20 | 7% | 6 | 2% | 19 | 6% | 1 | 0% | 5 | 2% | 301 | |
| 2010 | 204 | 74% | 20 | 7% | 21 | 8% | 6 | 2% | 18 | 7% | 1 | 0% | 4 | 1% | 274 | |
| 2011 | 178 | 74% | 18 | 7% | 17 | 7% | 7 | 3% | 17 | 7% | - | 0% | 4 | 2% | 241 | |
| 2012 | 175 | 71% | 22 | 9% | 16 | 7% | 12 | 5% | 15 | 6% | 1 | 0% | 4 | 2% | 245 | |
| 2013 | 157 | 66% | 31 | 13% | 19 | 8% | 12 | 5% | 14 | 6% | 2 | 1% | 3 | 1% | 238 | |
| 2014 | 182 | 67% | 38 | 14% | 27 | 10% | 7 | 3% | 10 | 4% | 5 | 2% | 1 | 0% | 272 | |
| 2015 | 137 | 60% | 44 | 19% | 21 | 9% | 7 | 3% | 11 | 5% | 7 | 3% | 1 | 0% | 228 | |
| 2000-2015 | | | | | | | | | | | | | | | | |
| Total Growth | -44% | | 52% | | 31% | | -42% | | 0% | | NA | | -86% | | -29% | |
| CAGR | -4% | | 3% | | 2% | | -4% | | 0% | | NA | | -12% | | -2% | |

Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations.

EXHIBIT 11. ACTIVE MALE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations. Apprentices who did not report a race are not included in either line.

EXHIBIT 12. ACTIVE MALE CONSTRUCTION APPRENTICES BY RACE; KING, PIERCE, AND SNOHOMISH COUNTIES; 2000-2015

| Male | | | | | | | | | | | | | | | |
|--------------|-------|-----|---------------------------|-----|----------|-----|-------|----|-----------------------------------|----|-------------------------------------------|----|---------|----|-------|
| | White | | Black or African American | | Hispanic | | Asian | | American Indian or Native Alaskan | | Native Hawaiian or Other Pacific Islander | | Unknown | | Total |
| 2000 | 2,900 | 74% | 280 | 7% | 335 | 9% | 180 | 5% | 86 | 2% | 2 | 0% | 111 | 3% | 3,895 |
| 2001 | 2,708 | 75% | 287 | 8% | 308 | 8% | 150 | 4% | 73 | 2% | 9 | 0% | 96 | 3% | 3,632 |
| 2002 | 2,716 | 75% | 254 | 7% | 331 | 9% | 149 | 4% | 72 | 2% | 14 | 0% | 98 | 3% | 3,635 |
| 2003 | 2,578 | 75% | 248 | 7% | 332 | 10% | 139 | 4% | 73 | 2% | 12 | 0% | 70 | 2% | 3,453 |
| 2004 | 2,333 | 75% | 260 | 8% | 261 | 8% | 113 | 4% | 69 | 2% | 20 | 1% | 47 | 2% | 3,103 |
| 2005 | 2,650 | 73% | 342 | 9% | 312 | 9% | 123 | 3% | 100 | 3% | 40 | 1% | 40 | 1% | 3,607 |
| 2006 | 3,301 | 73% | 431 | 9% | 421 | 9% | 137 | 3% | 136 | 3% | 65 | 1% | 51 | 1% | 4,544 |
| 2007 | 4,217 | 69% | 586 | 10% | 736 | 12% | 186 | 3% | 174 | 3% | 120 | 2% | 58 | 1% | 6,078 |
| 2008 | 4,486 | 70% | 537 | 8% | 813 | 13% | 197 | 3% | 177 | 3% | 121 | 2% | 61 | 1% | 6,394 |
| 2009 | 3,575 | 71% | 408 | 8% | 613 | 12% | 164 | 3% | 134 | 3% | 99 | 2% | 49 | 1% | 5,042 |
| 2010 | 3,008 | 71% | 323 | 8% | 508 | 12% | 147 | 3% | 124 | 3% | 85 | 2% | 39 | 1% | 4,234 |
| 2011 | 2,382 | 72% | 258 | 8% | 367 | 11% | 114 | 3% | 104 | 3% | 76 | 2% | 26 | 1% | 3,327 |
| 2012 | 2,040 | 70% | 248 | 9% | 333 | 11% | 106 | 4% | 83 | 3% | 74 | 3% | 18 | 1% | 2,902 |
| 2013 | 1,913 | 72% | 228 | 9% | 285 | 11% | 79 | 3% | 85 | 3% | 63 | 2% | 16 | 1% | 2,669 |
| 2014 | 2,085 | 70% | 258 | 9% | 371 | 12% | 93 | 3% | 87 | 3% | 74 | 2% | 20 | 1% | 2,993 |
| 2015 | 1,956 | 68% | 229 | 8% | 350 | 12% | 95 | 3% | 93 | 3% | 71 | 2% | 66 | 2% | 2,867 |
| 2000-2015 | | | | | | | | | | | | | | | |
| Total Growth | -33% | | -18% | | 4% | | -47% | | 8% | | NA | | -41% | | -26% |
| CAGR | -3% | | -1% | | 0% | | -4% | | 1% | | NA | | -3% | | -2% |

Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations.

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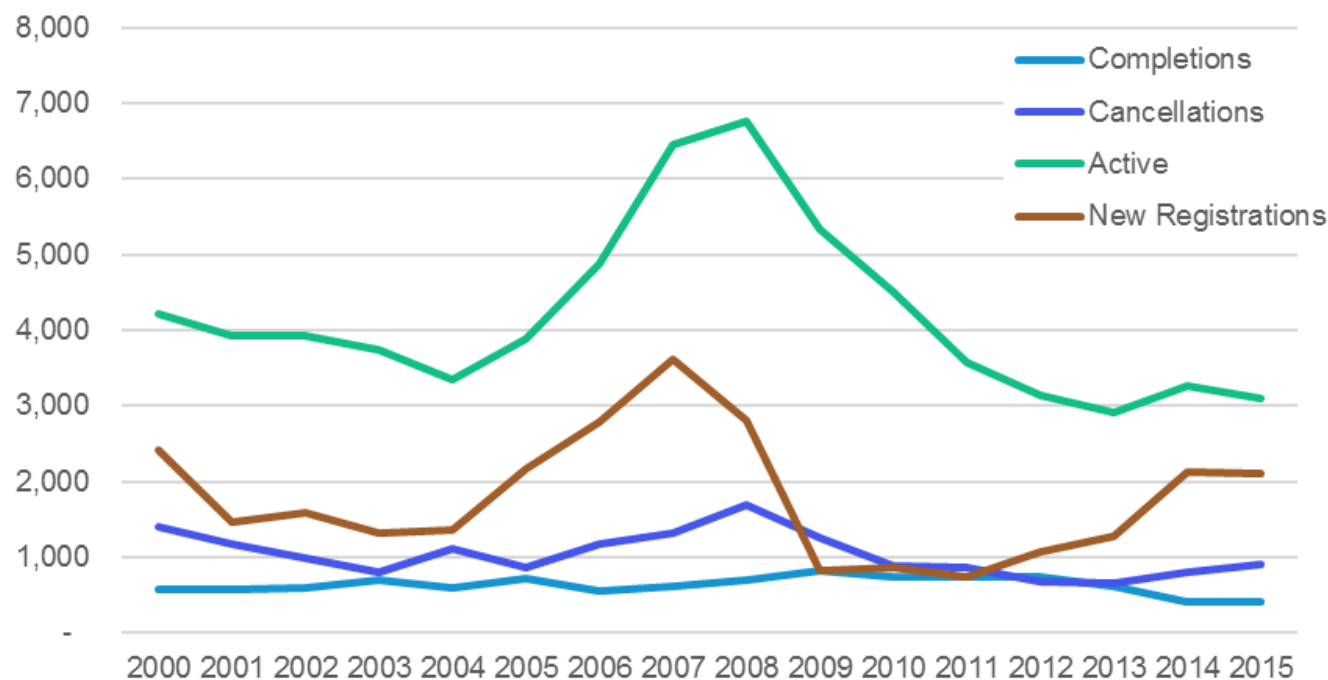
Construction apprenticeships in Pierce, King, and Snohomish Counties underwent two major changes from 2000 to 2015 in terms of apprentices statuses. In the middle part of this time period, roughly from 2005 to 2007, active apprenticeships (which includes new registrations) increased rapidly. At the onset of the great recession, there was an uptick in the number of cancellations, and active apprentices dropped. New registrations dropped to the lowest levels seen during this time period.

As the region began to recover, so did apprenticeships. By 2013, the number of new registrations had begun to increase, and the downward trend in active apprentices reversed. In 2015, the number of new registrations reached 2005 levels.

With increasing registrations and relatively low levels of cancellations, the region is on track to expand its apprenticeship talent pool in the coming years.

EXHIBIT 13. CONSTRUCTION APPRENTICESHIP KEY METRICS

King, Pierce, and Snohomish Counties; 2000-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

Note: the number of active apprentices does not include apprentices that completed or cancelled their apprenticeship during that year, but does include new registrations.

3 COMPLETIONS AND CANCELLATIONS

Cancellation and completion rates are defined as the number of cancellations or completions divided by cancellations, completions, transfers, and suspensions.

Over the past 15 years, construction apprenticeship completion and cancellation rates have largely had an inverse relationship: when the completion rate increases, the cancellation rate decreases; when the cancellation rate increases, the completion rate decreases. This indicates that, to some degree, the rate at which apprentices leave their programs is roughly consistent over time.

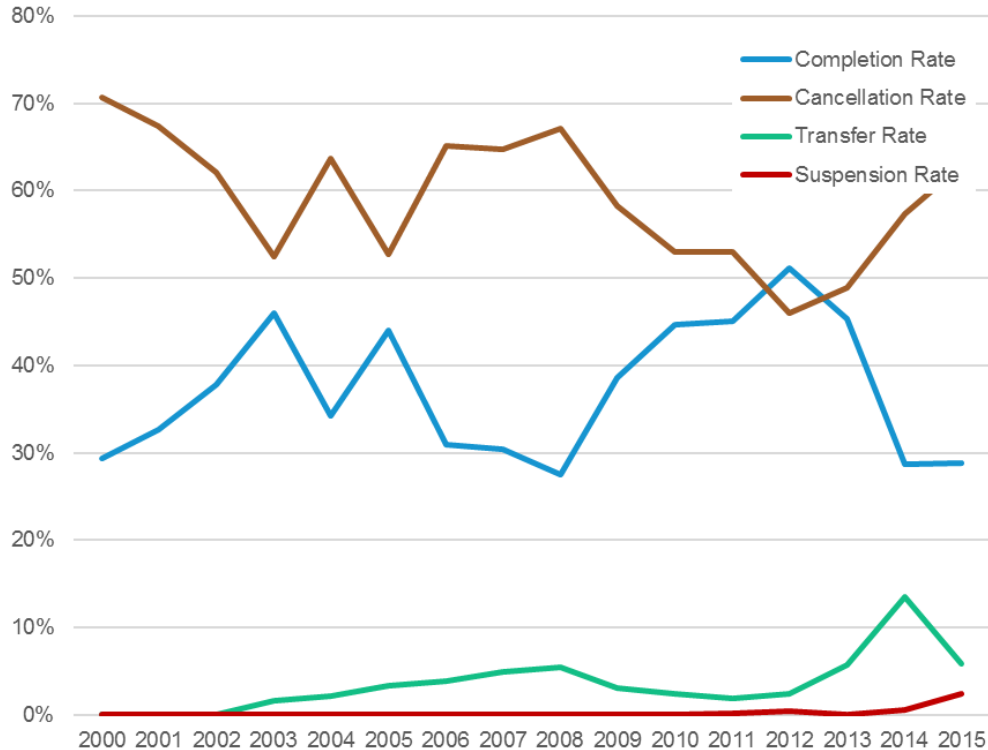
Cancellations can be made at the request of the apprentice, supervisor, or sponsor. For example, an apprentice could receive a job offer in another industry while he or she is still an apprentice, and decide to take that job instead of completing his or her program.

In recent years, the completion and cancellation rates in King, Pierce, and Snohomish County region trended towards the pre-recession rates.

Transfer and suspensions have historically had very low rates compared to completions and cancellations. In 2014, however, the transfer rate reached 13%, a historic high.

EXHIBIT 14. CONSTRUCTION APPRENTICESHIP COMPLETION AND CANCELLATION RATES

King, Pierce, and Snohomish Counties; 2000-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

CONSTRUCTION APPRENTICESHIP STATUS BY GENDER

In general, construction apprenticeship statuses were largely similar for male and female workers on average during the 2011-2015 period. **Exhibit 15** describes the shares of completions, cancellations, transfers, and suspensions. Together, these four metrics sum to 100% for each gender.

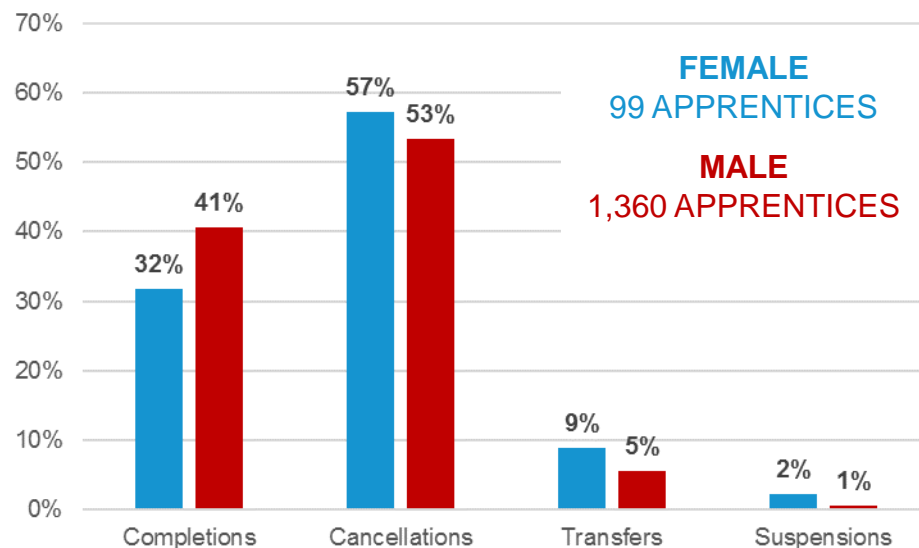
During this period, an average of 31 female apprentices completed their programs, 57 cancelled their programs, 9 transferred, and 2 suspended their programs. These sum to a total of 99 apprentices.

On average, 552 male apprentices completed their programs per year during the 2011-2015 period, 725 cancelled their programs, 75 transferred, and 8 suspended their programs. These sum to a total of 1,360 apprentices.

In this period, the share of suspended or transferred apprentices was higher for female workers than for male workers, 11% for female workers (or an average of 11 apprentices per year) compared to 7% for male workers (or an average of 83 apprentice per year).

EXHIBIT 15. CONSTRUCTION APPRENTICESHIP STATUS BY GENDER

King, Pierce, and Snohomish Counties; 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

CONSTRUCTION APPRENTICESHIP STATUS BY RACE

From 2011 through 2015, the share of apprentices that completed their programs was lower for people of color in King, Pierce, and Snohomish Counties than it was for white apprentices, 33% for people of color (or an average of 155 apprentices per year) compared to 43% for white apprentices (or an average of 428 apprentices per year).

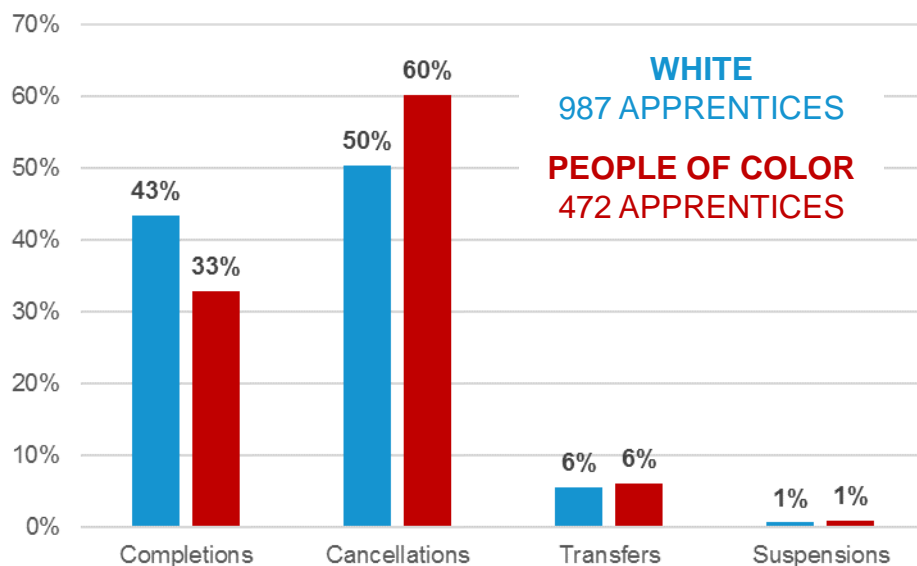
At the same time, the cancellation rate for people of color was higher than it was for white apprentices, 60% compared to 50% (or an average of 284 apprentices who were people of color compared to an average of 497 apprentices who were white).

Overall, an annual average of 428 white apprentices completed their programs from 2011 to 2015, 498 cancelled their programs, 55 transferred, and 6 suspended their programs.

During the same period, an annual average of 155 apprentices of color completed their programs, 284 cancelled their programs, 29 transferred, and 4 suspended their programs.

EXHIBIT 16. CONSTRUCTION APPRENTICESHIP STATUS BY RACE

King, Pierce, and Snohomish Counties; 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

CONSTRUCTION APPRENTICESHIP STATUS BY RACE

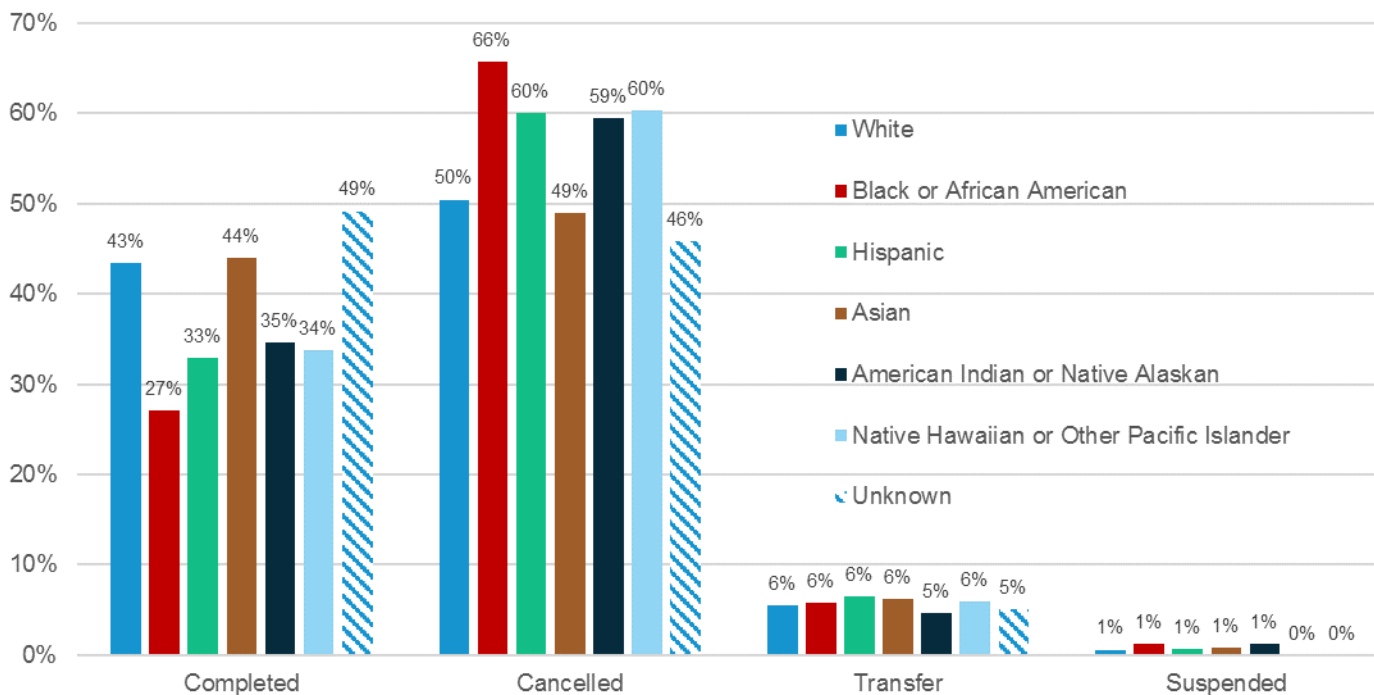
Looking more closely at detailed breakouts of construction apprenticeship status by race reveals several important observations. **Exhibit 17** indicates the status of apprentices by race from 2011 through 2015. The sum of the share of completions, cancellations, transfers, and suspensions totals 100% for each race.

In King, Pierce, and Snohomish Counties, there was notable variation in the statuses of apprentices by race. The race with the highest number of completions was white with 428 average annual completions. However, this represents a completion rate of 43%, lower than the rate for Asian apprentices (44%). The race with the lowest share of completions was black or African American with 27% completions (37 average annual completions).

Cancellations also showed significant variation: black or African American apprentices had the highest cancellation rate at 66% (90 average annual apprentices) and Asian apprentices had the lowest at 49% (24 average annual apprentices).

EXHIBIT 17. CONSTRUCTION APPRENTICESHIP STATUS BY RACE

King, Pierce, and Snohomish Counties, 2011-2015 average

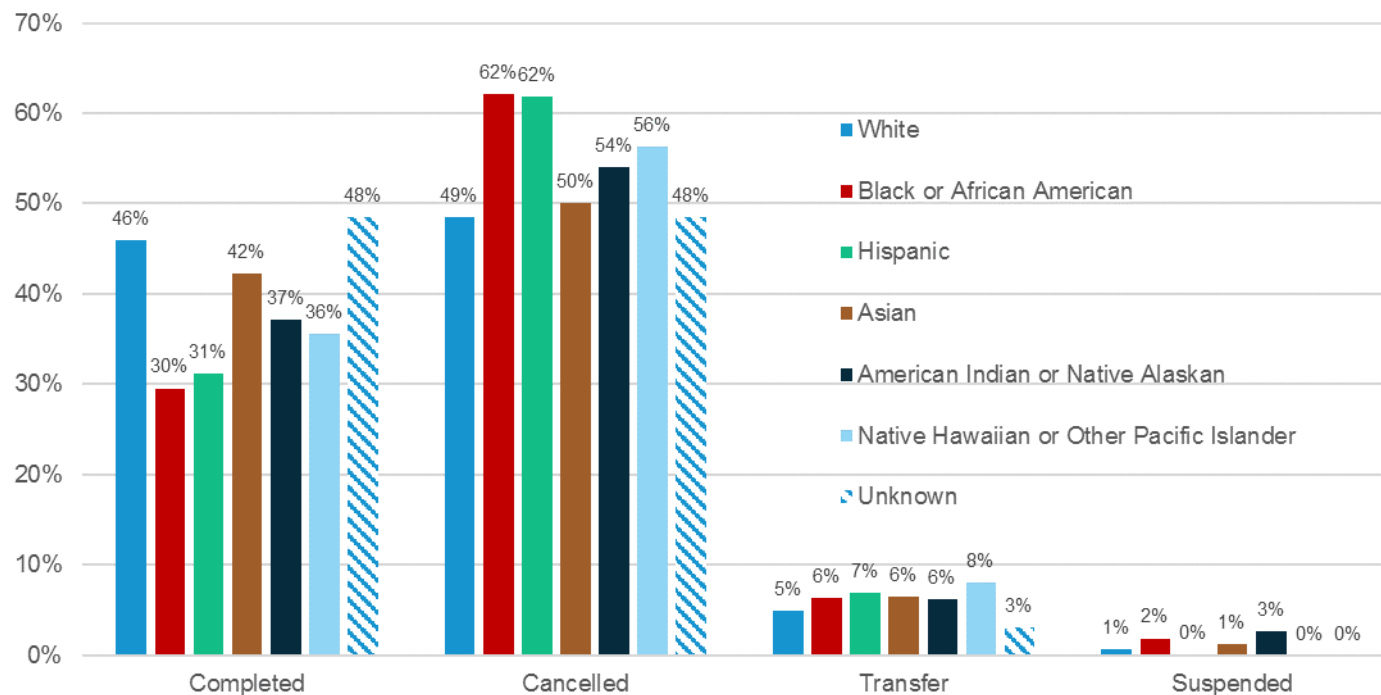


CONSTRUCTION APPRENTICESHIP STATUS BY RACE

The statuses of apprentices by race in King County largely matched the statuses seen in the broader geographic area of King, Pierce, and Snohomish Counties. As in the previous exhibit, the sum of the share of completions, registrations, cancellations, and transfers or suspensions by race totals 100%.

EXHIBIT 18. CONSTRUCTION APPRENTICESHIP STATUS BY RACE

King County, 2011-2015 average



Sources: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

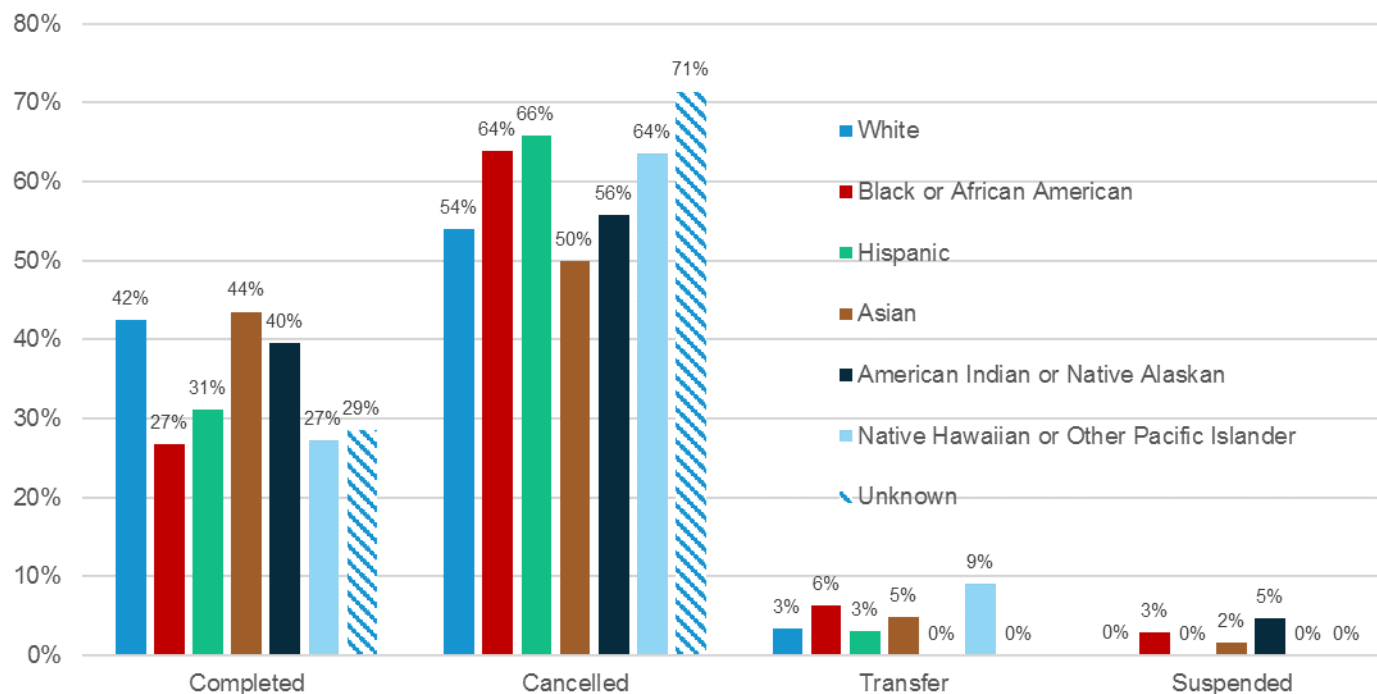
CONSTRUCTION APPRENTICESHIP STATUS BY RACE

In 2015, construction apprentices in Seattle showed significant variation in status by race. The transfer and suspension rates were lower in Seattle than they were in either King County or the broader geography or King, Pierce, and Snohomish Counties.

As in the previous exhibit, the sum of the share of completions, registrations, cancellations, and transfers or suspensions by race totals 100%.

EXHIBIT 19. CONSTRUCTION APPRENTICESHIP STATUS BY RACE

Seattle, 2011-2015 average



Sources: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

NEW REGISTRATIONS BY RACE

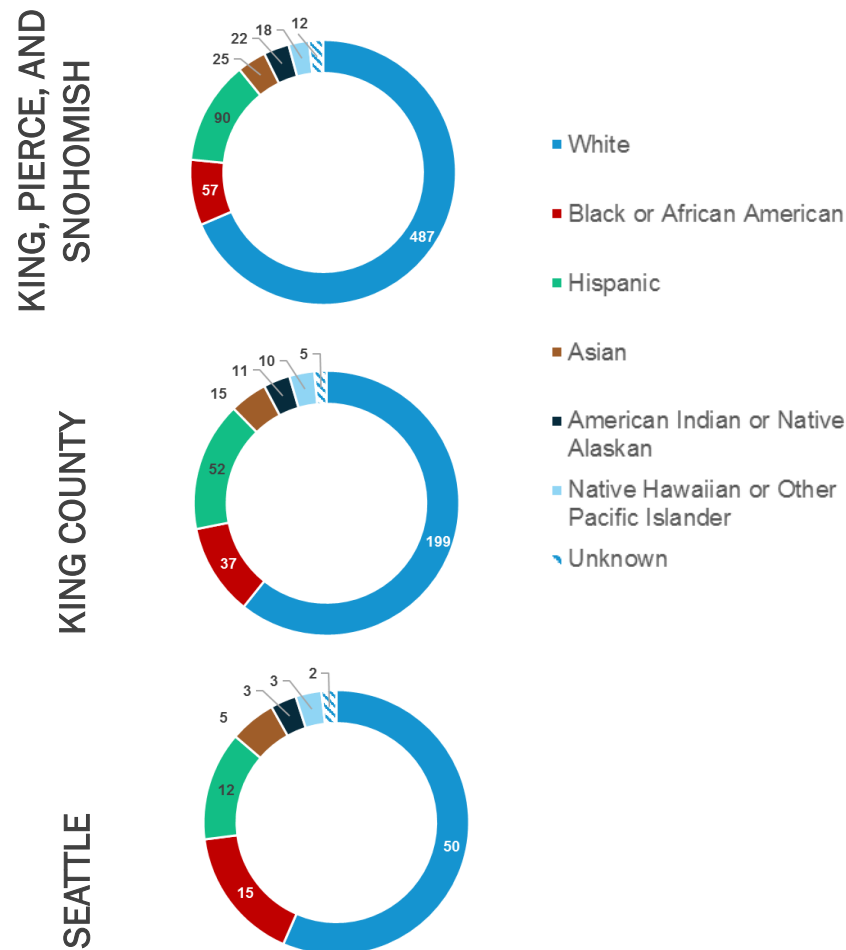
From 2011 through 2015, the race with the highest annual average registrations in construction occupations in King, Pierce, and Snohomish Counties was white with 487 average annual registrations. The next-largest race was Hispanic with 90 average annual registrations, followed by black or African American with 57 average annual registrations.

King County showed a similar trend, with 199 average annual new registrations from white apprentices, 52 from Hispanic apprentices, and 37 from black or African American apprentices.

Within Seattle, the breakdown was slightly different, with 50 average annual registrations from white apprentices, 15 from black or African American apprentices, and 12 from Hispanic apprentices.

EXHIBIT 20. NEW REGISTRATIONS BY RACE

King, Pierce, and Snohomish Counties; King County; and Seattle; 2011-2015 average



Sources: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

CONSTRUCTION APPRENTICESHIP COMPLETIONS AND COMPLETION TIMES

This analysis focuses on Laborers, Carpenters, and Electricians. These three crafts are forecasted to have the highest demand in the coming years for further detail on these forecasts, please see the March 2016 Sound Transit Construction Workforce Analysis.

On average, apprentices who finished their programs some time from 2011 to 2015 took just under 5 years (57.2 months) to complete their programs. Laborers took, on average, 1.5 years (18.0 months) longer than expected to complete their apprenticeships. Electricians took 14.8 months longer than expected to complete their apprenticeships, and carpenters took 6.3 months longer than expected.

EXHIBIT 21. CONSTRUCTION APPRENTICESHIP EXPECTED AND ACTUAL COMPLETION TIMES (MONTHS)

King, Pierce, and Snohomish Counties, 2011-2015 average

| | Expected Completion Time | Actual Completion Time | Difference |
|------------------------------------|--------------------------|------------------------|------------|
| Laborers | 25.9 | 43.9 | 18.0 |
| Carpenters | 47.9 | 54.2 | 6.3 |
| Electricians | 47.5 | 62.3 | 14.8 |
| Other Construction Apprenticeships | 45.0 | 57.2 | 12.2 |
| Construction Apprenticeships | 44.9 | 57.1 | 12.3 |



Low difference between expected and actual completion times.



High difference between expected and actual completion times.

Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

CANCELLATION RATES BY TRADE AND GENDER

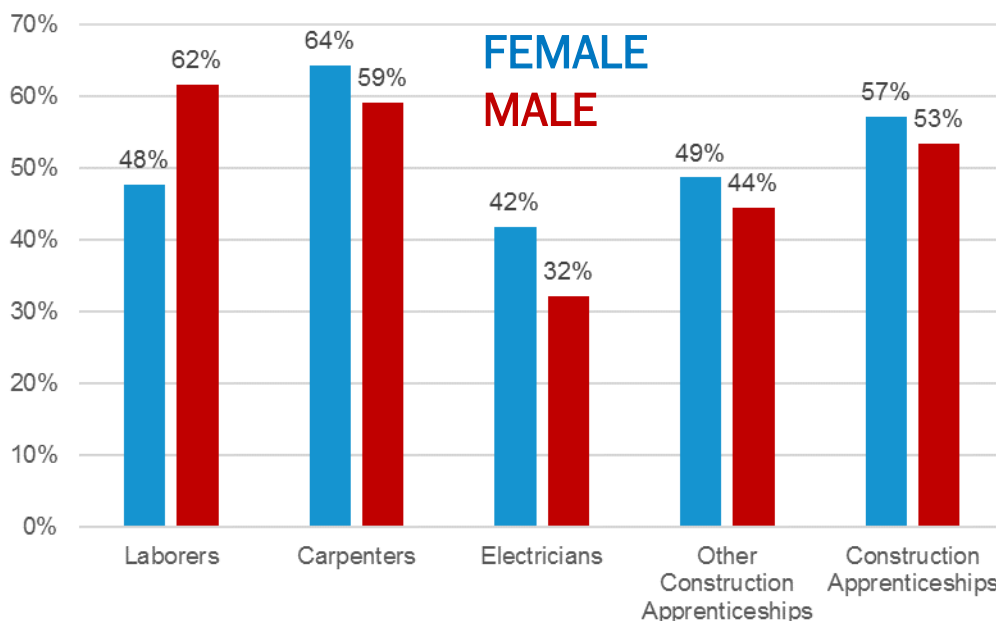
Looking at cancellation rates more closely by trade and gender helps further describe the demographic differences of construction apprentices in King, Pierce, and Snohomish Counties.

On average, male laborer apprentices had higher cancellation rates than female apprentices from 2011 through 2015: 62% for male apprentices (94 cancellations on average) compared to 48% for female apprentices (8 female cancellations on average).

For carpenter apprentices and electricians, the reverse was true: male apprentices had lower cancellation rates than their female counterparts. Across all construction apprenticeships, female construction apprentices had a slightly higher cancellation rate than their male counterparts: 57% (or 57 average annual cancellations) compared to 53% (or 725 average annual cancellations).

EXHIBIT 22. CONSTRUCTION APPRENTICESHIP CANCELLATION RATES BY TRADE AND GENDER

King, Pierce, and Snohomish Counties, 2011-2015 average



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

ACTUAL AND EXPECTED COMPLETION TIME (MONTHS) BY GENDER

Comparing actual construction apprenticeship completion times with expected completion times by gender provides further detail into the differences between male and female construction apprentices.

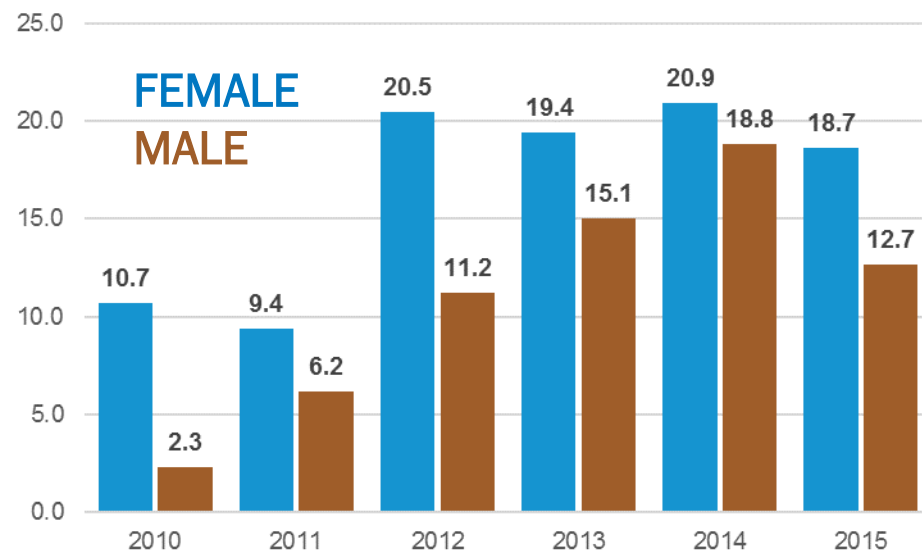
Expected completion times are defined at the apprentice level as the full-time equivalent term of the apprenticeship. For example, an apprentice in a 4,000-hour program would have an expected completion time of roughly two years. If the apprentice took three calendar years to complete the 4,000-hour program, the difference between actual and expected completion times would be one year. The differences between expected and actual completion times for apprentices who completed their respective programs in a given calendar year are then averaged, resulting in the values in **Exhibit 23**.

From 2010 to 2015, the difference between actual and expected completion times for both male and female construction apprenticeships has increased. While male construction apprentices had a lower average difference between actual and estimated completion times in 2010, the gap between the two genders has begun to narrow.

From 2010 to 2015, between 56 and 93 female construction apprentices completed their respective programs per year. Between 556 and 1,012 male apprentices completed their programs per year.

EXHIBIT 23. DIFFERENCE BETWEEN ACTUAL AND EXPECTED COMPLETION TIME (MONTHS) BY GENDER

King, Pierce, and Snohomish Counties, 2010-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

ACTUAL AND EXPECTED COMPLETION TIME (MONTHS) BY RACE

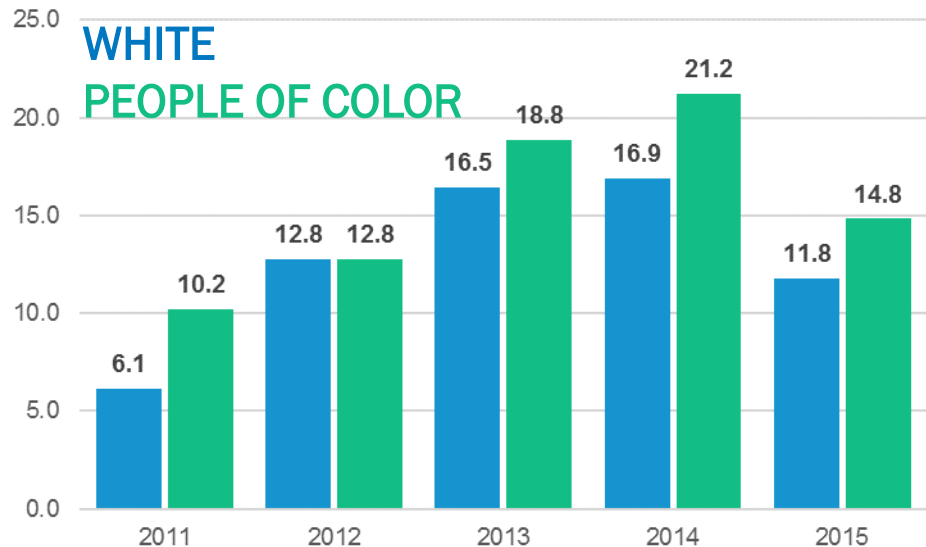
The same metric can be used to compare white apprentices and apprentices who identified as people of color.

To a large degree, white apprentices and apprentices of color had very similar differences between actual and expected completion times, with people of color averaging slightly higher than their white counterparts. This difference was the greatest in 2014, where white apprentices who completed programs took an average of 16.9 months longer than expected to complete their apprenticeships compared to 21.2 months for people of color.

From 2011 to 2015, between 159 and 285 apprentices of color completed their respective programs per year, compared to between 445 and 816 for white construction apprentices.

EXHIBIT 24. DIFFERENCE BETWEEN ACTUAL AND EXPECTED COMPLETION TIME (MONTHS) BY RACE

King, Pierce, and Snohomish Counties 2011-2015



Source: Washington State Department of Labor and Industries, 2016; Community Attributes Inc., 2016.

OUTLINE

1 INFORMATION AND BACKGROUND

- Background
- Research Questions
- Terms and Concepts

2 CURRENT DEMOGRAPHIC CHARACTERISTICS

- Race, Ethnicity, Gender, and Place of Residence
- Breakouts for Electrician, Carpenter, and Laborer Apprentices

3 COMPLETIONS AND CANCELLATIONS

- Race, Ethnicity, Gender, and Place of Residence
- Breakouts for Electrician, Carpenter, and Laborer Apprentices

4 MAJOR TAKEAWAYS

RACE

On average, **King, Pierce, and Snohomish Counties had 921 construction apprentices of color from 2011 through 2015** (29% of active apprentices). The region also had an additional 2,241 white construction apprentices (70% of active apprentices).

Apprentices of color took longer, on average, to complete their respective apprenticeship programs from 2010 through 2015.

From 2011 through 2015, an annual average of 284 apprentices of color cancelled their apprenticeships (60% of apprentices of color), compared to 498 for white apprentices (50% of white apprentices).

GENDER

In King, Pierce, and Snohomish Counties, an average of 245 apprentices per year were female from 2011-2015. There were, on average, 2,952 male apprentices per year during the same period.

On average, **female construction apprentices took longer to complete their respective apprenticeship programs than their male counterparts.**

From 2011 through 2015, an average of 57 female apprentices cancelled their apprenticeships per year, compared to 725 for male apprentices.

TRADE

Laborers, carpenters, and electricians are three of the most in-demand occupations in King, Pierce, and Snohomish Counties. On average, there were 147 active electrician apprentices per year, 107 active laborer apprentices per year, and 87 active carpenter apprentices per year from 2011-2015.

Laborers who completed their programs during this period took, on average, 18 months longer to complete their programs than expected. Electricians took 14.8 months longer than expected, on average, and carpenters took 6.3 months longer than expected.

APPENDIX

1 APPRENTICE COMPLETIONS

- Average annual completions and Completion and Cancellation rates by trade, gender, and race for apprenticeship programs.

2 APPRENTICES IN PRIORITY ZIP CODES

- Average annual active apprentices by trade, gender, and race.

February 2017

EXHIBIT A-1. APPRENTICE COMPLETIONS

King, Pierce, and Snohomish Counties; 2011-2015 Annual Averages

| Program | Trade | All Apprentices | | | Priority Hire ZIP Codes | | |
|----------------|----------------------------------------------------------------|---------------------|-----------------|-------------------|-------------------------|-----------------|-------------------|
| | | Average Completions | Completion Rate | Cancellation Rate | Average Completions | Completion Rate | Cancellation Rate |
| All | All Trades | 598.6 | 40% | 53% | 158.6 | 39% | 55% |
| CITC | All Trades | 32.0 | 33% | 59% | 7.2 | 26% | 64% |
| Other Programs | All Trades | 566.6 | 41% | 53% | 151.4 | 39% | 54% |
| CITC | Electricians | 11.6 | 36% | 51% | 2.2 | 31% | 47% |
| Other Programs | Electricians | 143.0 | 64% | 30% | 36.0 | 67% | 27% |
| CITC | Carpenters | 11.4 | 32% | 64% | 2.6 | 22% | 73% |
| Other Programs | Carpenters | 67.4 | 39% | 58% | 16.0 | 32% | 63% |
| CITC | Plumbers, Pipefitters, and Steamfitters | 4.8 | 39% | 52% | 0.8 | 40% | 60% |
| Other Programs | Plumbers, Pipefitters, and Steamfitters | 61.8 | 63% | 34% | 23.2 | 67% | 29% |
| CITC | Construction Laborers | 0.0 | 0% | 50% | 0.0 | 0% | 0% |
| Other Programs | Construction Laborers | 57.6 | 34% | 60% | 14.4 | 30% | 62% |
| CITC | HVAC Installers and Repairers | 1.8 | 36% | 56% | 0.6 | 38% | 50% |
| Other Programs | HVAC Installers and Repairers | 13.2 | 72% | 27% | 4.6 | 70% | 30% |
| CITC | Sheet Metal Workers | 0.6 | 43% | 43% | 0.0 | 0% | 0% |
| Other Programs | Sheet Metal Workers | 45.2 | 57% | 39% | 8.8 | 65% | 32% |
| CITC | Operating Engineers and Other Construction Equipment Operators | 0.8 | 29% | 57% | 0.2 | 20% | 80% |
| Other Programs | Operating Engineers and Other Construction Equipment Operators | 15.6 | 52% | 34% | 1.8 | 47% | 37% |
| CITC | Painters, Construction and Maintenance | 1.0 | 14% | 86% | 0.8 | 22% | 78% |
| Other Programs | Painters, Construction and Maintenance | 9.0 | 11% | 83% | 5.0 | 17% | 76% |
| | Structural Iron and Steel Workers | 34.4 | 43% | 55% | 10.0 | 45% | 54% |
| | Drywall and Ceiling Tile Installers | 25.0 | 27% | 51% | 6.8 | 23% | 58% |
| | Glaziers | 15.8 | 64% | 31% | 4.0 | 65% | 35% |
| | Roofers | 14.2 | 15% | 83% | 3.6 | 13% | 85% |
| | Elevator Installers and Repairers | 11.6 | 29% | 68% | 1.8 | 21% | 79% |
| | Cement Masons and Concrete Finishers | 9.6 | 25% | 73% | 2.8 | 26% | 72% |
| | Brickmasons and Blockmasons | 6.8 | 33% | 55% | 1.6 | 32% | 60% |
| | Boilemakers | 6.6 | 46% | 47% | 2.4 | 50% | 46% |
| | Insulation Workers, Mechanical | 5.4 | 47% | 49% | 1.2 | 50% | 50% |
| | Pipelayers | 4.0 | 100% | 0% | 1.4 | 100% | 0% |
| | Insulation Workers, Floor, Ceiling, and Wall | 3.6 | 53% | 44% | 0.6 | 75% | 25% |
| | Tapers | 3.4 | 13% | 63% | 1.0 | 10% | 69% |
| | Carpet Installers | 3.0 | 25% | 75% | 0.8 | 36% | 64% |
| | Construction and Related Workers, All Other | 2.8 | 33% | 62% | 0.4 | 22% | 67% |
| | Plasterers and Stucco Masons | 2.4 | 23% | 71% | 0.6 | 19% | 75% |
| | Helpers—Masons and Tile and Marble Setters | 1.8 | 11% | 83% | 1.0 | 17% | 77% |
| | Tile and Marble Setters | 1.6 | 26% | 68% | 0.8 | 44% | 56% |
| | Stonemasons | 0.8 | 36% | 45% | 0.4 | 100% | 0% |
| | Terrazzo Workers and Finishers | 0.8 | 44% | 56% | 0.4 | 33% | 67% |
| | Surveyors | 0.2 | 17% | 50% | 0.0 | 0% | 100% |

EXHIBIT A-2. APPRENTICE COMPLETIONS BY TRADE AND GENDER

King, Pierce, and Snohomish Counties; 2011-2015 Annual Averages

| Program | Trade | Female | | | Male | | |
|----------------|----------------------------------------------------------------|---------------------|-----------------|-------------------|---------------------|-----------------|-------------------|
| | | Average Completions | Completion Rate | Cancellation Rate | Average Completions | Completion Rate | Cancellation Rate |
| All | All Trades | 31.4 | 32% | 57% | 567.2 | 41% | 53% |
| CITC | All Trades | 0.4 | 7% | 79% | 31.6 | 34% | 57% |
| Other Programs | All Trades | 31.0 | 33% | 56% | 535.6 | 41% | 53% |
| CITC | Electricians | 0.2 | 9% | 82% | 11.4 | 38% | 49% |
| Other Programs | Electricians | 9.4 | 59% | 36% | 133.6 | 64% | 30% |
| CITC | Carpenters | 0.0 | 0% | 63% | 11.4 | 34% | 64% |
| Other Programs | Carpenters | 3.6 | 30% | 63% | 63.8 | 40% | 57% |
| CITC | Plumbers, Pipefitters, and Steamfitters | 0.2 | 33% | 67% | 4.6 | 39% | 51% |
| Other Programs | Plumbers, Pipefitters, and Steamfitters | 1.4 | 35% | 50% | 60.4 | 64% | 33% |
| CITC | Construction Laborers | 0.0 | 0% | 0% | 0.0 | 0% | 50% |
| Other Programs | Construction Laborers | 6.8 | 40% | 48% | 50.8 | 33% | 62% |
| CITC | HVAC Installers and Repairers | 0.0 | 0% | 100% | 1.8 | 38% | 54% |
| Other Programs | HVAC Installers and Repairers | 0.0 | 0% | 0% | 13.2 | 72% | 27% |
| CITC | Sheet Metal Workers | 0.0 | 0% | 0% | 0.6 | 43% | 43% |
| Other Programs | Sheet Metal Workers | 1.8 | 26% | 65% | 43.4 | 60% | 36% |
| CITC | Operating Engineers and Other Construction Equipment Operators | 0.0 | 0% | 100% | 0.8 | 31% | 54% |
| Other Programs | Operating Engineers and Other Construction Equipment Operators | 2.2 | 55% | 25% | 13.4 | 52% | 35% |
| CITC | Painters, Construction and Maintenance | 0.0 | 0% | 100% | 1.0 | 15% | 85% |
| Other Programs | Painters, Construction and Maintenance | 0.6 | 11% | 86% | 8.4 | 12% | 83% |
| | Structural Iron and Steel Workers | 1.4 | 27% | 65% | 33.0 | 45% | 54% |
| | Drywall and Ceiling Tile Installers | 0.0 | 0% | 56% | 25.0 | 27% | 51% |
| | Glaziers | 0.8 | 67% | 17% | 15.0 | 64% | 32% |
| | Roofers | 0.0 | 0% | 100% | 14.2 | 15% | 82% |
| | Elevator Installers and Repairers | 0.0 | 0% | 100% | 11.6 | 30% | 67% |
| | Cement Masons and Concrete Finishers | 0.4 | 14% | 71% | 9.2 | 25% | 73% |
| | Brickmasons and Blockmasons | 0.2 | 25% | 50% | 6.6 | 34% | 55% |
| | Boilemakers | 1.0 | 56% | 44% | 5.6 | 44% | 48% |
| | Insulation Workers, Mechanical | 0.2 | 33% | 67% | 5.2 | 48% | 48% |
| | Pipelayers | 0.6 | 100% | 0% | 3.4 | 100% | 0% |
| | Insulation Workers, Floor, Ceiling, and Wall | 0.2 | 100% | 0% | 3.4 | 52% | 45% |
| | Tapers | 0.2 | 9% | 36% | 3.2 | 14% | 65% |
| | Carpet Installers | 0.2 | 50% | 50% | 2.8 | 24% | 76% |
| | Construction and Related Workers, All Other | 0.0 | 0% | 80% | 2.8 | 38% | 59% |
| | Plasterers and Stucco Masons | 0.0 | 0% | 83% | 2.4 | 26% | 70% |
| | Helpers—Masons and Tile and Marble Setters | 0.0 | 0% | 100% | 1.8 | 12% | 82% |
| | Tile and Marble Setters | 0.0 | 0% | 0% | 1.6 | 26% | 68% |
| | Stonemasons | 0.0 | 0% | 100% | 0.8 | 40% | 40% |
| | Terrazzo Workers and Finishers | 0.0 | 0% | 0% | 0.8 | 44% | 56% |
| | Surveyors | 0.0 | 0% | 100% | 0.2 | 25% | 25% |

EXHIBIT A-3. APPRENTICE COMPLETIONS BY TRADE AND RACE

King, Pierce, and Snohomish Counties; 2011-2015 Annual Averages

| Program | Trade | White | | | People of Color | | |
|----------------|----------------------------------------------------------------|---------------------|-----------------|-------------------|---------------------|-----------------|-------------------|
| | | Average Completions | Completion Rate | Cancellation Rate | Average Completions | Completion Rate | Cancellation Rate |
| All | All Trades | 441.8 | 44% | 50% | 156.8 | 33% | 60% |
| CITC | All Trades | 20.6 | 34% | 58% | 11.4 | 31% | 59% |
| Other Programs | All Trades | 421.2 | 44% | 50% | 145.4 | 33% | 60% |
| CITC | Electricians | 8.4 | 36% | 52% | 3.2 | 36% | 49% |
| Other Programs | Electricians | 117.4 | 66% | 28% | 25.6 | 54% | 38% |
| CITC | Carpenters | 5.0 | 29% | 69% | 6.4 | 36% | 58% |
| Other Programs | Carpenters | 48.2 | 43% | 54% | 19.2 | 32% | 64% |
| CITC | Plumbers, Pipefitters, and Steamfitters | 4.4 | 47% | 49% | 0.4 | 13% | 60% |
| Other Programs | Plumbers, Pipefitters, and Steamfitters | 50.8 | 66% | 30% | 11.0 | 50% | 45% |
| CITC | Construction Laborers | 0.0 | 0% | 0% | 0.0 | 0% | 50% |
| Other Programs | Construction Laborers | 37.0 | 33% | 61% | 20.6 | 36% | 58% |
| CITC | HVAC Installers and Repairers | 1.8 | 50% | 44% | 0.0 | 0% | 86% |
| Other Programs | HVAC Installers and Repairers | 11.6 | 72% | 27% | 1.6 | 73% | 27% |
| CITC | Sheet Metal Workers | 0.2 | 20% | 60% | 0.4 | 100% | 0% |
| Other Programs | Sheet Metal Workers | 37.6 | 59% | 38% | 7.6 | 49% | 42% |
| CITC | Operating Engineers and Other Construction Equipment Operators | 0.6 | 43% | 29% | 0.2 | 14% | 86% |
| Other Programs | Operating Engineers and Other Construction Equipment Operators | 12.4 | 54% | 35% | 3.2 | 46% | 29% |
| CITC | Painters, Construction and Maintenance | 0.2 | 5% | 95% | 0.8 | 22% | 78% |
| Other Programs | Painters, Construction and Maintenance | 4.0 | 9% | 86% | 5.0 | 15% | 79% |
| | Structural Iron and Steel Workers | 23.2 | 43% | 55% | 11.2 | 44% | 55% |
| | Drywall and Ceiling Tile Installers | 15.4 | 28% | 45% | 9.6 | 24% | 59% |
| | Glaziers | 11.8 | 66% | 30% | 4.0 | 61% | 33% |
| | Roofers | 6.2 | 14% | 83% | 8.0 | 15% | 82% |
| | Elevator Installers and Repairers | 10.2 | 31% | 65% | 1.4 | 21% | 79% |
| | Cement Masons and Concrete Finishers | 6.2 | 25% | 74% | 3.4 | 23% | 73% |
| | Brickmasons and Blockmasons | 4.4 | 31% | 57% | 2.4 | 40% | 50% |
| | Boilemakers | 4.8 | 47% | 47% | 1.8 | 43% | 48% |
| | Insulation Workers, Mechanical | 3.6 | 46% | 49% | 1.8 | 50% | 50% |
| | Pipelayers | 2.8 | 100% | 0% | 1.2 | 100% | 0% |
| | Insulation Workers, Floor, Ceiling, and Wall | 2.8 | 54% | 42% | 0.8 | 50% | 50% |
| | Tapers | 2.4 | 18% | 49% | 1.0 | 8% | 78% |
| | Carpet Installers | 2.2 | 24% | 76% | 0.8 | 27% | 73% |
| | Construction and Related Workers, All Other | 1.8 | 30% | 63% | 1.0 | 42% | 58% |
| | Plasterers and Stucco Masons | 0.8 | 18% | 77% | 1.6 | 27% | 67% |
| | Helpers—Masons and Tile and Marble Setters | 1.0 | 10% | 85% | 0.8 | 11% | 80% |
| | Tile and Marble Setters | 1.4 | 29% | 71% | 0.2 | 14% | 57% |
| | Stonemasons | 0.8 | 36% | 45% | 0.0 | 0% | 0% |
| | Terrazzo Workers and Finishers | 0.2 | 25% | 75% | 0.6 | 60% | 40% |
| | Surveyors | 0.2 | 25% | 50% | 0.0 | 0% | 50% |

EXHIBIT A-4. ACTIVE APPRENTICES BY PRIORITY ZIP CODE STATUS, TRADE, GENDER, AND RACE

King, Pierce, and Snohomish Counties; 2015 Apprentices

| Trade Desc | Program | ZIP | All Apprentices | | Female | | Male | | White | | People of Color | |
|----------------------------------------------------------------|----------------|-------------------------|-----------------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|-----------------|-----------------|
| | | | Active | Share of Active | Active | Share of Active | Active | Share of Active | Active | Share of Active | Active | Share of Active |
| All Trades | All Programs | All ZIP Codes | 3121 | 100% | 229 | 7% | 2892 | 93% | 2118 | 68% | 1003 | 32% |
| | | Priority Hire ZIP Codes | 801 | 26% | 81 | 35% | 720 | 25% | 402 | 19% | 399 | 40% |
| | | Other ZIP Codes | 2320 | 74% | 148 | 65% | 2172 | 75% | 1716 | 81% | 604 | 60% |
| Electricians | CITC | Priority Hire ZIP Codes | 14 | 18% | 0 | 0% | 14 | 18% | 3 | 4% | 11 | 14% |
| | CITC | Other ZIP Codes | 64 | 82% | 3 | 4% | 61 | 78% | 49 | 63% | 15 | 19% |
| | Other Programs | Priority Hire ZIP Codes | 147 | 27% | 12 | 2% | 135 | 25% | 92 | 17% | 55 | 10% |
| | Other Programs | Other ZIP Codes | 402 | 73% | 22 | 4% | 380 | 69% | 335 | 61% | 67 | 12% |
| Carpenters | CITC | Priority Hire ZIP Codes | 21 | 33% | 6 | 10% | 15 | 24% | 6 | 10% | 15 | 24% |
| | CITC | Other ZIP Codes | 42 | 67% | 2 | 3% | 40 | 63% | 26 | 41% | 16 | 25% |
| | Other Programs | Priority Hire ZIP Codes | 122 | 24% | 16 | 3% | 106 | 21% | 63 | 13% | 59 | 12% |
| | Other Programs | Other ZIP Codes | 381 | 76% | 26 | 5% | 355 | 71% | 305 | 61% | 76 | 15% |
| Construction Laborers | CITC | Priority Hire ZIP Codes | 3 | 27% | 1 | 9% | 2 | 18% | 1 | 9% | 2 | 18% |
| | CITC | Other ZIP Codes | 8 | 73% | 1 | 9% | 7 | 64% | 5 | 45% | 3 | 27% |
| | Other Programs | Priority Hire ZIP Codes | 111 | 31% | 10 | 3% | 101 | 28% | 39 | 11% | 72 | 20% |
| | Other Programs | Other ZIP Codes | 250 | 69% | 23 | 6% | 227 | 63% | 175 | 48% | 75 | 21% |
| Painters, Construction and Maintenance | CITC | Priority Hire ZIP Codes | 4 | 50% | 0 | 0% | 4 | 50% | 0 | 0% | 4 | 50% |
| | CITC | Other ZIP Codes | 4 | 50% | 1 | 13% | 3 | 38% | 1 | 13% | 3 | 38% |
| | Other Programs | Priority Hire ZIP Codes | 26 | 26% | 5 | 5% | 21 | 21% | 14 | 14% | 12 | 12% |
| | Other Programs | Other ZIP Codes | 75 | 74% | 4 | 4% | 71 | 70% | 51 | 50% | 24 | 24% |
| Sheet Metal Workers | CITC | Priority Hire ZIP Codes | 2 | 17% | 0 | 0% | 2 | 17% | 2 | 17% | 0 | 0% |
| | CITC | Other ZIP Codes | 10 | 83% | 0 | 0% | 10 | 83% | 7 | 58% | 3 | 25% |
| | Other Programs | Priority Hire ZIP Codes | 28 | 19% | 7 | 5% | 21 | 14% | 21 | 14% | 7 | 5% |
| | Other Programs | Other ZIP Codes | 123 | 81% | 15 | 10% | 108 | 72% | 101 | 67% | 22 | 15% |
| Operating Engineers and Other Construction Equipment Operators | CITC | Priority Hire ZIP Codes | 3 | 16% | 1 | 5% | 2 | 11% | 3 | 16% | 0 | 0% |
| | CITC | Other ZIP Codes | 16 | 84% | 0 | 0% | 16 | 84% | 11 | 58% | 5 | 26% |
| | Other Programs | Priority Hire ZIP Codes | 11 | 20% | 4 | 7% | 7 | 13% | 5 | 9% | 6 | 11% |
| | Other Programs | Other ZIP Codes | 45 | 80% | 6 | 11% | 39 | 70% | 35 | 63% | 10 | 18% |
| Plumbers, Pipefitters, and Steamfitters | CITC | Priority Hire ZIP Codes | 4 | 17% | 0 | 0% | 4 | 17% | 0 | 0% | 4 | 17% |
| | CITC | Other ZIP Codes | 19 | 83% | 0 | 0% | 19 | 83% | 11 | 48% | 8 | 35% |
| | Other Programs | Priority Hire ZIP Codes | 68 | 30% | 2 | 1% | 66 | 29% | 51 | 22% | 17 | 7% |
| | Other Programs | Other ZIP Codes | 162 | 70% | 10 | 4% | 152 | 66% | 136 | 59% | 26 | 11% |
| HVAC Installers and Repairers | CITC | Priority Hire ZIP Codes | 6 | 35% | 1 | 6% | 5 | 29% | 1 | 6% | 5 | 29% |
| | CITC | Other ZIP Codes | 11 | 65% | 0 | 0% | 11 | 65% | 9 | 53% | 2 | 12% |
| | Other Programs | Priority Hire ZIP Codes | 16 | 36% | 0 | 0% | 16 | 36% | 14 | 31% | 2 | 4% |
| | Other Programs | Other ZIP Codes | 29 | 64% | 0 | 0% | 29 | 64% | 27 | 60% | 2 | 4% |

Note: The “Share of Active” column indicates the share of active apprentices in that ZIP code group, program, demographic subset, and trade out of all active apprentices in that program, and trade.

EXHIBIT A-5. ACTIVE APPRENTICES BY PRIORITY ZIP CODE STATUS, TRADE, GENDER, AND RACE (Continued)

King, Pierce, and Snohomish Counties; 2015 Apprentices

| Program | ZIP | All Apprentices | | Female | | Male | | White | | People of Color | |
|-----------------------------------|-------------------------|-----------------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|-----------------|-----------------|
| | | Active | Share of Active | Active | Share of Active | Active | Share of Active | Active | Share of Active | Active | Share of Active |
| Structural Iron and Steel | Priority Hire ZIP Codes | 59 | 25% | 7 | 3% | 52 | 22% | 29 | 12% | 30 | 13% |
| | Other ZIP Codes | 175 | 75% | 13 | 6% | 162 | 69% | 115 | 49% | 60 | 26% |
| Drywall and Ceiling Tile | Priority Hire ZIP Codes | 44 | 27% | 0 | 0% | 44 | 27% | 11 | 7% | 33 | 20% |
| | Other ZIP Codes | 118 | 73% | 2 | 1% | 116 | 72% | 81 | 50% | 37 | 23% |
| Elevator Installers and Repairers | Priority Hire ZIP Codes | 20 | 14% | 1 | 1% | 19 | 14% | 9 | 6% | 11 | 8% |
| | Other ZIP Codes | 119 | 86% | 2 | 1% | 117 | 84% | 60 | 43% | 59 | 42% |
| Roofers | Priority Hire ZIP Codes | 12 | 17% | 1 | 1% | 11 | 16% | 4 | 6% | 8 | 11% |
| | Other ZIP Codes | 58 | 83% | 6 | 9% | 52 | 74% | 31 | 44% | 27 | 39% |
| Cement Masons and Concrete | Priority Hire ZIP Codes | 24 | 27% | 3 | 3% | 21 | 24% | 7 | 8% | 17 | 19% |
| | Other ZIP Codes | 65 | 73% | 7 | 8% | 58 | 65% | 41 | 46% | 24 | 27% |
| Glaziers | Priority Hire ZIP Codes | 9 | 26% | 0 | 0% | 9 | 26% | 8 | 23% | 1 | 3% |
| | Other ZIP Codes | 26 | 74% | 2 | 6% | 24 | 69% | 21 | 60% | 5 | 14% |
| Brickmasons and Blockmasons | Priority Hire ZIP Codes | 15 | 33% | 1 | 2% | 14 | 31% | 7 | 16% | 8 | 18% |
| | Other ZIP Codes | 30 | 67% | 0 | 0% | 30 | 67% | 23 | 51% | 7 | 16% |
| Tapers | Priority Hire ZIP Codes | 7 | 39% | 0 | 0% | 7 | 39% | 3 | 17% | 4 | 22% |
| | Other ZIP Codes | 11 | 61% | 1 | 6% | 10 | 56% | 5 | 28% | 6 | 33% |
| Boilermakers | Priority Hire ZIP Codes | 5 | 33% | 1 | 7% | 4 | 27% | 2 | 13% | 3 | 20% |
| | Other ZIP Codes | 10 | 67% | 0 | 0% | 10 | 67% | 8 | 53% | 2 | 13% |
| Insulation Workers, | Priority Hire ZIP Codes | 5 | 21% | 0 | 0% | 5 | 21% | 2 | 8% | 3 | 13% |
| | Other ZIP Codes | 19 | 79% | 0 | 0% | 19 | 79% | 14 | 58% | 5 | 21% |
| Plasterers and Stucco Masons | Priority Hire ZIP Codes | 5 | 29% | 1 | 6% | 4 | 24% | 2 | 12% | 3 | 18% |
| | Other ZIP Codes | 12 | 71% | 2 | 12% | 10 | 59% | 8 | 47% | 4 | 24% |
| Carpet Installers | Priority Hire ZIP Codes | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | Other ZIP Codes | 9 | 100% | 0 | 0% | 9 | 100% | 4 | 44% | 5 | 56% |
| Construction and Related Workers, | Priority Hire ZIP Codes | 1 | 14% | 1 | 14% | 0 | 0% | 1 | 14% | 0 | 0% |
| | Other ZIP Codes | 6 | 86% | 0 | 0% | 6 | 86% | 5 | 71% | 1 | 14% |
| Tile and Marble Setters | Priority Hire ZIP Codes | 4 | 57% | 0 | 0% | 4 | 57% | 2 | 29% | 2 | 29% |
| | Other ZIP Codes | 3 | 43% | 0 | 0% | 3 | 43% | 2 | 29% | 1 | 14% |
| Insulation Workers, Floor, | Priority Hire ZIP Codes | 4 | 22% | 0 | 0% | 4 | 22% | 0 | 0% | 4 | 22% |
| | Other ZIP Codes | 14 | 78% | 0 | 0% | 14 | 78% | 10 | 56% | 4 | 22% |
| Pipelayers | Priority Hire ZIP Codes | 1 | 50% | 0 | 0% | 1 | 50% | 0 | 0% | 1 | 50% |
| | Other ZIP Codes | 1 | 50% | 0 | 0% | 1 | 50% | 1 | 50% | 0 | 0% |
| Stonemasons | Priority Hire ZIP Codes | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | Other ZIP Codes | 3 | 100% | 0 | 0% | 3 | 100% | 3 | 100% | 0 | 0% |

Note: The “Share of Active” column indicates the share of active apprentices in that ZIP code group, demographic subset, and trade out of all active apprentices in that trade.

In 2015, three construction occupations had no active apprentices: Surveyors, Terrazzo Workers, and Mason and Tile Helpers.