

**PORTLAND PUBLIC SCHOOLS
ENROLLMENT FORECASTS
2021-22 to 2035-36**

**Based on October 2019 and
October 2020 Enrollments**



JUNE 2021

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EXECUTIVE SUMMARY

This report presents the results of a demographic study conducted by the Portland State University Population Research Center (PRC) for Portland Public Schools (PPS). The study includes analysis of population, housing, and enrollment trends affecting the District in recent years, and annual enrollment forecasts for the District overall, for students residing in each of its high school clusters (HSCLs), for students residing in each school attendance area, and for students enrolled at each school. Enrollment forecasts were prepared under high, middle, and low scenarios for the District. Forecasts for HSCLs, attendance areas, and for individual schools are consistent with the district-wide middle series forecast.

Population and Housing Trends

- Between 2000 and 2010, population within PPS grew from 426,110 persons to 460,248. District population has grown even faster this decade, reaching about 508,700 by 2019.¹
- The young adult population age 20 to 34 grew by about 14,000 (12 percent) between 2000 and 2010, but annual births to District residents changed very little during the decade, as fertility rates fell among women under age 30. Since 2010 PPS births have fallen precipitously; the number of births fell by 26 percent from its 2008 peak to 2019.
- In the five-year period between 2016 and 2020 the City of Portland issued building permits for more than 25,000 housing units within the District.
- New affordable housing projects within PPS scheduled for occupancy between 2021 and 2023 include about 600 family-size units of two or more bedrooms.

¹ The Census Bureau's Small Area Income and Poverty Estimates include a 2019 population estimate of 508,693 for Portland Public Schools. Retrieved at <https://www.census.gov/programs-surveys/saipe.html>.

Enrollment Trends

- In fall 2020, Portland Public Schools (PPS) enrolled 46,937 students in grades K-12, a decrease of 1,716 students from fall 2019. Nearly all of the K-12 enrollment decline seen in fall 2020 was attributable to choices that families made in response to distance learning during the COVID-19 pandemic.
- Growth had been slowing already; after 10 consecutive years of growth from fall 2008 to fall 2018, the District had seen a small net loss of 55 students between fall 2018 and fall 2019.
- The greatest impact of COVID-19 was seen in PPS kindergartens, which likely would have enrolled about 3,800 students, but instead enrolled 3,245 students, 629 fewer compared with fall 2019. This 16 percent drop was similar to kindergarten declines in nearby districts and to the State of Oregon overall.
- Elementary (grades K-5) enrollment peaked in fall 2016 and saw net losses of 0.6 percent, 2.2 percent, and 1.6 percent in successive years. Another decline of one to two percent was expected between fall 2019 and fall 2020; actual decline was 7.3 percent due to the net loss of 1,725 students.
- In contrast to the elementary losses, district-wide enrollment in secondary grades had experienced steady growth through fall 2019, beginning in 2010-11 for middle grades and 2014-15 for high school grades.
- The pandemic caused a reversal of the trend for middle grades, as they had a net loss of 115 students (1.0 percent) between fall 2019 and fall 2020. In spite of the shift to remote learning, enrollment in high school grades continued to increase, by 124 students (0.9 percent) in fall 2020 compared with fall 2019.
- All HSCLs had fewer K-5 residents in the pandemic year 2020-21 than in 2015-16, with the exception of Jefferson/McDaniel, which had a net increase of eight percent.

- Despite the pandemic, all HSCLs except Lincoln had more 9th-12th grade PPS residents in 2020-21 than in 2015-16.

Enrollment Forecasts

For the district-wide forecast, three scenarios of population and enrollment changes were developed: a most-likely, or middle, scenario; a scenario for lower growth; and a higher growth scenario. All three of the scenarios for the PPS district-wide enrollment forecasts use similar mortality, fertility, and kindergarten and first grade “capture” rates during the 15-year horizon. The differences between the three scenarios are primarily due to different assumptions about the levels of net migration (the net movement into and out of the District) of the District’s population.

District-wide Middle Series Forecasts

- In the middle series, 2021-22 K-12 enrollment rebounds to 48,649 in 2021-22, gaining more than 1,700 students from the 2020-21 pandemic year.
- Enrollment falls for several years after 2021-22, reaching a low of 45,518 in 2029-30. By the end of the 15-year forecast in 2035-36, enrollment is 46,869 — nearly 1,800 students below its pre-pandemic 2019-20 level.
- The 2021-22 K-5 forecast of 22,944 is a decline of over 600 students from 2019-20, and net losses in elementary grades continue for several more years. K-5 enrollment reaches a low of 20,928 in 2027-28. K-5 enrollments begin to grow in 2028-29, ending the 15-year forecast period with 23,843 students in 2035-36, a few hundred students more than their pre-pandemic 2019-20 level.
- Enrollment of 11,118 6th-8th grade students in 2021-22 is just 14 less than in 2019-20. After 2021-22, smaller cohorts resulting from the birth downturn enter middle school, driving enrollment down to a low of 9,370 in 2031-32. Growth in the last few years of the forecast results in a 2035-36 forecast of 10,206, about 900 students below the pre-pandemic 2019-20 level.

- The 2021-22 forecast of 14,587 in 9th-12th grade represents a more than 600 student gain from 2019-20. Growth continues for a few more years, reaching a peak of 15,168 in 2024-25, before steadily declining throughout the remainder of the forecast horizon. High school grades enrollment of 12,820 in 2035-36 is more than 1,100 smaller than in pre-pandemic 2019-20.

District-wide Low Series Forecasts

- In the low series, K-12 enrollment rebounds to 48,300 in 2021-22, falling 353 students short of the 2019-20 total.
- Over the 10-year period following 2021-22, PPS K-12 enrollment suffers a net loss of over 4,000 students, reaching a low of 44,195 in 2031-32. Modest growth during the last few years of the forecast results in a 2035-36 forecast of 44,850.
- Elementary enrollment in 2021-22 of 22,734 is more than 800 students below 2019-20 enrollment. Net loss of over 2,300 K-5 students in six years following 2021-22 results in a low of 20,417 in 2027-28. Growth occurs throughout the remainder of the forecast period, and elementary grades enroll 22,862 in 2035-36, about 700 students below the pre-pandemic 2019-20 total.
- Middle grades never rebound to their 2019-20 enrollment level in the 15-year horizon of the low series forecast. After reaching a low of 9,056 in 2031-32, growth in the last four years results in a 2035-36 forecast of 9,707 students in grades 6-8, about 1,400 fewer than in 2019-20.
- High school enrollments continue their recent growth streak until reaching a peak of 15,011 in 2024-25 before steadily declining throughout the remainder of the forecast period, ending with 9th-12th grade enrollment of 12,281 in 2035-36, about 1,700 fewer students than in 2019-20.

District-wide High Series Forecasts

- K-12 enrollment of 48,951 in 2021-22 surpasses the 2019-20 pre-pandemic total by about 500 students.
- As in the low and middle series, enrollment falls after 2021-22, though the losses aren't as steep. The low of 46,752 in 2029-30 is about 1,900 students fewer than in 2019-20. A strong enrollment rebound in the final years of the forecast period results in enrollment of 48,993 in 2035-36, 340 students greater than in 2019-20.
- Elementary enrollment of 23,090 in 2021-22 remains nearly 500 students below its 2019-20 level. Losses of an additional 1,700 K-5 students occur over the six-year period from 2021-22 to 2027-28, followed by growth that results in a forecast of 24,800 students in 2035-36, 1,239 greater than in 2019-20.
- Middle grades enrollment of 11,164 in 2021-22 exceeds 2019-20 by about 30 students. However, the number of 6th-8th grade students remains below its 2021-22 level for the remainder of the forecast period. After a low enrollment of 9,683 in 2031-32, four years of growth result in a 2035-26 forecast of 10,590, more than 500 students fewer than the 2019-20 pre-pandemic total.
- Enrollment in high school grades peaks at 15,414 in 2024-25 in the high series forecast, but declines steadily thereafter, reaching 13,603 in 2035-36, about 350 students fewer than in 2019-20.

Figure 1 shows recent and forecast enrollments by five-year intervals. Figure 2 depicts annual K-12 enrollment since 2010-11 and forecasts through 2035-36. The same time span is depicted in charts in Figures 3 to 5 for K-5th grade, 6th-8th grade, and 9th-12th grade.

[Appendix A](#) contains annual district-wide enrollment forecasts by individual grade for each of the three scenarios. [Appendix B](#) contains forecasts of residents by HSCL and school attendance area, and [Appendix C](#) contains forecasts of students attending individual schools. All of the attendance area and school forecasts in Appendices B and C are consistent with the district-wide middle scenario.

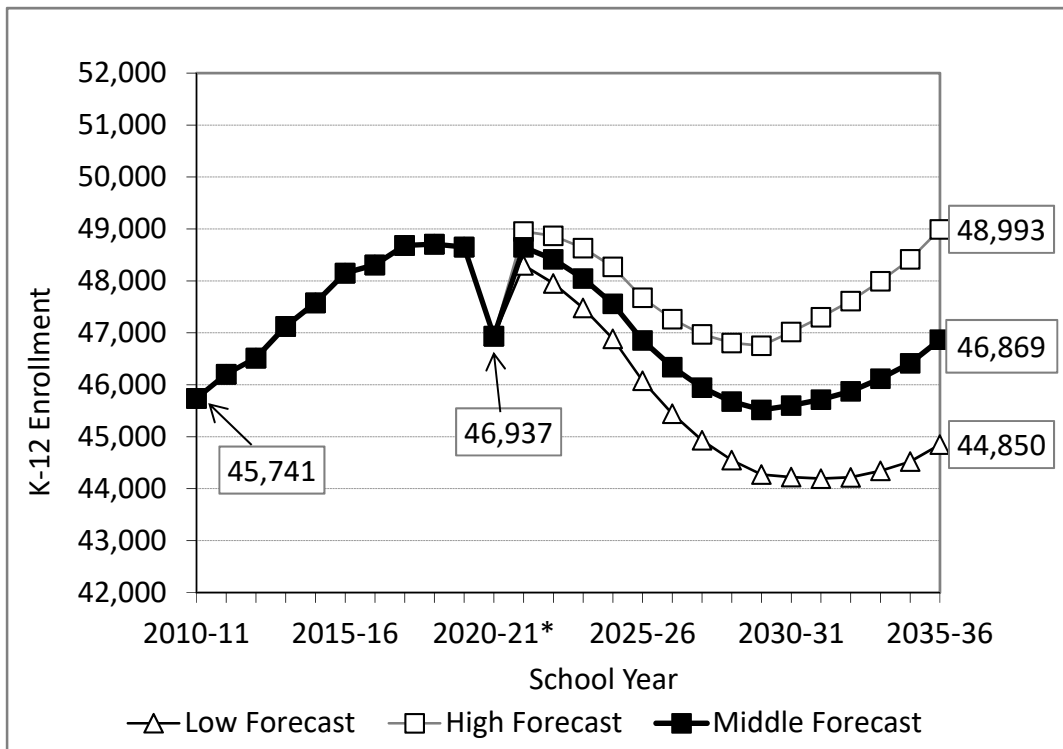
Figure 1 PPS District-Wide K-12 Enrollment Forecasts

Forecast	Historic 2015-16	Historic 2020-21*	Forecast 2025-26	Forecast 2030-31	Forecast 2035-36
Middle Series	48,152	46,937	46,856	45,603	46,869
5 year change	N/a	-1,215	-81	-1,253	1,266
Low Series	48,152	46,937	46,078	44,224	44,850
5 year change	N/a	-1,215	-859	-1,854	626
High Series	48,152	46,937	47,677	47,019	48,993
5 year change	N/a	-1,215	740	-658	1,974

Note: Includes K-12; does not include pre-kindergarten.

*Enrollment impacted by distance learning during COVID-19 pandemic.

Figure 2 District-Wide K-12 Enrollment Forecasts



*Enrollment impacted by distance learning during COVID-19 pandemic.

Figure 3 District-Wide Grade K-5 Enrollment Forecasts

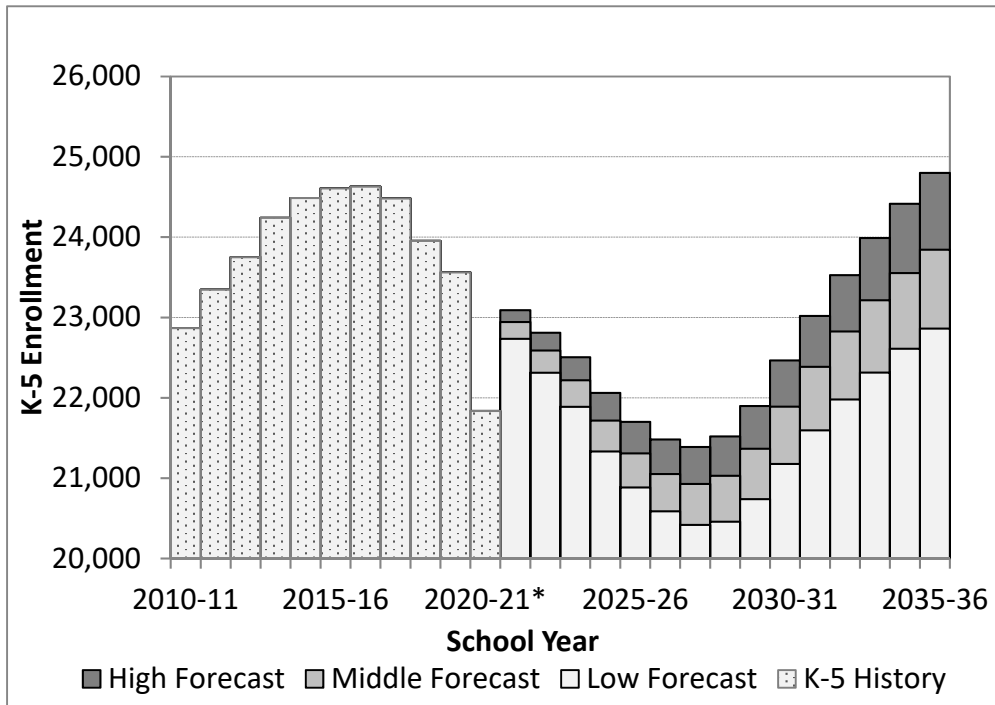
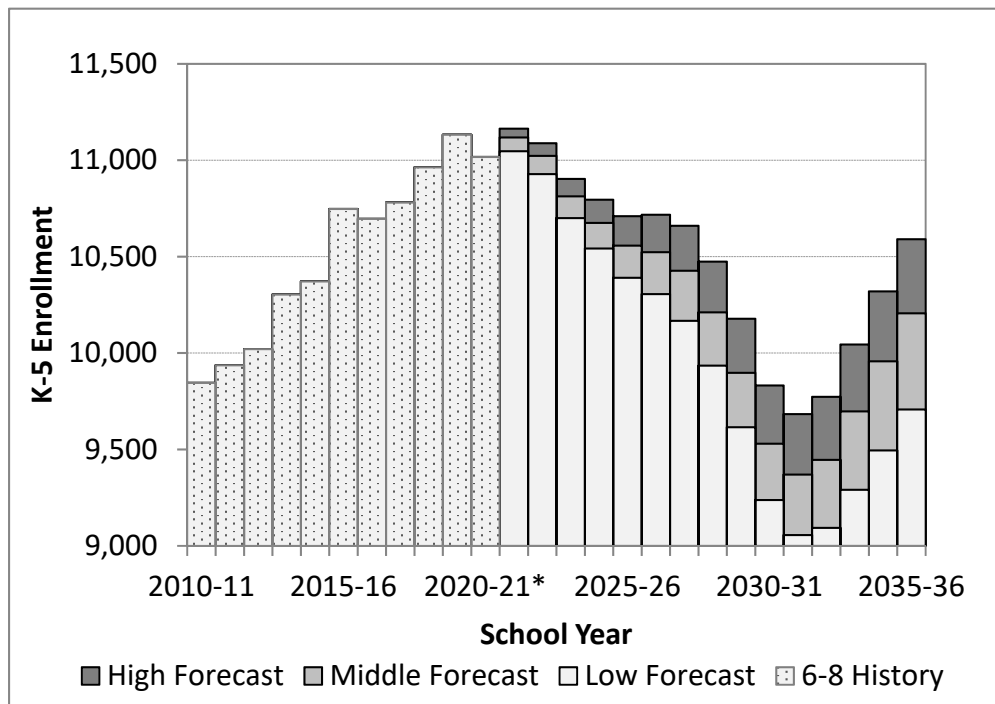
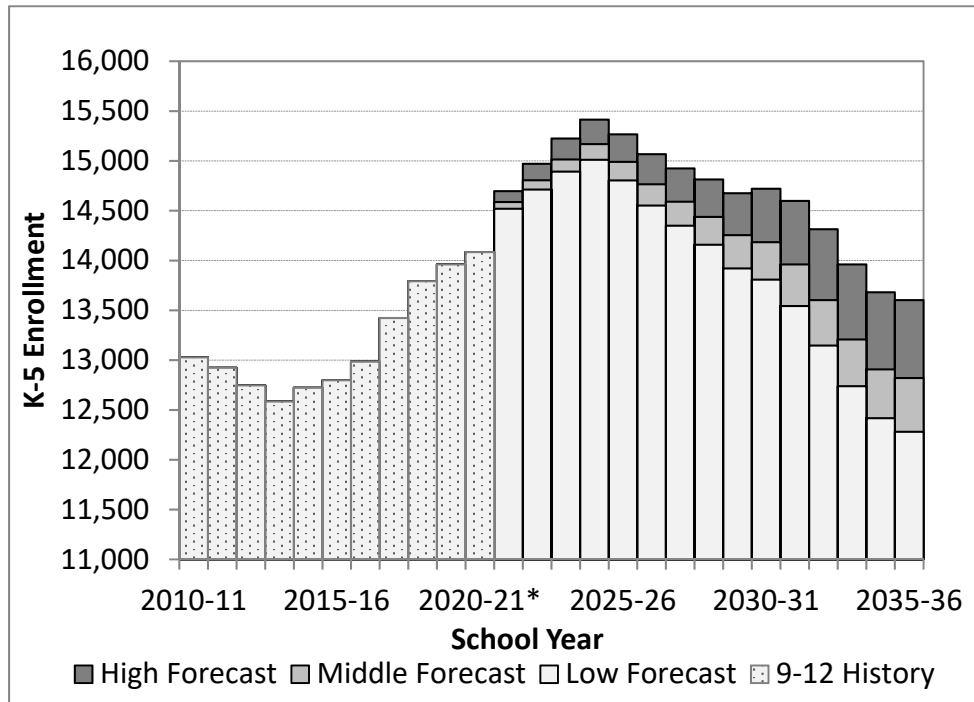


Figure 4 District-Wide Grade 6-8 Enrollment Forecasts



*Enrollment impacted by distance learning during COVID-19 pandemic.

Figure 5 District-Wide Grade 9-12 Enrollment Forecasts



*Enrollment impacted by distance learning during COVID-19 pandemic.

INTRODUCTION

The Population Research Center (PRC) at Portland State University has prepared enrollment forecasts for Portland Public Schools (PPS) in each of the past 22 years. This new study updates the previous long-range forecasts for the District, its attendance areas, and individual schools. The appendices of this report contain annual district-wide enrollment forecasts by grade level and high school cluster (HSCL) enrollment forecasts by school level (K-5, 6-8, 9-12) for the 2021-22 to 2035-36 school years and enrollment by attendance area of residence and by individual school attending for the 2021-22 to 2030-31 school years.

Primary data sources used to prepare these forecasts include historic PPS enrollments through 2020-21, U.S. Census Bureau 2000 and 2010 Decennial Censuses and 2015 to 2019 American Community Survey, birth data from the Oregon Center for Health Statistics, and housing development information from the City of Portland and Metro.

The forecast process is geographically top-down, divided into four stages:

- District-wide forecasts by grade level are prepared using a cohort-component model, described in the “Enrollment Forecasts” section of this report. A middle series, which is considered the most likely scenario consistent with long term demographic trends and expected population growth, is prepared first. Migration levels are adjusted to produce alternative high and low scenarios for the District. All three scenarios use the same fertility rates and long run kindergarten and 1st grade capture rates (ratios of PPS enrollment to total residents).
- Second, forecasts of PPS students by grade level residing in each HSCL are prepared and controlled to the district-wide middle growth forecast.
- Third, forecasts of PPS students by grade level residing within elementary, middle, and high school attendance areas are prepared within each cluster, with

attendance area resident forecasts controlled to the HSCL forecasts. This step includes forecasts of residents and non-residents attending each neighborhood school.

- The fourth step is to prepare enrollment forecasts for schools that have no attendance area. The largest of the district-run non-neighborhood schools are forecast individually, while alternative programs, community-based programs, special services, and charter schools are grouped into an “other schools and programs” category.

Typically, the most recent October enrollment count is used as a baseline, or “launch” year for enrollment forecasts. However, due to the COVID-19 pandemic, October 2020 enrollment was atypical. Therefore, we used October 2019 as a baseline, constructing a hypothetical forecast for October 2020 based on historic trends while considering actual October 2020 as a secondary source.

The District serves most of the City of Portland and small portions of the cities of Lake Oswego and Beaverton and unincorporated Multnomah and Washington Counties. Among the 460,248 PPS residents as of the 2010 Census, there were 451,258 City of Portland residents (representing 77 percent of the City total), 2,413 Lake Oswego residents, 1,453 Beaverton residents, and 5,124 unincorporated area residents.

Following this introduction are sections presenting recent population, housing, and enrollment trends within the District. Next are summaries of the district-wide enrollment forecasts and individual school forecasts, and descriptions of the methodologies used to produce them. The final section contains a brief discussion of the nature and accuracy of forecasts. Appendices contain tables showing A) annual district-wide enrollment forecasts by grade, B) annual enrollment forecasts by area of residence and grade level (K-2, 3-5, 6-8, 9-12), C) annual enrollment forecasts by individual school, D) neighborhood elementary school attendance areas listed by HSCL, and E) selected population, housing, social, and economic estimates from the Census Bureau’s American Community Survey.

POPULATION AND HOUSING TRENDS

During the decade between 2000 and 2010, the population within PPS grew by about 34,000, from 426,110 persons to 460,248. Growth has accelerated in the current decade; it is estimated that the District grew by around 47,000 residents between 2010 and 2019². While the District's average annual growth rate (AAGR) of 0.8 percent between 2000 and 2010 fell below the metro area's 1.4 percent AAGR, the District's estimated 1.1 percent AAGR between 2010 and 2019 is much closer to the 1.3 percent metro area AAGR over the period.

Population by Age Group

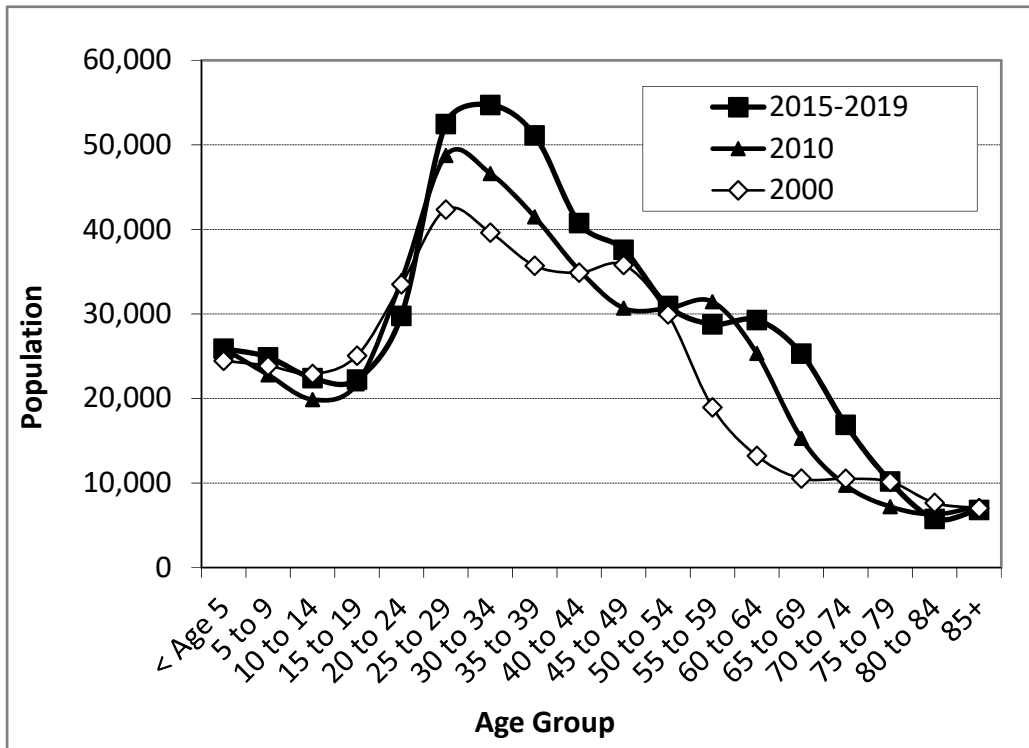
Although the District's population grew in both the 1990s and 2000s, population change by age group has varied widely. Net losses of population under age 10 between 1990 and 2000 are consistent with the elementary enrollment losses of the late 1990s and early 2000s, while the growth of the population under age five between 2000 and 2010 foretold subsequent elementary enrollment growth. Although we are waiting for details from the 2020 Census, we estimate that the number of residents under age five fell in the 2010s.

Figure 6 illustrates the growth of the young adult population. In both 2000 and 2010, 25 to 34 year-olds constituted the two largest age groups. In 2010, age 25 to 34 population of about 82,000 accounted for nearly 18 percent of the District's total population. By 2010, the 95,000 PPS residents age 25 to 34 accounted for nearly 21 percent of the District's total population. As the millennial generation ages, the 35 to 39 age group has joined ages 25 to 29 and 30 to 34 as the largest groups. The chart also shows the aging of the baby boom generation; though not the largest in number, the cohort born in the

² The Census Bureau's Small Area Income and Poverty Estimates include a 2010 population estimate of 461,591 and a 2019 population estimate of 508,693 for Portland Public Schools. Retrieved at <https://www.census.gov/programs-surveys/saipe.html>.

late 1940s and early 1950s has consistently accounted for the largest percentage growth each decade, pushing up the population age 55 to 64 in 2010 and 65 to 74 in 2020.

Figure 6 Population by Age Group, PPS, 2000, 2010, and 2015-2019

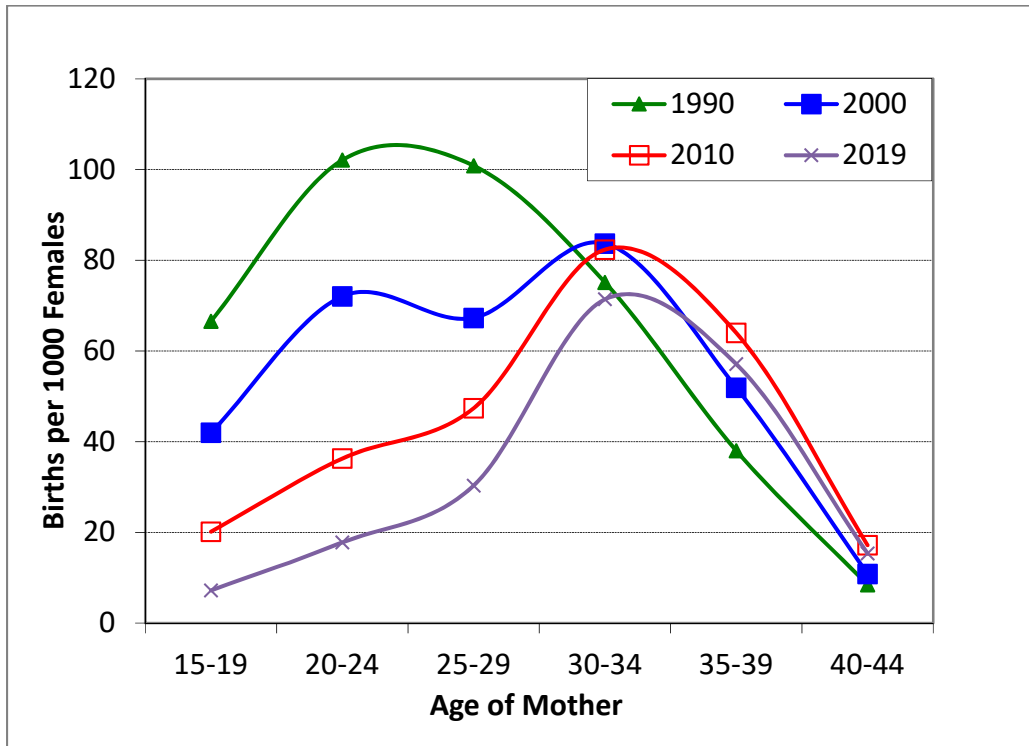


Births

While the District’s young adult population has grown, the average number of births per woman under age 30 has fallen sharply. This trend is illustrated in Figure 7, using age-specific fertility rates (ASFRs) for five-year age groups. The rates are expressed as the number of births per 1,000 women in each age group. Rates are calculated using calendar year births to PPS residents and population counts by age group from each decennial census, and population estimates by age group for 2019. Rates in 2019 for women under age 25 fell to about one-fifth of their 1990 levels, while rates for women age 25 to 29 fell by about two-thirds. The number of births to women under age 25 residing within PPS fell from 1,747 in 2000 to 860 in 2010, and have continued to plunge, reaching a new low of 355 in 2019.

The total fertility rate (TFR) is an estimate of the number of children that would be born to the average woman during her child-bearing years based on ASFRs observed at a given time. The estimated TFR for the District was 1.96 in 1990, only slightly lower than the TFR of 2.12 in the remainder of the seven county Portland-Vancouver-Hillsboro Metropolitan Statistical Area (MSA) outside of PPS. The gap between PPS and the MSA grew each decade; 2000 TFRs were 1.64 in PPS and 2.19 in the MSA remainder, and 2010 TFRs were 1.34 in PPS and 1.91 in the MSA remainder.

Figure 7 Age-Specific Fertility Rates, 1990 to 2019
Residents of Portland Public Schools

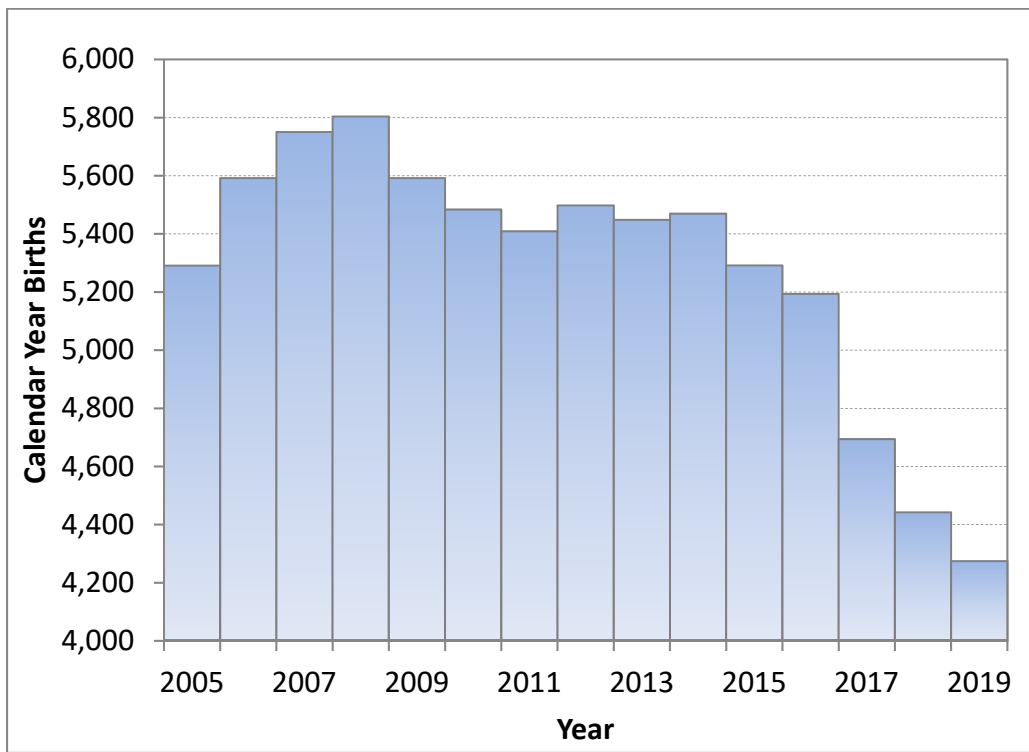


The decline in fertility rates among women under 30 has been partially offset by increases for women age 30 and older. Overall population increases also helped to prevent the number of PPS births from falling at a level commensurate with the decline in fertility rates. More than 90 percent of births to PPS residents occur to women age 20 to 39, a group whose population increased by 16 percent between the 2000 and 2010 censuses. Despite the large increase in the number of women in prime childbearing ages, the annual

number of births has declined, most notably since 2016. Annual births over a 15-year period are shown in Figure 8. There were 26 percent fewer births to PPS residents in 2019 compared with the 2008 peak.

Figure 9 compares births by HSCL in successive five-year periods, covering the most recent 15 years for which detailed data by the mother’s place of residence has been compiled. Every cluster experienced decrease in the most recent period.

Figure 8 Annual Births to PPS Residents, 2005 to 2019



Year	2005	2006	2007	2008	2009	2010
Births	5,291	5,592	5,751	5,802	5,591	5,481
Year	2011	2012	2013	2014	2015	2016
Births	5,409	5,497	5,448	5,470	5,288	5,194
Year	2017	2018	2019			
Births	4,694	4,442	4,275			

Figure 9 Births by High School Cluster

HS Cluster ¹	Five- Year Period 2005-09	Five- Year Period 2010-14	Five- Year Period 2015-19	2005-09 to 2010- 14 Change	2010-14 to 2015- 19 Change
Cleveland	4,159	3,975	3,416	-4%	-14%
Franklin	4,883	4,746	4,048	-3%	-15%
Grant	1,362	1,042	894	-23%	-14%
Jeff-Grant ²	2,030	1,911	1,582	-6%	-17%
Jeff-McDaniel ²	1,297	1,383	1,194	7%	-14%
Jeff-Roosevelt ²	2,424	2,396	2,083	-1%	-13%
Lincoln	2,066	2,223	2,134	8%	-4%
McDaniel	3,852	3,667	3,072	-5%	-16%
Roosevelt	2,584	2,437	2,181	-6%	-11%
Wells	3,370	3,524	3,288	5%	-7%
PPS District Total	28,027	27,305	23,892	-3%	-12%

1. High school cluster boundaries in 2021-22.

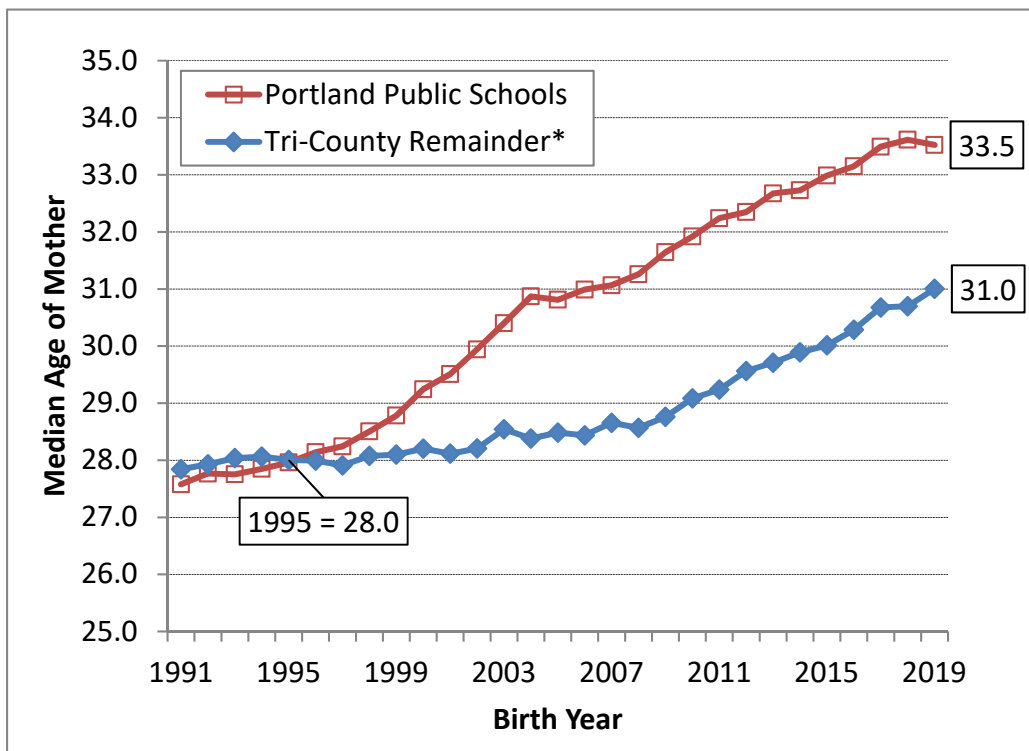
2. Jefferson Dual Assignment Zones.

Source: Oregon Center for Health Statistics; geocoded birth records aggregated to high school cluster boundaries by Population Research Center, PSU, based on mother's residence.

If no one moved into or out of the District, and all kindergarten-age residents attended PPS kindergartens, kindergarten enrollment trends would perfectly reflect cohort birth trends. For example, the fall 2012 peak in kindergarten enrollment aligned with the District's peak September to August birth cohort, 2006-07. However, the number of births in 2006-07 was only one percent greater than the number of births six years earlier, while kindergarten enrollment in fall 2012 was 18 percent greater than in fall 2006. In the seven years following 2012-13, kindergarten enrollment declined by nine percent, more than doubling the four percent decline in corresponding birth cohorts. In the "Enrollment Forecast" section of this report we explore the relationship between births and subsequent kindergarten enrollments. An important component of that relationship is the mobility of families between the birth of a child and the child's enrollment in kindergarten at age five.

Despite recent enrollment declines, the net loss of children between birth and age five remains smaller than in the late 1990s and early 2000s. This trend may be influenced by the age at which mothers give birth. In 1995, the median age of women giving birth was 28.0 both in PPS and in suburban areas.³ By 2019, the median age for PPS residents giving birth had risen by five and a half years to 33.5, while the median age in suburban areas increased by only three years, to 31.0 (Figure 10). The living arrangements of residents who have children at an older age are likely to be more established. Therefore, these families are less likely to move out. Recent census data indicated that 40 percent of PPS residents in their 20s had moved within a 12-month period, compared with only 23 percent of PPS residents in their 30s and 11 percent of PPS residents in their 40s.⁴

Figure 10 Median Age of Mother at Birth of Child by Place of Residence



*Clackamas, Multnomah, and Washington Counties outside of PPS District.

³ Clackamas, Multnomah, and Washington counties excluding PPS area.

⁴ U.S. Census Bureau, 2015-2019 American Community Survey 5 year estimates, Table B07001.

Housing Growth

Between 2000 and 2010, about 25,000 housing units were added within PPS. Despite a slowdown in new construction following the Great Recession that persisted into the early 2010s, housing growth in the 2010s has substantially outpaced the 2000s. In the five years between 2016 and 2020, the City of Portland issued building permits for over 25,000 units within the District. Multi-family units accounted for over 21,200 (85 percent) of those units, of which nearly 1,900 were accessory dwelling units.

City of Portland residential building permit data for a 20-year period is shown by HSCL in Figures 11 and 12. Single-family development has occurred throughout the District, though the Cleveland, Franklin, and Jefferson clusters have accounted for more than 63 percent of new single-family homes in the past 10 years. Multi-family development is more concentrated, with 82 percent of 2017 to 2020 permits issued in the Cleveland, Jefferson, and Lincoln clusters. Figure 13 depicts the district-wide annual totals for single-family and multi-family units respectively.

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ENROLLMENT TRENDS

In fall 2020, Portland Public Schools (PPS) enrolled 46,937 students in grades K-12, a decrease of 1,716 students from fall 2019. Growth had been slowing already; after 10 consecutive years of growth from fall 2008 to fall 2018, the District saw a small net loss of 55 students between fall 2018 and fall 2019. However, we conclude that nearly all of the K-12 enrollment decline seen in fall 2020 was attributable to choices that families made in response to distance learning during the COVID-19 pandemic, a trend seen throughout Oregon and the U.S.

The greatest impact of COVID-19 was seen in PPS kindergartens, which likely would have enrolled about 3,800 students under normal circumstances, but instead enrolled 3,245 students, 629 fewer compared with fall 2019. This 16 percent drop is similar to or less than in adjacent districts including Beaverton (17 percent), Lake Oswego (15 percent), and Tigard-Tualatin (24 percent), and also similar to an unofficial tally of districts nationwide conducted by NPR. They report that “in many places, the enrollment drops are especially noticeable in kindergarten and pre-K. For our reporting, we reached out to more than 100 districts and heard back from more than 60. In our sample, the average kindergarten enrollment drop was 16 percent.”⁸ In Oregon, the statewide drop in kindergarten enrollment amounted to nearly 15 percent.⁹

Other grades are also noticeably affected by the pandemic, with enrollment in each grade from 1st to 6th falling short of the middle series forecast that we prepared in April 2020 by four to six percent. Enrollment in grades 7-12 was less impacted, falling short of the middle series forecast by an average of only one percent.

⁸ “Enrollment Is Dropping in Public Schools Around the Country.” Anya Kamenetz, Marco A. Treviño, and Jessica Bakeman, reporters. NPR, October 9, 2020.

⁹ Oregon Department of Education, Student Enrollment Reports, <https://www.oregon.gov/ode/reports-and-data/students/Pages/Student-Enrollment-Reports.aspx>. Retrieved on March 1, 2021.

Elementary (grades K-5) enrollment peaked in fall 2016 and saw net losses of 0.6 percent, 2.2 percent, and 1.6 percent in successive years. Another decline of one to two percent was expected between fall 2019 and fall 2020; actual decline was 7.3 percent due to the net loss of 1,725 students. Part of the drop in K-5 enrollment is due to successively smaller incoming kindergarten classes in each of the eight years since their 2012-13 peak. Fall 2019 kindergarten enrollment was already the smallest since 2007-08 and was 403 students (nine percent) lower than in 2012-13. However, the COVID-19 pandemic accounted for most of the steep decline in fall 2020.

In contrast to the elementary losses, district-wide enrollment in secondary grades had experienced steady growth through fall 2019, beginning in 2010-11 for middle grades and 2014-15 for high school grades. The pandemic caused a reversal of the trend for middle grades, as they had a net loss of 115 students (1.0 percent) between fall 2019 and fall 2020. In spite of the shift to remote learning, enrollment in high school grades continued to increase, by 124 students (0.9 percent) in fall 2020 compared with fall 2019.

Figure 15 summarizes the K-12 enrollment history for the District by grade level annually from 2010-11 to 2020-21.¹⁰ Figure 16 shows enrollment change by five-year increments.

¹⁰ The “total” row in Figure 15 differs from the district-wide totals published by PPS because it shows K-12 figures only; it does not include pre-kindergarten enrollment.

District Capture Rate

The capture rate is the ratio of enrollment in District schools to the school-age population living within the District boundary. School-age residents who do not attend PPS schools include those who attend private schools, transfer to other districts, are home schooled, five or six-year-old children who have not yet entered school, and teenagers who have graduated or left PPS schools. Conversely, PPS enrollment includes some students who are not included in the district's school-age population, specifically transfer students from other districts and students over age 18.

The most accurate count of school-age population comes from the decennial census; baseline capture rates for the enrollment forecast are calculated by comparing the census conducted on April 1 with PPS enrollment of students residing within the District. School years 1999-2000 and 2009-2010 are used because they include the April 1 census date. Rates based on the 2000 and 2010 censuses presented in Figure 17 show that PPS capture rates declined for each grade level group, particularly at the secondary level. Declining capture rates exacerbated the decade's enrollment loss that was primarily caused by an 11 percent decline in school-age population. We infer from this analysis that 81 percent of the District's loss of 6,890 resident students between 1999-2000 and 2009-2010 was attributable to population change, while the remaining 19 percent was attributable to capture rate change.

The Census Bureau's American Community Survey (ACS) includes questions about school enrollment by level and by type (public or private). The most recent estimate, from survey responses collected between 2015 and 2019, is that 15.8% (+/- 1.1%) of PPS residents enrolled in grades K-12 were enrolled in private schools. Compared with nine years earlier, from 2006 to 2010, the number of K-8th grade students increased in both public and private schools. The number of 9th-12th grade students in public schools fell, while the number in private schools increased. The estimated 18.4 percent (+/-2.2%) private share for 9th-12th grade students represents a statistically significant increase at the 90

percent confidence level from the 2006-10 estimate of 13.4 percent (+/-1.9%). Figure 18 presents these ACS estimates of private school share for PPS.

Figure 17 Estimated PPS Capture Rates, Resident Enrollment
1999-2000 and 2009-2010

Year and Capture Rate	K-2	3-5	6-8	9-12	K-12
1999-2000 Enrollment ⁴	11,987	12,391	11,502	15,397	51,277
2000 Population ²	14,186	14,589	13,452	18,806	61,033
Capture Rate, 1999-2000⁵	84.5%	84.9%	85.5%	81.9%	84.0%
2009-2010 Enrollment	11,576	10,472	9,601	12,738	44,387
2010 Population ³	13,820	12,641	11,793	16,161	54,414
Capture Rate, 2009-2010⁶	83.8%	82.8%	81.4%	78.8%	81.6%

1. The ratio of enrolled District residents to total District population by grade level. Enrollments exclude about 1,000 students in 1999-2000 and 1,200 students in 2009-10 residing outside of the district.
2. April 1, 2000 census counts grouped by grade level cohorts. For example, K-2 is an estimate of the number of children who would have been age 5 to 7 on 9/1/99.
3. April 1, 2010 census counts grouped by grade level cohorts. For example, K-2 is an estimate of the number of children who would have been age 5 to 7 on 9/1/09.
4. Excludes students enrolled in programs that were transferred to MESD in 2003; ungraded students assigned to grade levels.
5. The ratio of 1999-2000 resident enrollment to 2000 (census) population.
6. The ratio of 2009-2010 resident enrollment to 2010 (census) population.

Figure 18 School Enrollment by Type of School, PPS District Residents,
2006-10 & 2015-19

Grade Cohort	2006-10 Estimate	2006-10 MOE*	2015-19 Estimate	2015-19 MOE*
Enrolled in K-12 th grade	53,880	+/-1,393	58,726	+/-1,508
Public Schools	45,853	+/-1,344	49,433	+/-1,445
Private Schools	8,027	+/-565	9,293	+/-662
Private Share	14.9%	+/- 1.1%	15.8%	+/- 1.1%
Enrolled in K-8 th grade	37,107	+/-1,152	41,827	+/-1,230
Public Schools	31,327	+/-1,091	35,641	+/-1,232
Private Schools	5,780	+/-475	6,186	+/-516
Private Share	15.6%	+/- 1.4%	14.8%	+/- 1.3%
Enrolled in 9 th -12 th grade	16,773	+/-784	16,899	+/-879
Public Schools	14,526	+/-784	13,792	+/-846
Private Schools	2,247	+/-305	3,107	+/-380
Private Share	13.4%	+/- 1.9%	18.4%	+/- 2.2%

*Margin of sampling error at the 90 percent confidence level.

Source: American Community Survey 5 year estimates, Tables B14002 and S1401. Data aggregated and MOEs recomputed by Portland State University Population Research Center.

Enrollment Trends by Place of Residence

The overall population of students residing in an attendance area and enrolled in any PPS school is typically more stable than the enrollment at the neighborhood school serving the attendance area. Enrollment at individual schools may change due to program or boundary changes, school openings or closures, school choice, the number of transfer slots, or other changes not related to underlying demographic trends. When student points are matched by address in a geographic information system, the number of PPS students (including charter schools) by grade level can be tabulated for any geographic area. Creating time series of resident PPS students by grade level by current attendance areas facilitates historic enrollment analysis even if school boundaries have changed, allowing us to identify shifts in the share of area students who enroll in their neighborhood school, or attend other PPS schools or programs.

HSCLs are composed of the elementary school attendance areas (ESAAs) in the high schools' feeder patterns. Each of the three Jefferson dual assignment zones are treated as individual clusters in this report. Most HSCLs are equivalent to high school attendance areas (HSAAs). However, two elementary areas are split between HSAAs. Faubion, split between the Jefferson-McDaniel and Jefferson-Roosevelt HSAAs, is included in the Jefferson-McDaniel HSCL. Bridlemile, split between the Lincoln and Wells HSAAs, is included in the Wells HSCL. A list of ESAAs by HSCL is provided in [Appendix D](#) of this report.

District-wide K-12 enrollment was three percent lower in 2020-21 compared with 2015-16, with wide variation in change among HSCLs and among school levels (K-5, 6-8, 9-12). Figure 19 reports the total number of residents of each HSCL enrolled in PPS schools, regardless of which PPS school they attended. All HSCLs had fewer K-5 residents in the pandemic year 2020-21 than in 2015-16, with the exception of Jefferson/McDaniel, which had a net increase of eight percent. Despite the pandemic, all HSCLs except Lincoln had more 9th-12th grade PPS residents in 2020-21 than in 2015-16.

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ENROLLMENT FORECASTS

Forecast Process

The forecast process is geographically top-down, divided into four stages:

- District-wide forecasts by grade level are prepared using a cohort-component model, described in more detail below. A middle series considered the most likely scenario consistent with long term demographic trends and expected population growth, is prepared first. Migration levels are adjusted to produce alternative high and low scenarios for the District. All three scenarios use the same fertility rates and long-run capture rates.
- Second, forecasts of PPS students by grade level residing in each HSCL are prepared and controlled to the district-wide middle series forecast.
- Third, forecasts of PPS students by grade level residing within elementary, middle, and high school attendance areas are prepared within each cluster, with attendance area resident forecasts controlled to the HSCL forecasts. This step includes forecasts of residents and non-residents attending each neighborhood school.
- The fourth step is to prepare enrollment forecasts for schools that have no attendance area. The largest of the district-run non-neighborhood schools are forecast individually, and alternative programs, community-based programs, special services, and charter schools are grouped into an “other schools and programs” category.

District-wide Population and Enrollment Forecasts: Methodology

The last two censuses (2000 and 2010) and historic enrollments are used to calibrate rates of changes in population by single year of age and changes in enrollment by grade level in one-year increments. Enrollment changes observed between fall 2019 and fall 2020 were not used in the development of rates, due to the COVID-19 pandemic. Instead, the baseline enrollment for these forecasts was fall 2019, and an unpublished fall 2020 forecast of what enrollment might have looked like under normal conditions was used as the base for the fall 2021 forecast. Fall 2021 kindergarten enrollment is expected to be slightly larger than it would have been if 2020-21 had been a “normal” year, to account for a small number of families who decided to wait to enroll their children in kindergarten. However, we expect that most of the children who were not enrolled in 2020-21 kindergartens will enter as first grade students in fall 2021.

Another key assumption is that fall 2021 will represent a return to normalcy. The forecasts were prepared in January 2021, under the expectation that PPS capture rates will be similar to the 2019-20 school year. There is a risk that enrollment will fall short if some families are hesitant to return, or if they continue to choose other schooling options for any reason.

The district-wide forecasts are the sum of two parts: resident forecasts consistent with population forecasts by age group, and non-resident forecasts based on recent trends in the number of PPS students living outside of the District’s boundaries.

Cohort-Component Model for District Residents

To ensure that enrollment forecasts are consistent with the dynamics of likely population growth within the District, a grade progression enrollment model is combined with a demographic cohort-component model used to forecast population for the District by age and sex. The **components** of population change are births, deaths, and migration. An area’s population grows when births outnumber deaths and when more people move into an area than out of it. These events occur at different rates for persons of different

age groups, or **cohorts**. For example, people tend to relocate the most when they are in their 20s and the elderly have a lower chance than younger people to survive over a ten-year period. Using age-specific fertility rates, age-sex specific mortality rates, age-sex specific migration rates, estimates of recent net migration levels, and forecasts of future migration levels, each component is applied to the base year population in a manner that simulates the actual dynamics of population change.

The 2000 and 2010 Census results were used as a baseline for the population forecasts. By “surviving” the 2000 population and 2000s births (estimating the population in each age group that would survive to the year 2010) and comparing the “survived” population to the actual 2010 population by age group, we were able to estimate the overall level of net migration between 2000 and 2010 as well as net migration by gender and age cohort. The net migration data was used to develop initial net migration rates, which were used as a baseline for rates used to forecast net migration for the 2010 to 2040 period.

We estimated the number of births to women residing within the District each year from 1999 to 2019, using data from the Oregon Department of Human Services, Center for Health Statistics. Detailed information including the age of mothers is incorporated in the establishment of fertility rates by age group for both 2000 and 2010. Steep declines in rates among women under 30 have continued since 2010; we estimate that the TFR decreased from 1.34 in 2010 to 1.00 in 2019. Fertility rates are forecast to rebound slightly, resulting in a TFR of 1.09 in 2025 and 1.13 in 2030 and beyond.

Historic school enrollment is linked to the population forecast in two ways. First, the kindergarten and first grade enrollments at the time of the most recent census (the 2009-2010 school year) are compared to the population at the appropriate ages counted in the census. The “capture rate,” or ratio of enrollment to population, is an estimate of the share of area children who are enrolled in District schools. Assumptions for capture rates based on census data are used to bring new kindergarten and first grade students into the District’s enrollment. If there is evidence that capture rates have changed since the time of the census, they may be adjusted in the forecast. Capture rates for District

residents are assumed to be near 0.80 for kindergarten and 0.81 for first grade in the long-range forecast.

The other way that historic population and enrollment are linked is through migration. Annual changes in school enrollment by cohort closely follow trends in the net migration of children in the District's population. Once the students are in first grade, a set of baseline grade progression rates (GPRs) are used to move students from one grade to the next. The GPR is the ratio of enrollment in a specific grade in one year to the enrollment of the same age cohort in the previous year; for example, the number of students enrolled in second grade this year divided by the number of students enrolled in first grade last year. These rates, usually 1.00 for elementary grades, represent a scenario under which there is no change due to migration. Enrollment change beyond the baseline is added (or subtracted, if appropriate) at each grade level depending on the migration levels of the overall population by single years of age.

Grade Progression Model for PPS Students Residing Outside of the District.

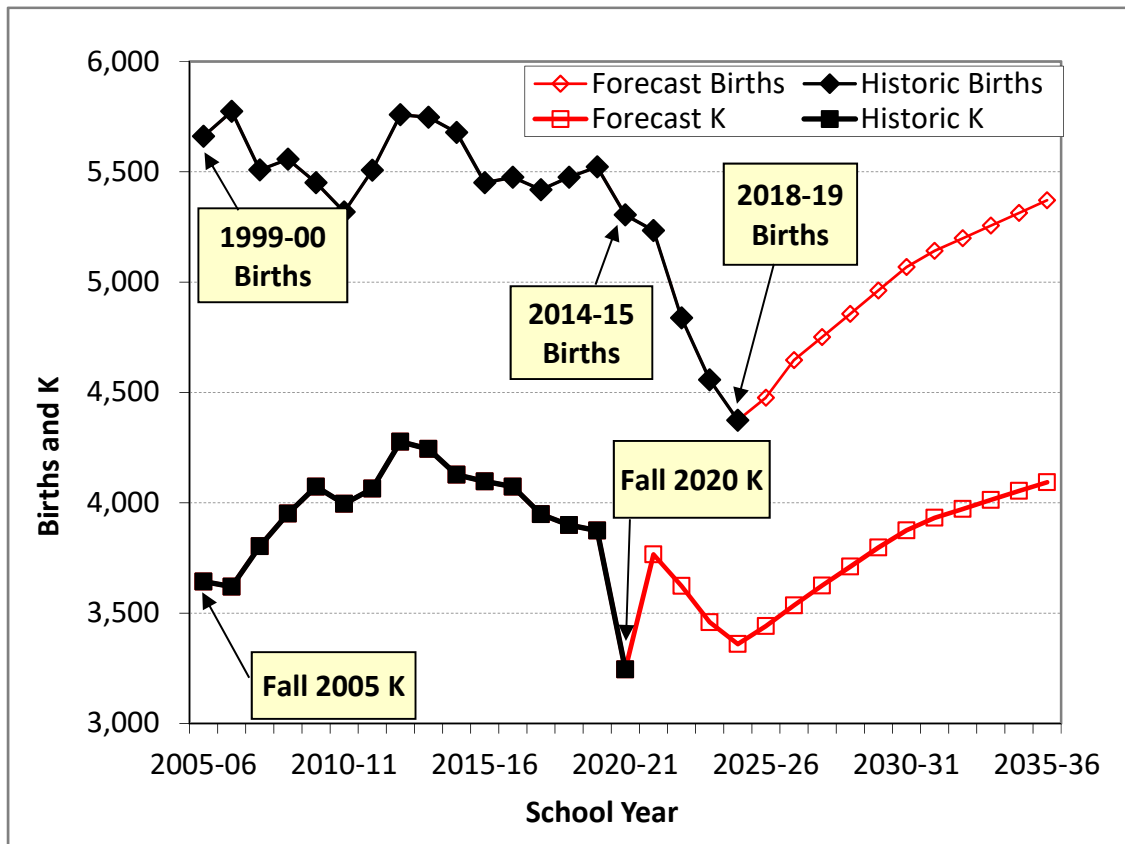
To derive the total district-wide enrollment, it is necessary to include non-residents, who comprised 2.6 percent of the District total in fall 2019. They are not linked to the District's population in the way that residents are, so an additional component of the district-wide forecast is a grade progression model for out-of-district residents.

The number of out-of-district PPS kindergarten students is held constant at the 2019-20 level. For each grade from 1 to 12, the model incorporates recent GPRs for PPS students residing out of the district by grade level. To determine GPRs for the future, weighted averages of the ratios for each grade level from the past four years were calculated. A heavier weight is applied to the years that are assumed to have more bearing on future enrollments, allowing the trends of those to dominate over the other years.

District-wide Population and Enrollment Forecasts: Results

Figure 20 compares the historic and forecast number of births to District residents with the historic and middle series forecast number of PPS kindergarten students. Births are compiled by kindergarten cohorts (September to August). Although many children move into and out of the District between birth and age five, and not all District residents attend PPS kindergartens, the trend in kindergarten enrollment has often followed the trend in the birth cohort. For example, the peak kindergarten class of 2012-13 aligned with the birth peak in 2006-07. From 2009-10 to 2016-17 the ratio of kindergarten to corresponding births was relatively stable in the range of 0.74 to 0.75. However, since then the ratio has declined, falling to 0.70 in fall 2019 (compared to 2013-14 births) and 0.61 in the pandemic-affected fall 2020 enrollment count (compared to 2014-15 births).

Figure 20 Birth Cohorts and Kindergarten Enrollment
Historic and Middle Series Forecast



Decomposing the 403-student decline in kindergarten enrollment between fall 2012 and fall 2019, we found that a decline in cohort births accounted for a loss of 176 students and the lower ratio of kindergarten to births accounts for an additional 227 student loss.

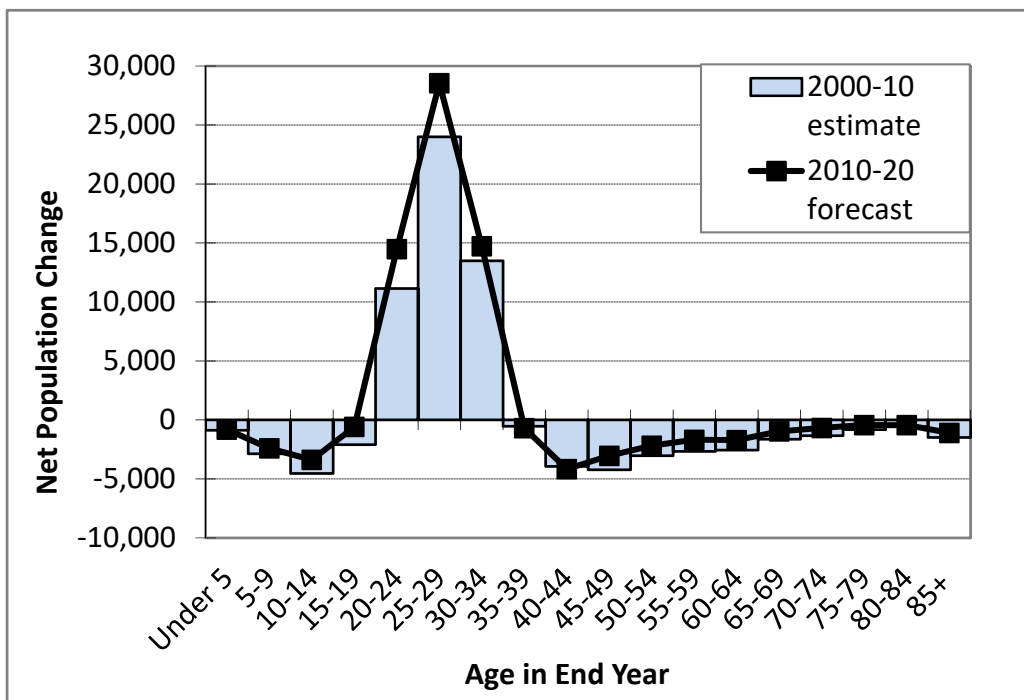
The enrollment models do not explicitly use the kindergarten to birth ratio; capture rates and net migration drive the kindergarten forecasts. Ratios derived from the kindergarten forecasts and observed and predicted births are expected to increase to 0.76 by 2023-24 and remain at this ratio or slightly higher through 2035-36 in the middle series forecast. The higher ratio is due to expected population growth and a smaller net outflow of young children.

The differences between the three scenarios are the result of different assumptions about the levels of net migration (the net movement into and out of the District). Assumptions about mortality, fertility, and capture rates during the 15-year forecast horizon do not vary between the three scenarios. As described in an earlier section of this report, the number of births to PPS residents have recently declined sharply. The models use actual births through 2019 and preliminary birth estimates for 2020; continued declines or a greater than expected rebound in births could impact enrollments beginning with the 2026-27 kindergarten class. Changes in capture rates may occur based on the cumulative impact of individual families choosing whether to enroll in District schools or alternatives including private schools. While fertility and capture rates influence enrollment trends, we choose migration rates to differentiate the scenarios because they are closely related to household growth and the supply of and demand for family housing within PPS.

While the overall level of net migration drives growth in total population, assumptions about the age distribution of future migrants are critical drivers of school-age population. The columns in Figure 21 show net migration by age group between 2000 and 2010, with large inflows among cohorts who were age 20 to 34 at the end of the decade, and small outflows among every other cohort. This pattern was similar to the 1990s; the only cohorts with positive net migration were those age 20 to 34 in 2000.

The middle scenario includes future net migration levels even greater than in the 2000 to 2010 decade. The age distribution of net migration in the middle series forecast remains similar to the 1990s and 2000s but assumes larger net inflows of young adults and smaller net outflows at other age groups. Net migration estimates for the 2010s are depicted by the line in Figure 21. When 2020 Census data are published they will provide a new baseline for future migration assumptions.

Figure 21 Population Change Due to Migration, 2000 to 2020
PPS by Age Group



Total population growth in the middle series increases from 34,000 (eight percent) observed in the 2000s to 51,200 (11 percent) in the 2010s, 49,000 (10 percent) in the 2020s, and 38,800 (seven percent) in the 2030s. Births are expected to increase slightly from their current low level, but deaths will increase faster as the population ages. Therefore, the contribution of natural increase (births minus deaths) to population growth will decrease throughout the forecast horizon, resulting in slower overall growth. If future rates of household formation by age group were to remain at their 2010 levels,

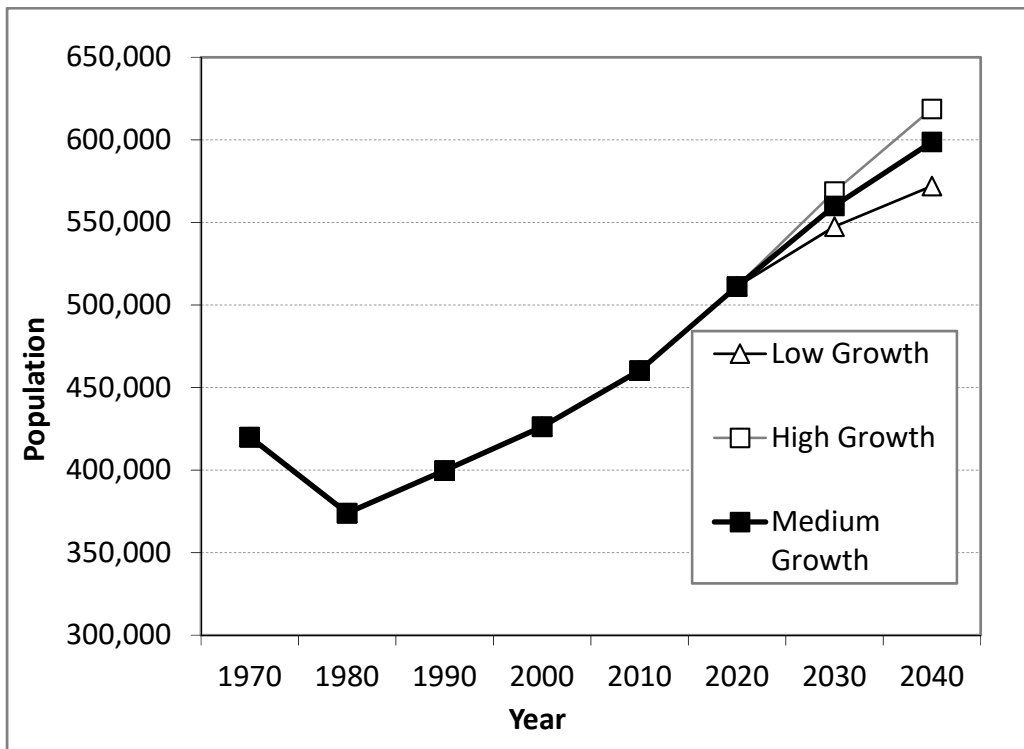
the middle series would be consistent with an increase of about 61,000 households within PPS between 2010 and 2030.

The scenarios begin to diverge in the 2020s. The low series includes population growth of 36,200 (seven percent) in the 2020s, before slowing to 24,600 (four percent) in the 2030s. If future rates of household formation by age group remain at their 2010 levels, the low series would be consistent with an increase of about 55,000 households within PPS between 2010 and 2030.

In the high series, population growth of 57,500 (11 percent) occurs in the 2020s, before slowing to 50,000 (nine percent) in the 2030s. If future rates of household formation by age group remain at their 2010 levels, the high series would be consistent with an increase of about 65,000 households within PPS between 2010 and 2030.

The total population forecast under each scenario is illustrated in Figure 22. Population within the District fell between 1970 and 1980, a period of very little housing growth and declining average household sizes. Since the 1980s, the District has grown, from 374,000 in 1980 to about 511,000 in 2020. Growth continues under all three scenarios. By 2040, the District's population is about 572,000 in the low forecast, 599,000 in the middle forecast, and 619,000 in the high forecast.

Figure 22 Total Population, PPS District, 1970 to 2040



Scenario	1970	1980	1990	2000	2010
Low	420,004	374,000	399,758	426,240	460,248
Middle	420,004	374,000	399,758	426,240	460,248
High	420,004	374,000	399,758	426,240	460,248
Scenario	2020	2030	2040		
Low	511,215	547,451	572,013		
Middle	511,215	560,010	598,766		
High	511,215	568,731	618,756		

District-wide Middle Series Enrollment Forecast

In the middle series, 2021-22 K-12 enrollment rebounds to 48,649 in 2021-22, gaining more than 1,700 students from the 2020-21 pandemic year. Enrollment then falls for several years, reaching a low of 45,518 in 2029-30. By the end of the 15-year forecast in 2035-36, enrollment is 46,869 — close to its 2020-21 level, but nearly 1,800 students below its pre-pandemic 2019-20 level.

Although the middle series elementary enrollment forecast of 22,944 in 2021-22 is about 1,100 students greater than in 2020-21, that brief recovery is wiped out within a few years by the longer trend of smaller K-5th grade classes. The 2021-22 forecast of 22,944 is a decline of over 600 students from 2019-20, and net losses in elementary grades continue for several more years. K-5 enrollment reaches a low of 20,928 in 2027-28, as incoming kindergarten classes remain below recent levels due to the local, state, and national birth downturn. Kindergarten class sizes begin to grow in 2025 in the middle series forecast; overall K-5 enrollments will begin to grow in 2028-29, ending the 15-year forecast period with 23,843 students in 2035-36, a few hundred students more than their pre-pandemic 2019-20 level.

In middle grades, a net gain of about 100 students between 2020-21 and 2021-22 in the middle series forecast reverses a net loss of similar magnitude between 2019-20 and 2020-21; 6th-8th grade enrollment of 11,118 in 2021-22 is just 14 students lower than in 2019-20. After 2021-22, smaller cohorts resulting from the birth downturn enter middle school, driving enrollment down to a low of 9,370 in 2031-32. Growth in the last few years of the forecast results in a 2035-36 forecast of 10,206, about 900 students below the pre-pandemic 2019-20 level.

High school grades did not suffer a net loss in 2020-21, and the 2021-22 middle series forecast of 14,587 in 9th-12th grade represents a more than 600 student gain from 2019-20. Growth continues for a few more years, reaching a peak of 15,168 in 2024-25, before steadily declining throughout the remainder of the forecast horizon. High school grades enrollment of 12,820 in 2035-36 is over 1,100 smaller than in pre-pandemic 2019-20.

District-wide Low Series Enrollment Forecast

In the low series, K-12 enrollment rebounds to 48,300 in 2021-22, falling 353 students short of the 2019-20 total. Over the 10-year period following 2021-22, PPS K-12 enrollment suffers a net loss of over 4,000 students, reaching a low of 44,195 in 2031-32.

Modest growth during the last few years of the forecast results in a 2035-36 forecast of 44,850.

Elementary grades add about 900 students between 2020-21 and 2021-22 in the low series forecast, recovering more than half of the enrollment loss of the pandemic year and reaching a total of 22,734, over 800 students below 2019-20 enrollment. Losses resume after 2021-22; the net loss of over 2,300 K-5 students in six years results in a low of 20,417 in 2027-28. Growth occurs throughout the remainder of the forecast period, and elementary grades enroll 22,862 in 2035-36, about 700 students below the pre-pandemic 2019-20 total.

Middle grades never rebound to their 2019-20 enrollment level in the 15-year horizon of the low series forecast. After reaching a low of 9,056 in 2031-32, growth in the last four years results in a 2035-36 forecast of 9,707 students in grades 6-8, about 1,400 fewer than in 2019-20. High school enrollments continue their recent growth streak until reaching a peak of 15,011 in 2024-25 before steadily declining throughout the remainder of the forecast period, ending with 9th-12th grade enrollment of 12,281 in 2035-36, about 1,700 fewer students than in 2019-20.

District-wide High Series Enrollment Forecast

In the high series, K-12 enrollment of 48,951 in 2021-22 is about 2,000 greater than in 2020-21, surpassing the 2019-20 pre-pandemic total by about 500 students. As in the low and middle series, enrollment falls after 2021-22, though the losses aren't as steep. The low of 46,752 in 2029-30 is about 1,900 students fewer than in 2019-20. A strong enrollment rebound in the final years of the forecast period results in 2035-36 enrollment of 48,993, close to the 2021-22 level and 340 students greater than in 2019-20.

Elementary enrollment of 23,090 in 2021-22 reflects a roughly 1,250 recovery from 2020-21, but remains nearly 500 students below the 2019-20 level. Losses of an additional 1,700 K-5 students occur over the six-year period from 2021-22 to 2027-28, followed by

growth that results in a forecast of 24,800 students in 2035-36, 1,239 greater than in 2019-20.

Middle grades enrollment of 11,164 in 2021-22 exceeds 2019-20 by about 30 students. However, the number of 6th-8th grade students remains below its 2021-22 level for the remainder of the forecast period. After a low enrollment of 9,683 in 2031-32, four years of growth result in a 2035-26 forecast of 10,590, more than 500 students fewer than the 2019-20 pre-pandemic total. Enrollment in high school grades peaks at 15,414 in 2024-25 in the high series forecast, but declines steadily thereafter, reaching 13,603 in 2035-36, about 350 students fewer than in 2019-20.

Enrollment forecasts in five-year increments based on these three district-wide forecast scenarios are summarized in Figure 23. Five years of history are included in the table for comparison. Detailed forecasts by year and by individual grade are in [Appendix A](#).

Figure 23 PPS District-Wide Forecasts by Grade Level

MIDDLE Series					
Cohort Change	Historic 2015-16	Historic 2020-21*	Forecast 2025-26	Forecast 2030-31	Forecast 2035-36
Grades K-5	24,607	21,836	21,309	21,889	23,843
5 year change	N/a	-2,771	-527	580	1,954
Grades 6-8	10,747	11,017	10,557	9,530	10,206
5 year change	N/a	270	-460	-1,027	676
Grades 9-12	12,798	14,084	14,990	14,184	12,820
5 year change	N/a	1,286	906	-806	-1,364
Total K-12	48,152	46,937	46,856	45,603	46,869
5 year change	N/a	-1,215	-81	-1,253	1,266

Source: Historic enrollment, Portland Public Schools; enrollment forecasts, Population Research Center, PSU. Does not include pre-kindergarten.

*Enrollment impacted by distance learning during COVID-19 pandemic.

LOW Series

Cohort Change	Historic 2015-16	Historic 2020-21*	Forecast 2025-26	Forecast 2030-31	Forecast 2035-36
Grades K-5	24,607	21,836	20,884	21,177	22,862
5 year change	N/a	-2,771	-952	293	1,685
Grades 6-8	10,747	11,017	10,390	9,238	9,707
5 year change	N/a	270	-627	-1,152	469
Grades 9-12	12,798	14,084	14,804	13,809	12,281
5 year change	N/a	1,286	720	-995	-1,528
Total K-12	48,152	46,937	46,078	44,224	44,850
5 year change	N/a	-1,215	-859	-1,854	626

Source: Historic enrollment, Portland Public Schools; enrollment forecasts, Population Research Center, PSU. Does not include pre-kindergarten.

*Enrollment impacted by distance learning during COVID-19 pandemic.

HIGH Series

Cohort Change	Historic 2015-16	Historic 2020-21*	Forecast 2025-26	Forecast 2030-31	Forecast 2035-36
Grades K-5	24,607	21,836	21,701	22,466	24,800
5 year change	N/a	-2,771	-135	765	2,334
Grades 6-8	10,747	11,017	10,710	9,832	10,590
5 year change	N/a	270	-307	-878	758
Grades 9-12	12,798	14,084	15,266	14,721	13,603
5 year change	N/a	1,286	1,182	-545	-1,118
Total K-12	48,152	46,937	47,677	47,019	48,993
5 year change	N/a	-1,215	740	-658	1,974

Source: Historic enrollment, Portland Public Schools; enrollment forecasts, Population Research Center, PSU. Does not include pre-kindergarten.

*Enrollment impacted by distance learning during COVID-19 pandemic.

Resident Enrollment Forecasts by High School Cluster: Methodology

Grade progression models are used to forecast the number of PPS students residing in each of the District's HSCLs. The HSCL kindergarten forecasts utilize a combination of two methods: 1) ratios of resident kindergarten students to corresponding births and 2) HSCL shares of district-wide kindergarten, adjusted to reflect the expected geographic distribution of future housing development. For grades 1 to 12, GPRs account for the effects of mobility, capture rates, and dropout or retention rates. They are initially based on averages of the ratios from the past five years and are adjusted as needed to mute the influence of extreme outliers or to incorporate assumptions about growth. Residential capacity from the City of Portland's Comprehensive Plan update and the affordable housing data included in Figure 14 guided the distribution of future growth. The sum of HSCL resident forecasts and the out-of-district resident forecast matches the district-wide middle series forecast.

Under the City of Portland 2035 Comprehensive Plan, the number of housing units within PPS could grow to about 314,000. That would be a significant increase over the 2010 housing stock of about 219,000 units. However, enrollment will grow at a much slower rate than the rate of housing growth due to an aging population, low fertility rates, and an increasing share of smaller housing units associated with changing demand and limited land supply. Details of the number and geographic distribution of 11 housing types depicted in the Comprehensive Plan's *Growth Scenarios Report* guided the final adjustments of GPRs as well as HSCL shares of district-wide births and kindergarten to birth ratios.¹¹

Resident Enrollment Forecasts by High School Cluster: Results

Because 2020-21 enrollments were impacted by distance learning during the COVID-19 pandemic, results in this narrative are compared to the pre-pandemic enrollment

¹¹ See Table 12 in *Growth Scenarios Report*, City of Portland, Bureau of Planning and Sustainability, July 2015. <http://www.portlandoregon.gov/bps/article/531170>.

observed in fall 2019. Several HSCLs are forecast to see K-12 enrollment figures in 2021-22 that slightly exceed 2019-20 totals. These include Frankin, Grant, Jefferson-McDaniel, Jefferson-Roosevelt, and Wells. However, only the Jefferson-McDaniel and Jefferson-Roosevelt HSCLs are expected to experience a net gain of K-12 PPS residents over the 16-year period ending in 2035-36. Jefferson-McDaniel increases by 98 students while Jefferson-Roosevelt increases by 127 students. The Grant HSCL experiences a relatively small loss of 20 students, and Wells has 164 fewer K-12 residents in 2035-36 than in 2019-20. The remaining HSCLs are each forecast to have net declines of more than 200 students between 2019-20 and 2035-36. These losses occur at Cleveland (-261), Franklin (-382), Jefferson-Grant (-206), Lincoln (-206), McDaniel (-497), and Roosevelt (-432). For most of these HSCLs, the 2035-36 totals reflect a slight K-12 enrollment increase from their lowest figures occurring in or near the 2029-30 school year. Reflecting district-wide trends influenced by the decline in births, elementary grades in each HSCL generally experience their largest net losses in the first half of the forecast period, while middle and high school grades experience greater decline after 2027-28.

Figure 24 presents summaries of the resident forecasts for high school clusters for 2025-26, 2030-35, and 2035-36. Forecasts of PPS students by the HSCL in which they reside are detailed by year and by grade level group (K-5, 6-8, 9-12) in [Appendix Table B1](#).

grade for HSAAs. Forecasts are tabulated for each year from 2021-22 to 2030-31, a 10-year horizon rather than the 15-year horizon of the HSCL and district-wide forecasts. The history and forecasts in Tables B2 to B6 are tabulated by 2021-22 boundaries.

Enrollment Forecasts for Individual Schools: Methodology

Historic figures for resident and non-resident enrollment for individual neighborhood schools are compiled within the same models as the attendance area resident forecasts for each HSCL.

The resident forecast for each neighborhood school relies on its attendance area resident forecast and assumptions about its capture rate of attendance area residents at the entry grade. These entry grade rates are based on recent trends. For example, an elementary school with a forecast of 100 PPS kindergarten residents and a kindergarten capture rate of 0.85 would be expected to enroll 85 neighborhood students. Forecasts of other grades are based on GPRs, in the manner of the resident forecasts in the same models. The share of residents attending their neighborhood school can change in the forecast, but the relationship between resident enrollment and total residents in an attendance area is monitored closely. For example, the number of area residents at a school can't exceed the number of area residents attending all PPS schools, by grade level.

Nonresident enrollment at individual neighborhood schools is based on historic trends and information about the number of school choice lottery transfer slots or special programs such as language immersion. Some neighborhood schools that have limited classroom space are closed to new lottery transfers and will gradually reduce their non-resident enrollment.¹²

Forecasts for middle schools and high schools are similar to those for elementary and K-8 schools except that the entry grade for resident shares and non-resident totals is 6th or

¹² Information about school choice and the number of lottery transfer slots at each school is available at <http://www.pps.net/Page/2343>.

9th grade instead of kindergarten. Some high schools have more than one resident enrollment component, due to past boundary changes or dual assignment zones.

Language immersion programs are forecast separately from the neighborhood programs with which they share facilities. At the elementary level methodologies are the same as for the neighborhood programs and neighborhood schools; each program has assumptions for kindergarten capture rates and incoming kindergarten non-residents. For secondary schools the methodologies differ somewhat; forecasts of incoming grades rely more heavily on the number of immersion students at feeder schools than on capture rates or historic non-resident enrollment. Several immersion programs are still expanding, adding one more grade each year. We observed that immersion programs generally suffered less enrollment loss than neighborhood programs during the 2020-21 pandemic year.

The forecasts for eight schools and programs that do not have a neighborhood boundary also use grade progression models similar to the non-resident component of the neighborhood schools. The “other schools and programs” category is computed as the residual of district-wide enrollment minus grade-level enrollments at each of the neighborhood and non-neighborhood schools for which individual forecasts are prepared. As a check to prevent the residual from deviating substantially from historic norms and trends, it is compared with a grade progression forecast that utilizes enrollment history for the “other schools and programs” category. Final adjustments are made to forecasts for individual schools to minimize the differences between the residual and grade progression methods.

Enrollment Forecasts for Individual Schools: Results

The school forecasts maintain the 2021-22 boundaries and grade configurations for all neighborhood schools throughout the 10-year forecast horizon. School capacities do not constrain the forecasts.

Similar to the district-wide model and HSCL and attendance area models, we prepared projections of what enrollments might have been in 2020-21 had the COVID-19 pandemic not impacted enrollment, using historic trends through 2019-20 as well as actual 2020-21 enrollment as additional guidance.

It is likely that some changes to current boundaries and grade configurations will occur following the 2021-22 school year, as a multi-year process is underway to balance student enrollment and programs across the district. Notably, the Southeast Guiding Coalition is currently charged with making recommendations regarding attendance area and special program assignments for Harrison Park Middle School, a plan to relocate K-5 students and programs currently served at Harrison Park, and a plan to increase enrollment at Lane Middle School.¹³ Changes such as these are not incorporated in enrollment forecasts until after they are adopted by the Board of Education. More information about Enrollment and Program Balancing is on the District’s website.¹⁴

[Appendix C](#) includes annual enrollment forecasts for each of the District’s neighborhood schools and eight schools and programs that do not have a neighborhood boundary (ACCESS, Benson High, Creative Science, da Vinci, Metropolitan Learning Center, Odyssey, Richmond, and Winterhaven). Enrollments are stable at most of the non-neighborhood schools, with similar numbers of students at each grade year after year. PPS students not attending any of the schools listed in the tables are combined in the “Other Schools and Programs” category. These include other focus/alternative programs, community-based programs, special services, and public charter schools.

¹³ Launch meeting for Southeast Guiding Coalition Phase 2, May 27, 2021.

¹⁴ Enrollment and Program Balancing information is at <https://www.pps.net/Page/13615>.

FORECAST ACCURACY

Enrollment forecasts are utilized as a school planning tool and as a basis for community discussions about future school facility needs. Due to the nature of forecasting, there is no way to estimate a confidence interval as one might for data collected from a survey. The best way to measure potential forecast error is to compare actual enrollments with previous forecasts that were conducted using similar data and methodologies.

This is the 22nd consecutive year that PRC has conducted enrollment forecasts for PPS. Figure 25 compares the middle series K-12 forecasts from each of the past 10 years with the actual K-12 enrollments through 2020-21. The “base year” indicates the most recent actual enrollment that PRC researchers used when they prepared the forecasts.

The 2010-11 column in Figure 25 shows how accuracy can vary over the course of a forecast. In the first few years enrollment grew faster than predicted, thus the K-12 forecasts were below actual enrollments. By 2018-19, slower growth caused actual enrollment to fall below the 2010-11 forecast. The faster growth observed during the 2012-13 to 2015-16 school years resulted in increased expectations of growth, therefore those forecasts exhibited larger errors for 2019-20 enrollment, when compared with the 2010-11 and 2011-12 series. As enrollment began to slow, downward adjustments were made, beginning with the 2016-17 base year.

The bottom row in Figure 25 showing the percentage difference between actual and forecast 2020-21 enrollment includes the unexpected impact of the COVID-19 pandemic.

Figure 25 District-Wide Forecast Accuracy

K-12 Enrollment Forecasts by Base Year²

School Year	Actual Enroll. ¹	'10-'11	'11-'12	'12-'13	'13-'14	'14-'15	'15-'16	'16-'17	'17-'18	'18-'19	'19-'20
2010-11	45,741	-	-	-	-	-	-	-	-	-	-
2011-12	46,206	45,979	-	-	-	-	-	-	-	-	-
2012-13	46,517	46,451	46,661	-	-	-	-	-	-	-	-
2013-14	47,127	46,766	46,901	46,980	-	-	-	-	-	-	-
2014-15	47,579	47,325	47,268	47,544	47,617	-	-	-	-	-	-
2015-16	48,152	47,732	47,847	48,265	48,187	48,164	-	-	-	-	-
2016-17	48,309	48,269	48,266	48,816	48,850	48,790	48,802	-	-	-	-
2017-18	48,684	48,624	48,706	49,272	49,421	49,331	49,388	48,877	-	-	-
2018-19	48,708	49,164	49,138	49,682	49,967	49,875	50,009	49,336	49,093	-	-
2019-20	48,653	49,544	49,581	50,195	50,479	50,377	50,490	49,861	49,576	48,956	-
2020-21	46,937	49,885	49,805	50,620	50,873	50,816	50,919	50,203	49,987	49,260	48,767

Percentage Error in K-12 Enrollment Forecasts by Base Year²

School Year	'10-'11	'11-'12	'12-'13	'13-'14	'14-'15	'15-'16	'16-'17	'17-'18	'18-'19	'19-'20
2011-12	-0.5%	-	-	-	-	-	-	-	-	-
2012-13	-0.1%	0.3%	-	-	-	-	-	-	-	-
2013-14	-0.8%	-0.5%	-0.3%	-	-	-	-	-	-	-
2014-15	-0.5%	-0.7%	-0.1%	0.1%	-	-	-	-	-	-
2015-16	-0.9%	-0.6%	0.2%	0.1%	0.0%	-	-	-	-	-
2016-17	-0.1%	-0.1%	1.0%	1.1%	1.0%	1.0%	-	-	-	-
2017-18	-0.1%	0.0%	1.2%	1.5%	1.3%	1.4%	0.4%	-	-	-
2018-19	0.9%	0.9%	2.0%	2.6%	2.4%	2.7%	1.3%	0.8%	-	-
2019-20	1.8%	1.9%	3.2%	3.8%	3.5%	3.8%	2.5%	1.9%	0.6%	-
2020-21	6.3%	6.1%	7.8%	8.4%	8.3%	8.5%	7.0%	6.5%	4.9%	3.9%

1. Excludes pre-kindergarten.

2. Middle series.