



Pupil Yield Analysis

Pupil Yield Analysis for Howard County Public Schools

Introduction

The Howard County Department of Planning and Zoning (DPZ) has received historical pupil enrollment data from the Howard County Public School System (HCPSS) for school years ending 2013 through 2023. The data received includes all enrolled pupils as of September 30th of each school year by grade and location of residence.¹ Time series and locational trends were developed by joining the more than 600,000 records received from HCPSS with DPZ's land use database, the Maryland State Department of Assessments and Taxation property database, and the Howard County Housing Commission's 2022 multifamily housing survey.

This analysis has been developed for the 2024 Adequate Public Facilities Review Committee, which has been formed following the adoption of the County's new General Plan, HoCo By Design. This committee has been established to consider and provide recommendations for changes to Howard County's Adequate Public Facilities Ordinance (APFO).

Pupil yields by housing unit type and school type and how this has changed over time have been determined in this report for purposes of developing a better understanding of school enrollment trends in Howard County associated with housing in the County. Geographic trends by Planning Area have been analyzed as well as pupil yields by multifamily type (garden, mid-rise and high-rise), rent, year built, and bedrooms per unit. Yields for single family detached and attached homes by year built, assessed value, and last year sold have also been analyzed.

Summary of Major Findings

Major findings are summarized below. For further details on these findings and additional results of the analysis, please refer to the subsequent sections of this report.

- Howard County Public School enrollment peaked in the 2019/2020 school year and has declined since then beginning with and following the COVID pandemic. Average yields were 0.505 pupils per housing in 2019/2020, decreasing to 0.482 in 2022/2023.
- Most pupils live in single family detached homes (59%), followed by townhomes (24%), apartments units (15%), and then mobile homes (2%), as of the school year ending 2023.

¹ No personal identifying information was included in the data received from HCPSS. Furthermore, the data presented in this report are at larger aggregate levels and not at the individual household or street levels.

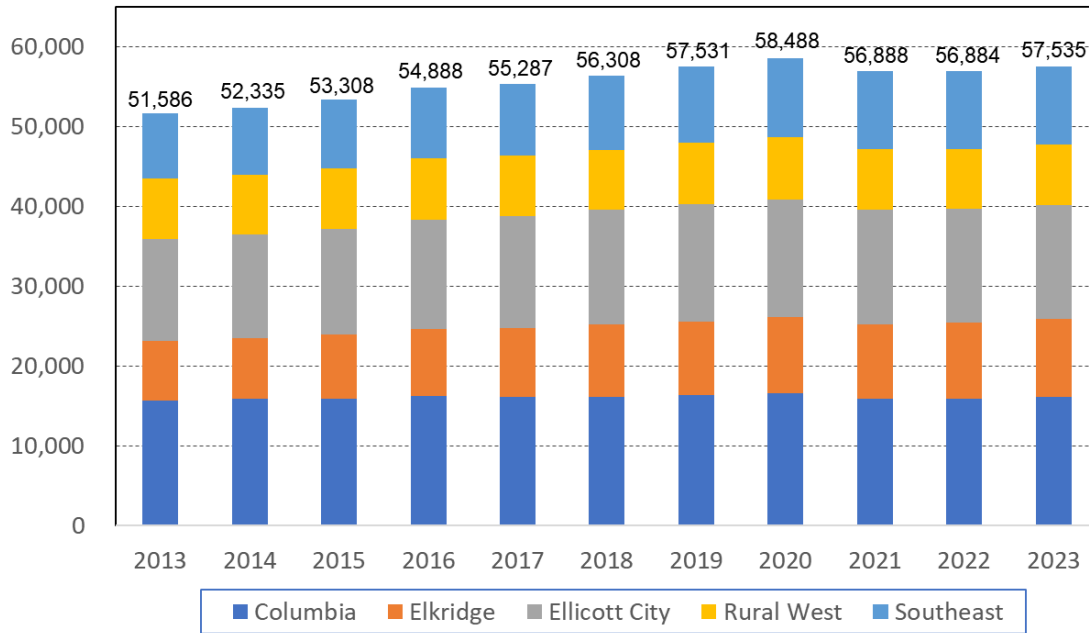
- Fifty-two percent of existing homes in Howard County are single family detached, 22% are townhomes, 24% are apartment units, and 2% are mobile homes (as of 2023).
- Average yields for the 2022/23 school year were 0.54 for single family detached homes, 0.51 for townhomes, and 0.31 for apartments.
- Average yields are highest in the Ellicott City Planning Area, followed by Elkridge, the Rural West, the Southeast, and then the Columbia Planning Areas, respectively.
- Slightly more than two-thirds of all single family detached homes and townhomes do not have any school children living in them. Of the approximately one-third that do, an average of 1.71 and 1.65 students per unit live in single family detached homes and townhomes, respectively.
- For multifamily units, garden apartments have the highest yields at 0.38 pupils per unit, followed by mid-rise and high-rise elevator apartments at 0.16 and 0.17 pupils per unit.
- Yields decrease as multifamily rents increase, and more recently built apartment units also tend to have smaller yields. For example, the recently built mid-rise elevator apartment buildings in Downtown Columbia have very small average yields ranging between 0.01 and 0.06 pupils per unit in 2023.
- Based on current land use and zoning about 60% of all future units to be built in Howard County will be multifamily apartment units. Currently, about 26% of all units are apartments. So it can be anticipated that future yields from new housing will be less than past trends.
- For single family detached and townhomes, yields generally increase as assessed values increase, and average yields peak in homes last sold seven and eight years prior for single family detached and townhome units, respectively, following a bell curve around the peaks.

Enrollment Trends

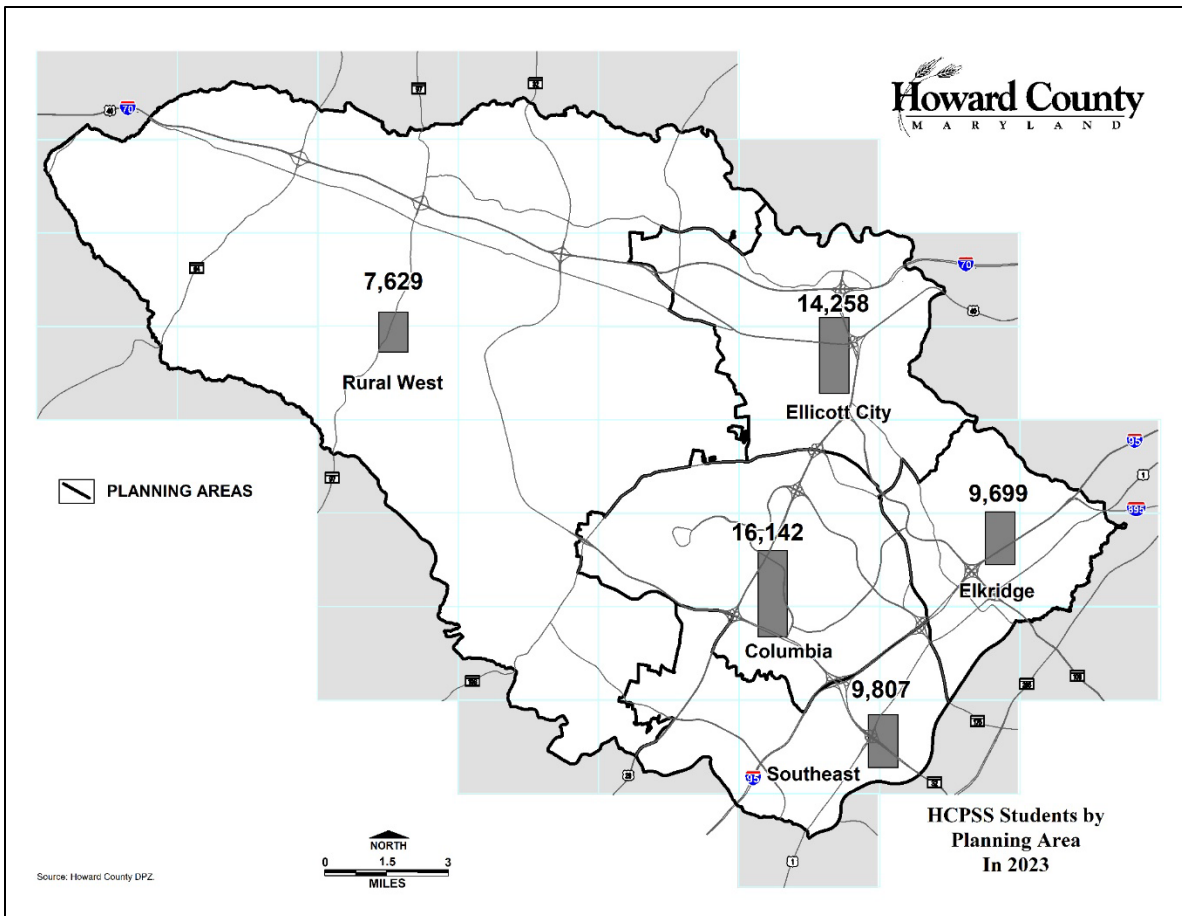
The chart below summarizes total HCPSS enrollment from the 2012/13 school year through the 2022/23 school year by Planning Area. The map below the chart shows the Planning Areas, which are used by DPZ for land use planning purposes. In the 2012/13 school year, total enrollment was 51,586, growing to 58,488 by 2019/20. This represents a 1.8% average annual growth rate over the seven year time period. The following year, enrollment dropped by 2.7% to 56,888 due to the Covid pandemic and has risen by 1.1% over the following two years to 57,535.² These trends are also generally reflected in each of the Planning Areas. Columbia has the most students, followed by Ellicott City, the Southeast, Elkridge, and the Rural West, respectively. This ranking reflects the overall population in each of the Planning Areas, as would be anticipated.

² This enrollment date represents about 99.6% of all the pre-K through 12 and special education student data provided by HCPSS. Some of the student data could not be geocoded to records in DPZ's land use database at the household level given minor database and address imprecisions.

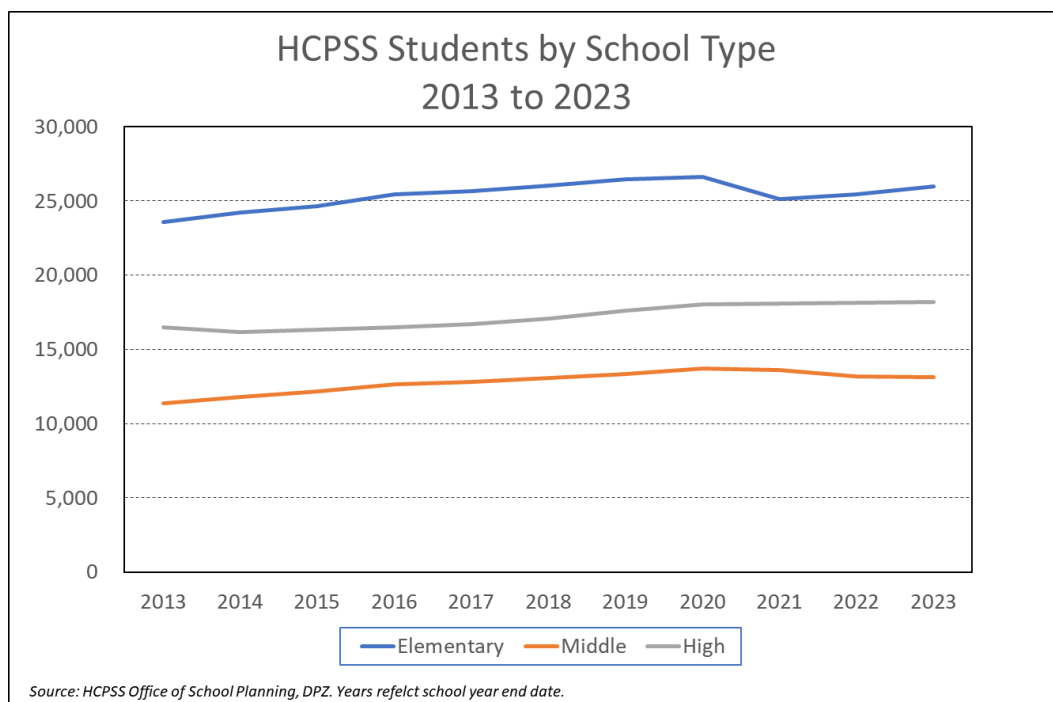
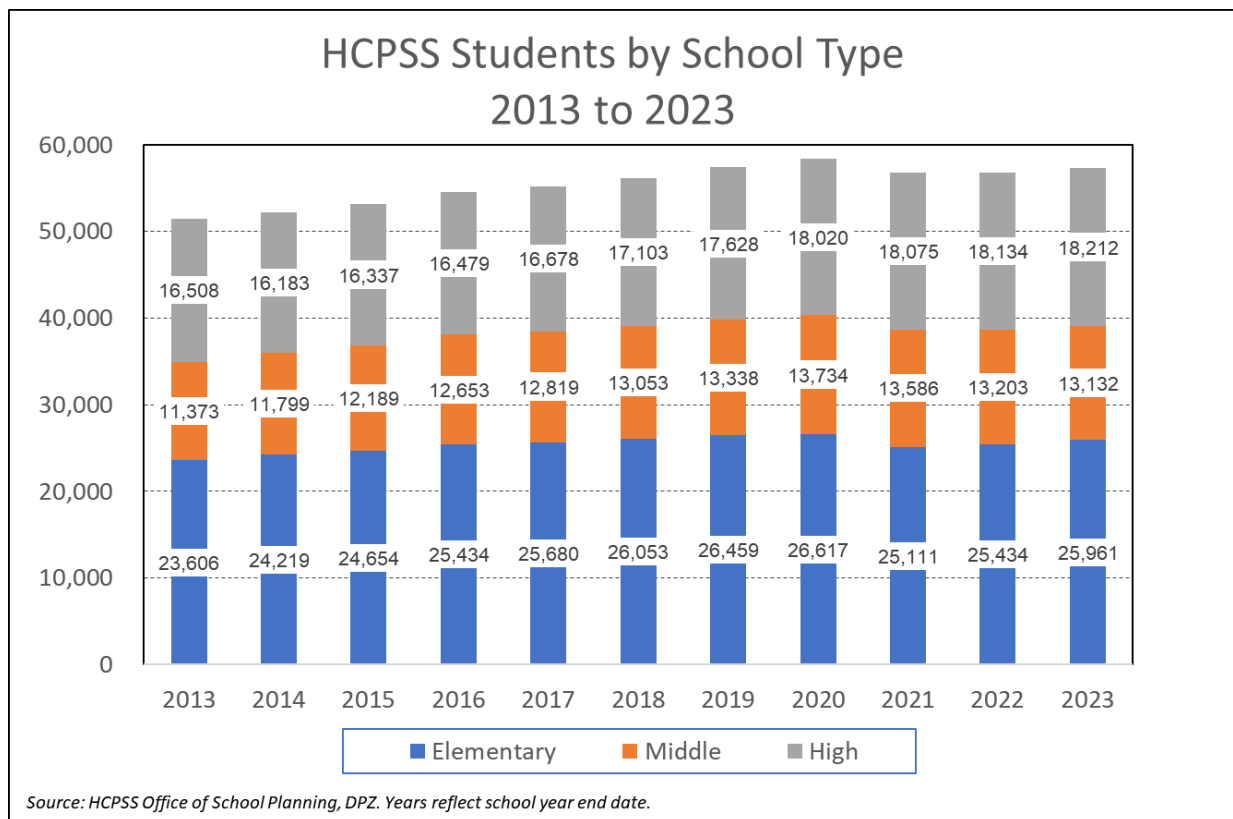
HCPSS Students by Planning Area 2013 to 2023



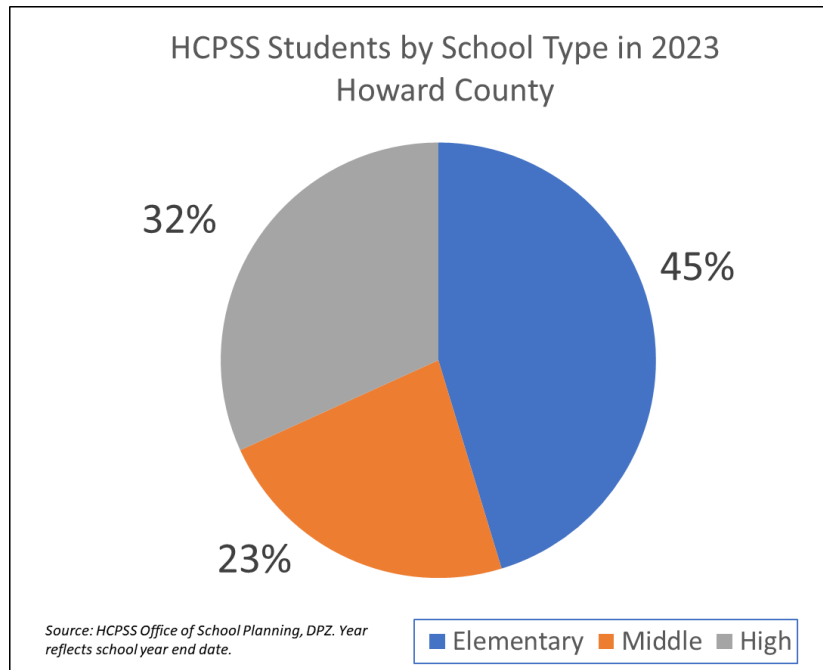
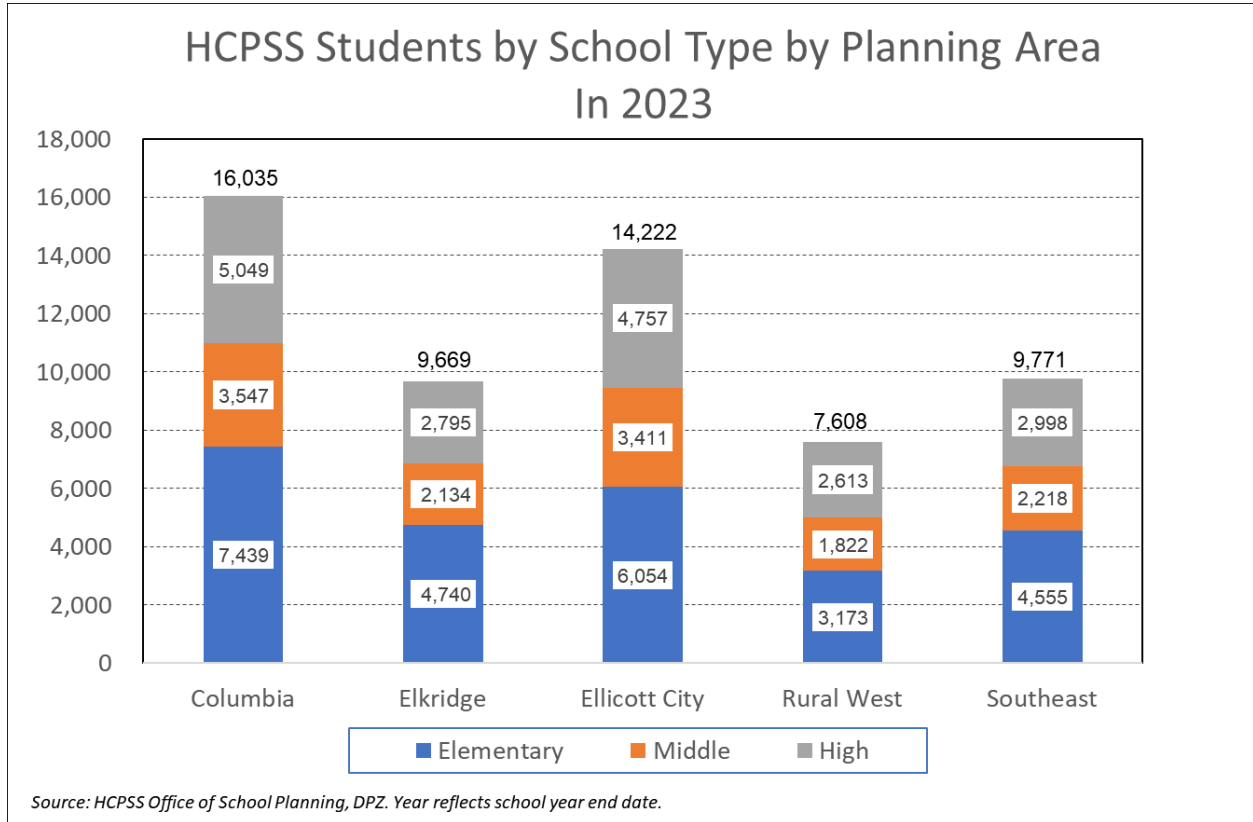
Source: HCPSS Office of School Planning, DPZ. Years reflect school year end date.



The tables below show the same enrollment trends by school level. Elementary schools have the most pupils, followed by high schools, and then middle schools. Elementary and middle school totals experienced declines due to the Covid pandemic with enrollments increasing since then. Growth in high school enrollment slowed that pandemic year but did not decline.

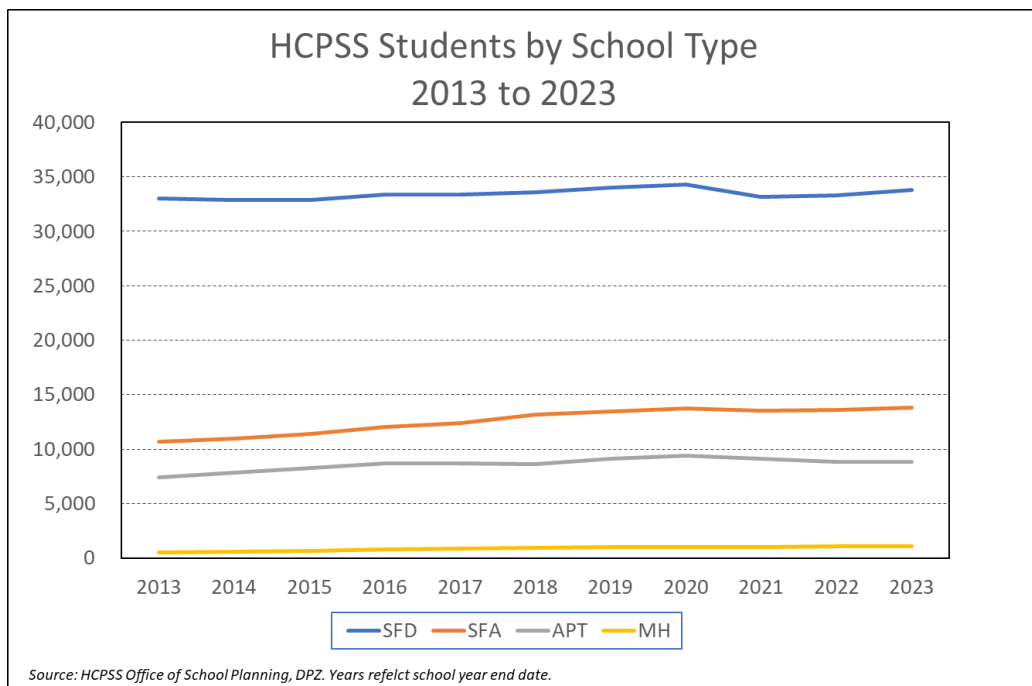
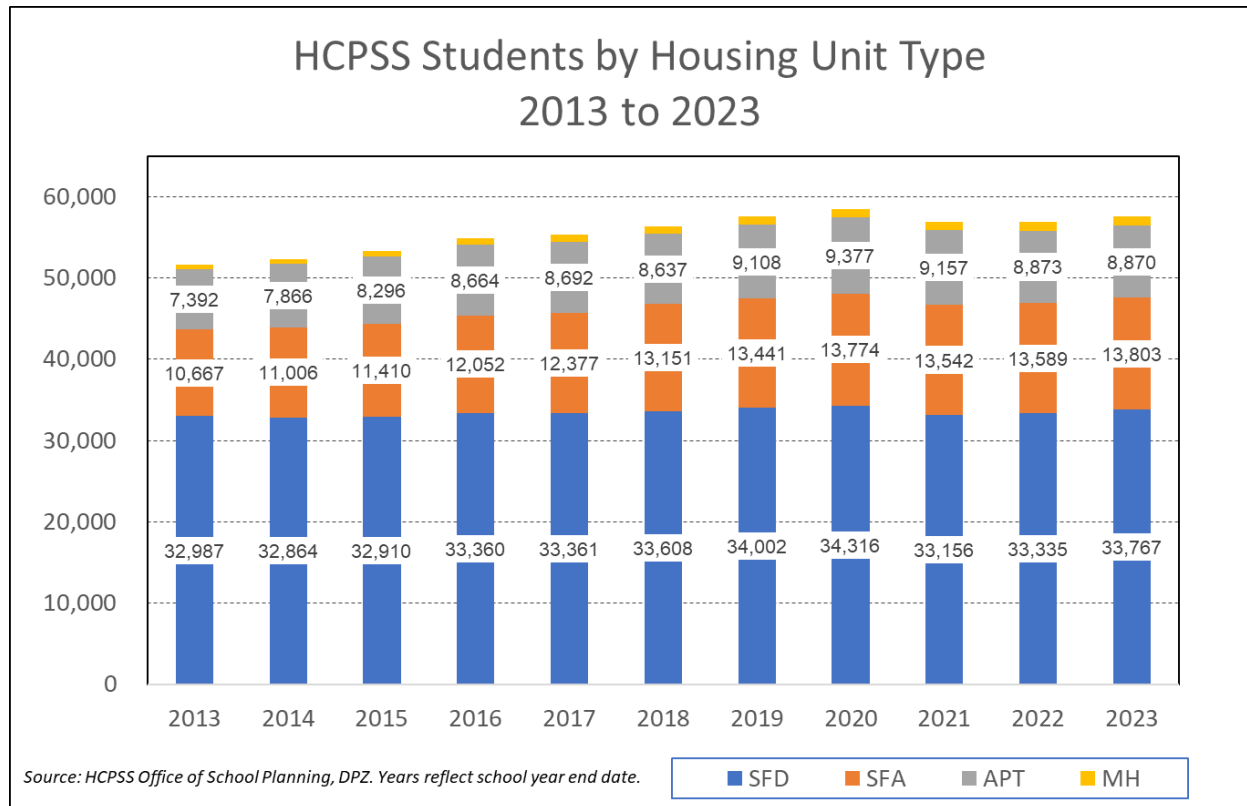


The tables below show the enrollment by school level and by Planning Area for latest school year provided by the HCPSS, clearly depicting the relative enrollments by school level and geographically.



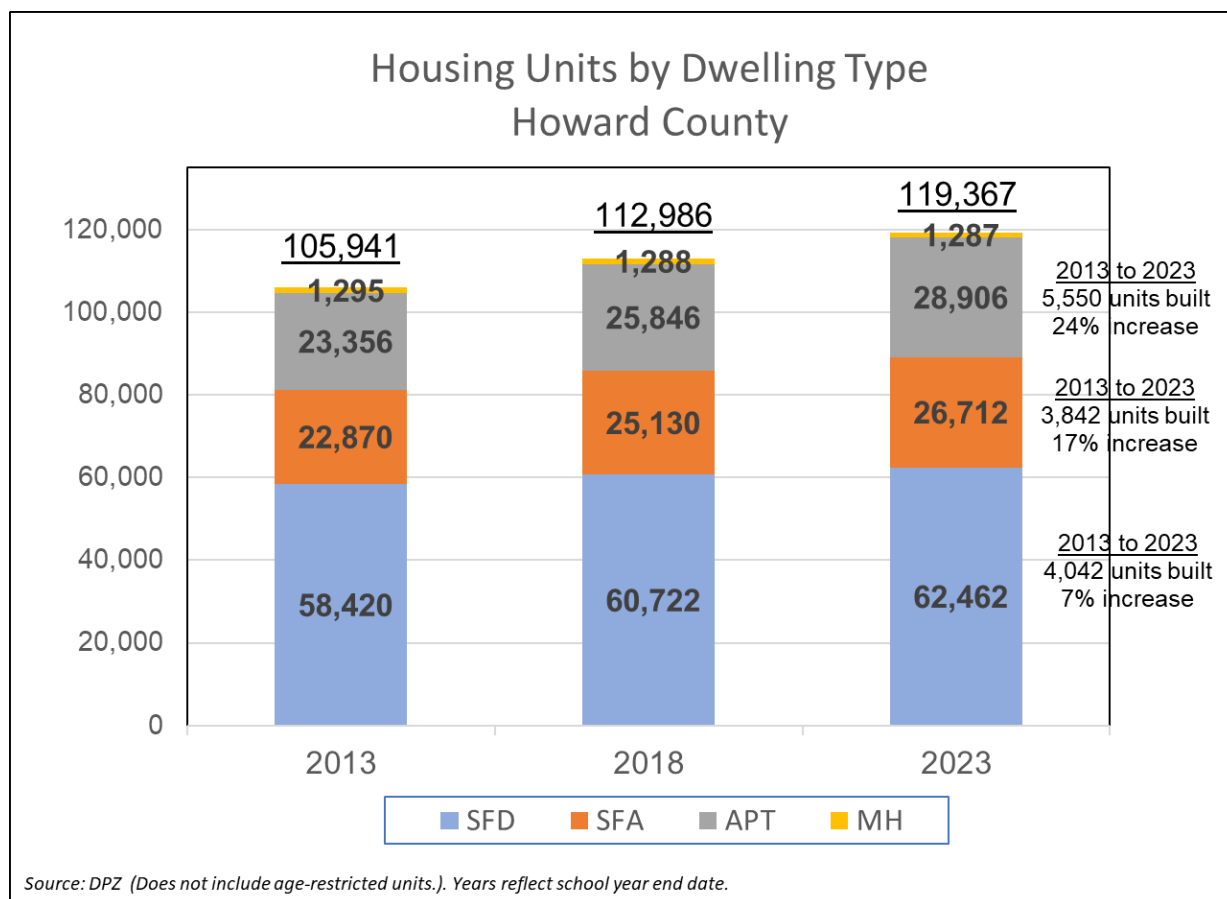
Enrollment Trends by Housing Unit Type

The tables below show the enrollment trends by housing unit type in Howard County from the 2012/13 to the 2022/23 school years.

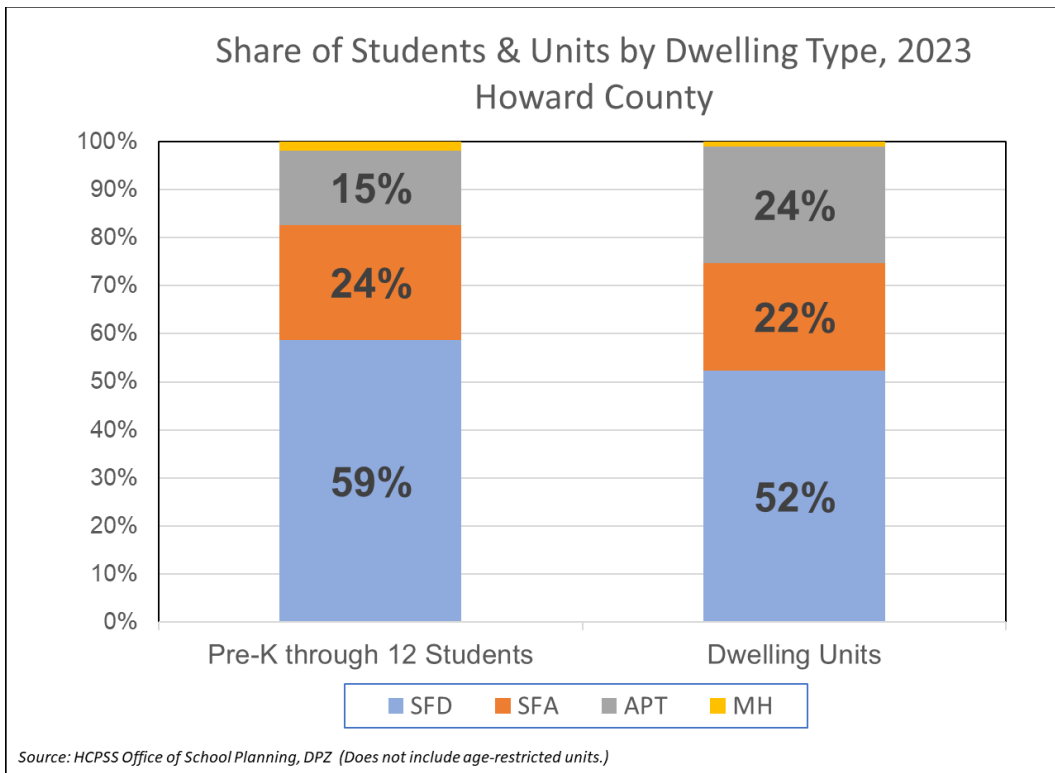
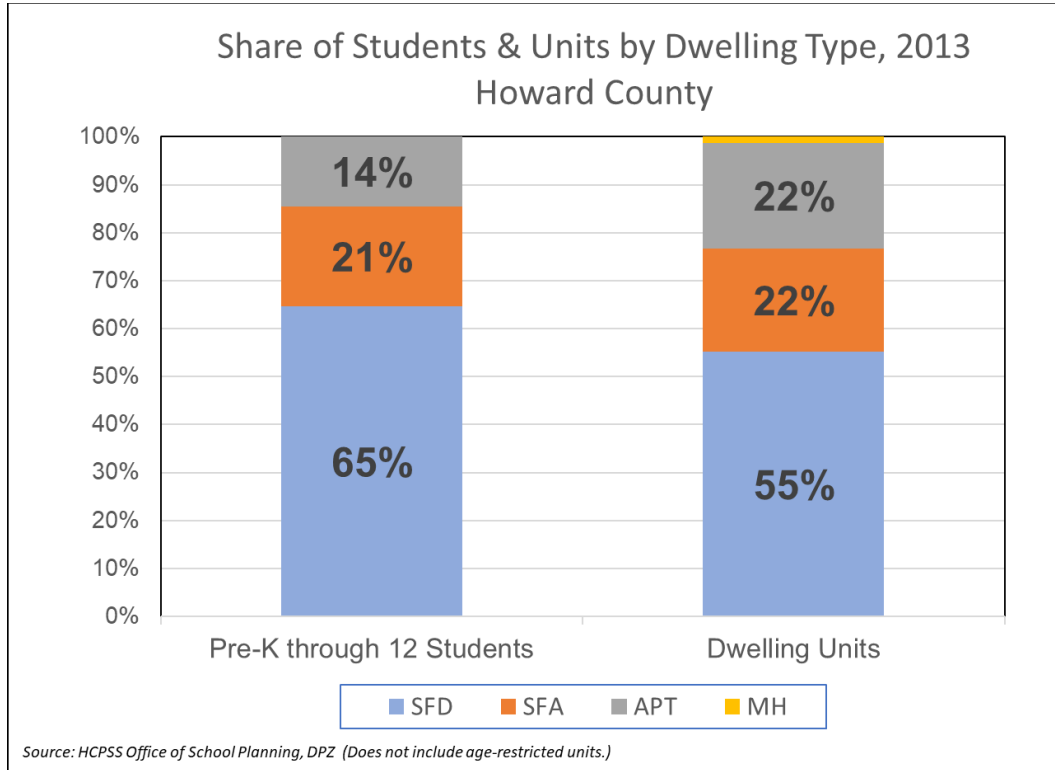


The majority of students live in single family detached homes (SFD), followed by single family attached homes (SFA), and then by apartments (APT). A small number of students live in mobile homes in the several mobile home communities in Elkridge and the Southeast. A peak of 34,316 students lived in SFD units in the 2019/2020 school year before declining slightly during the pandemic, and then increased again to a total of 33,767 by the 2022/23 school year. The same pattern occurred with SFA units, totaling a peak of 13,744 students in 2019/20, declining slightly, and then rising again to a total of 13,803 students by 2022/23. The number of students living in apartment units peaked at 9,377 in 2019/2020 and unlike SFD and SFA units have not rebounded to exceed that peak by the 2022/23 school year.

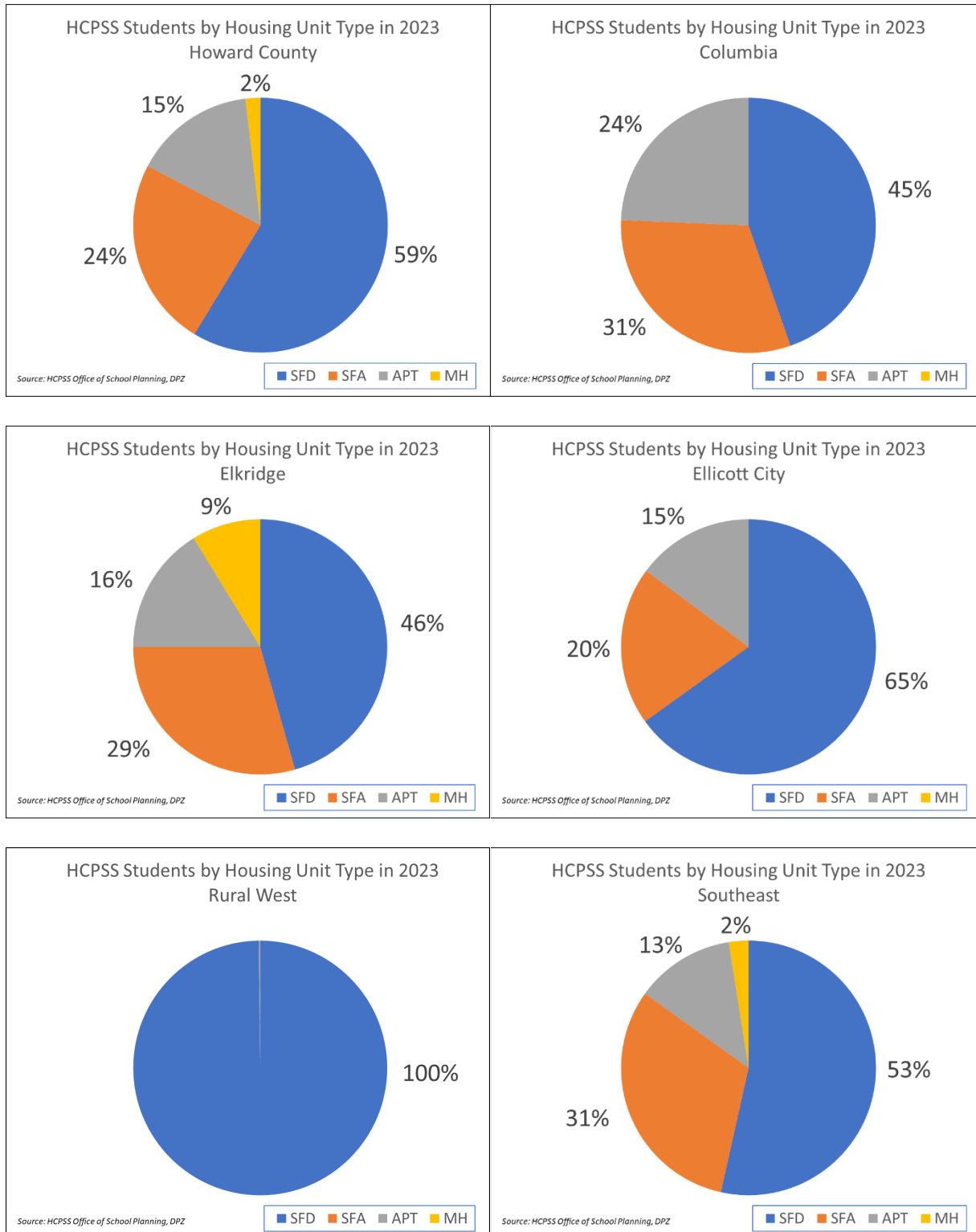
The chart below shows the total number of dwelling units by unit type in Howard County for the years 2013, 2018 and 2023 (the beginning, middle and end of the 10-year analysis period). There was a total of about 106,000 units in 2013, increasing to a little more than 119,000 units by 2023. The majority of units built in the County are single family detached homes, followed by apartment units, single family attached units, and then mobile homes. All housing unit types increased from 2013 to 2023. Apartment units increasing the most with 5,550 new units built, followed by 4,042 new single family detached units and 3,842 new single family attached units built over the 10-year time period. In terms of percent increases, apartment units increased the most by 24%, compared to 17% for townhomes and only 7% for single family detached units. This trend of more apartment units being built compared to SFD and SFA units is expected to continue over the next 20 years as documented in the County's recently adopted General Plan, *HoCo By Design*.



The charts below compare the unit type distribution compared to the distribution of students living in the various unit types for both 2013 and 2023. There are relatively less students living in apartment units as expected given the smaller size of these units (less bedrooms).

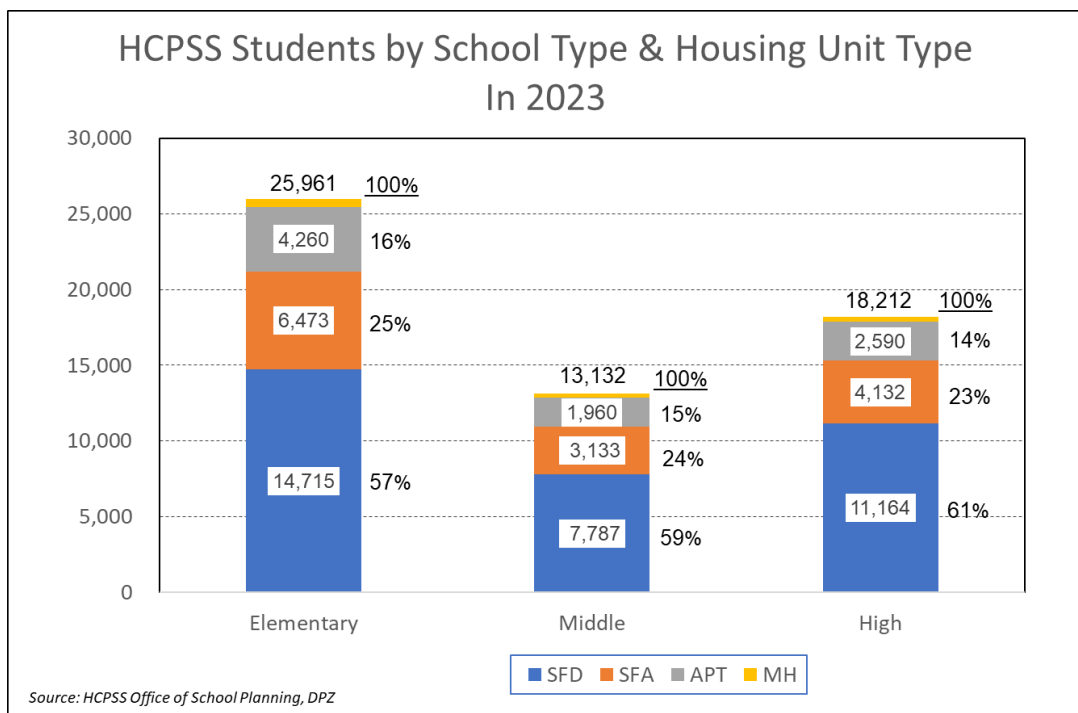
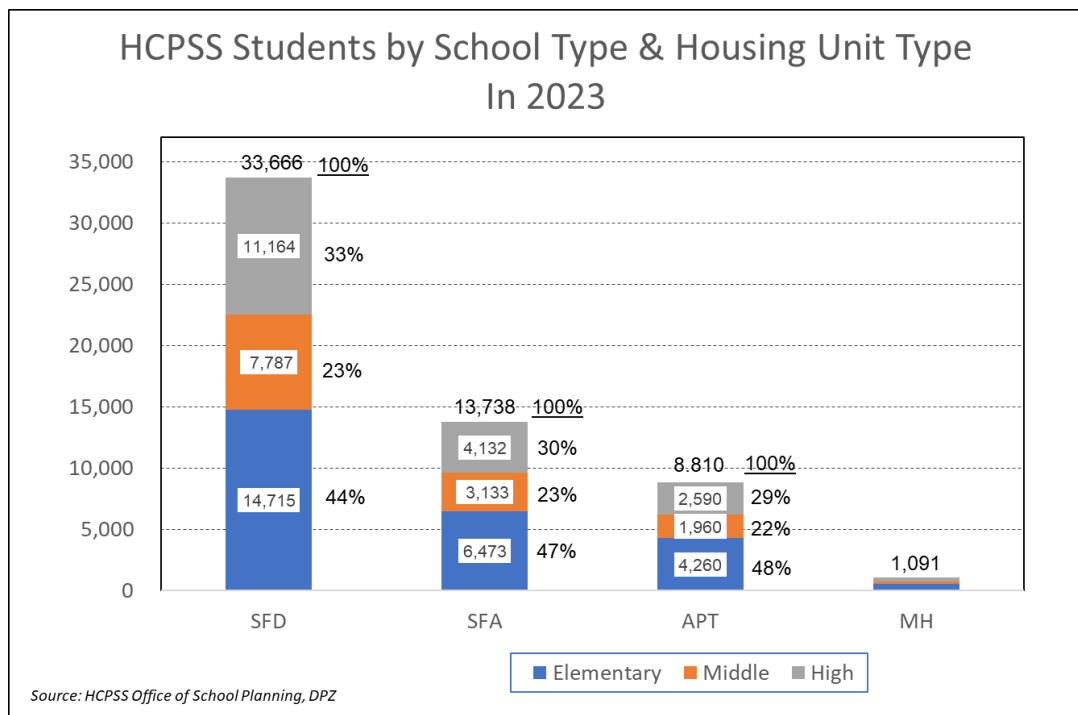


The graphs below show the percentage of students in the 2022/23 school year living in the different housing unit types countywide and in each of the five Planning Areas. The percentages vary depending on the number of different units types in each area. For example, a greater percentage of students live in apartment units in Columbia given the relatively large number of apartment communities there (24% compared to only 15% countywide).



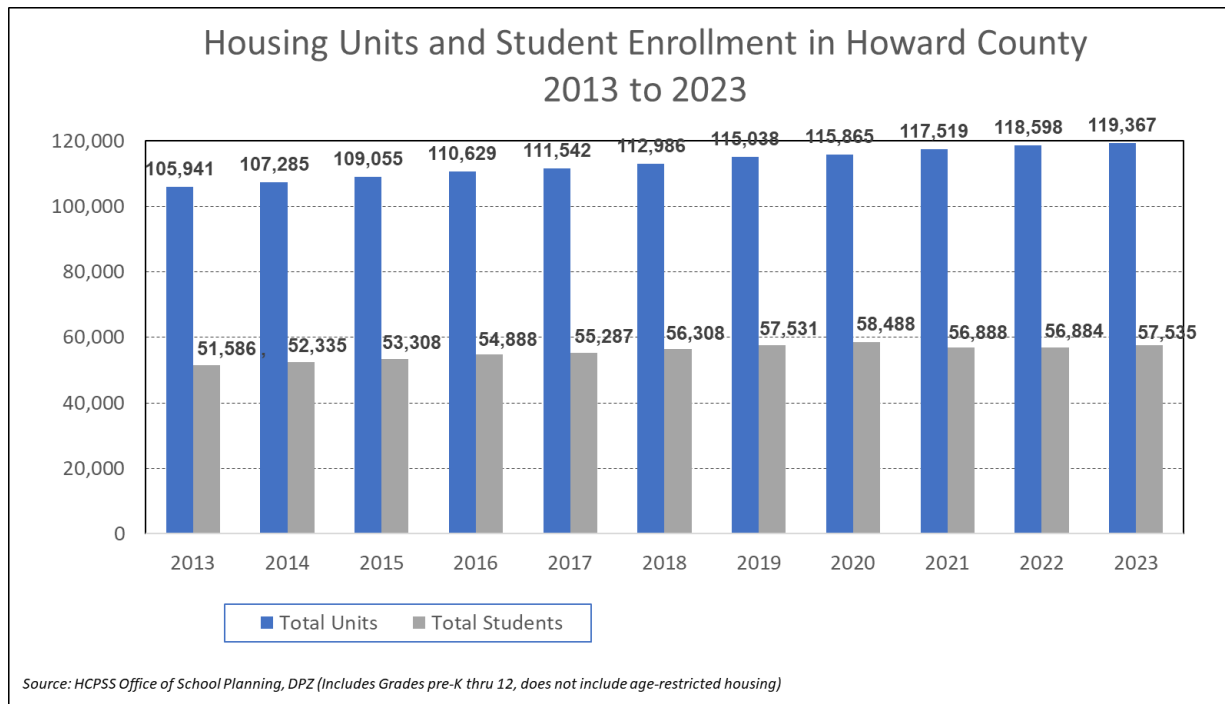
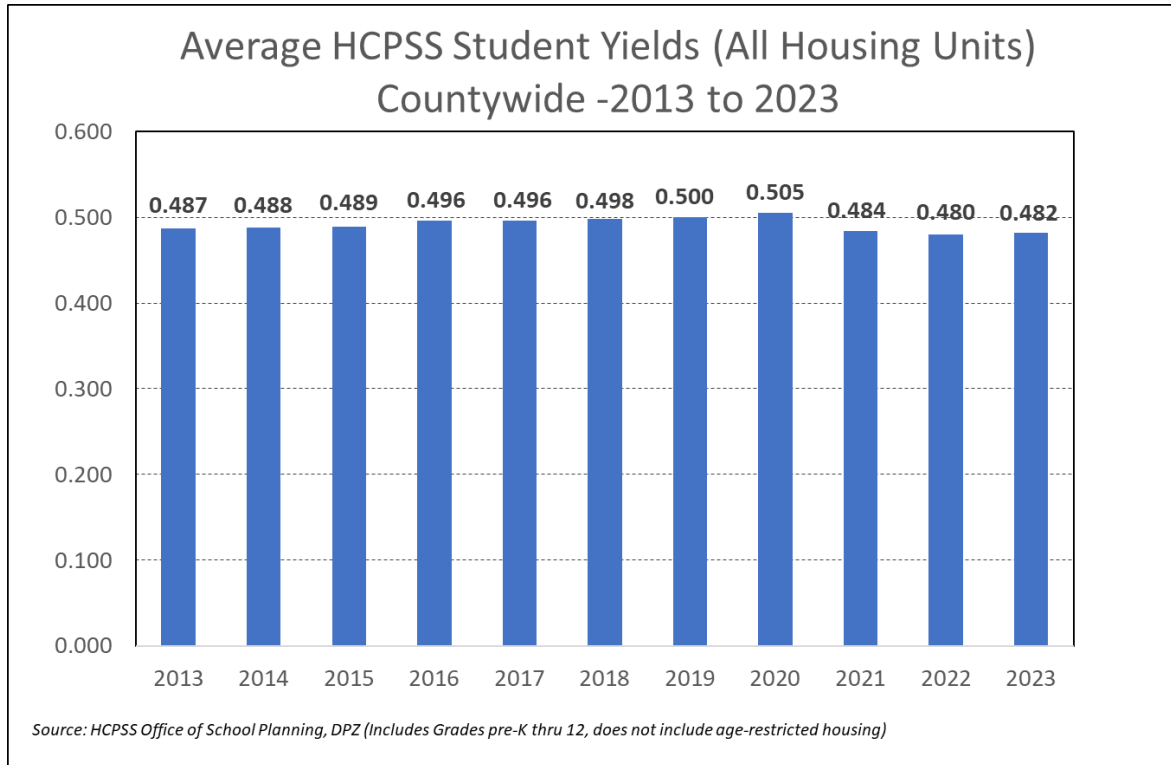
2023 Enrollment Trends by Housing Unit Type and by School Type

The charts below show the breakdown of students by school type and by unit type for the latest 2022/23 school year. A slightly greater percentage of elementary school students compared to middle and high school students live in apartment units than in SFA and SFD units, respectively. And the opposite is the case for middle and high school students where greater percentages live in SFA and SFD units, respectively. However, these differences in percentages are minor.

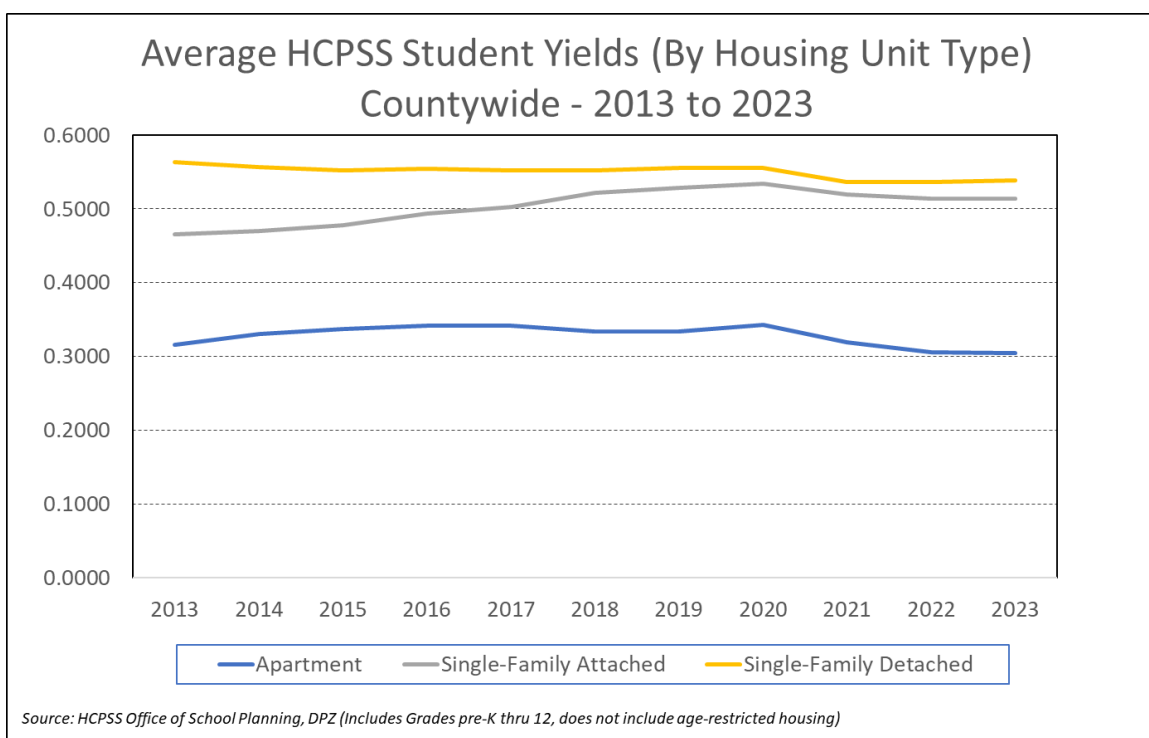
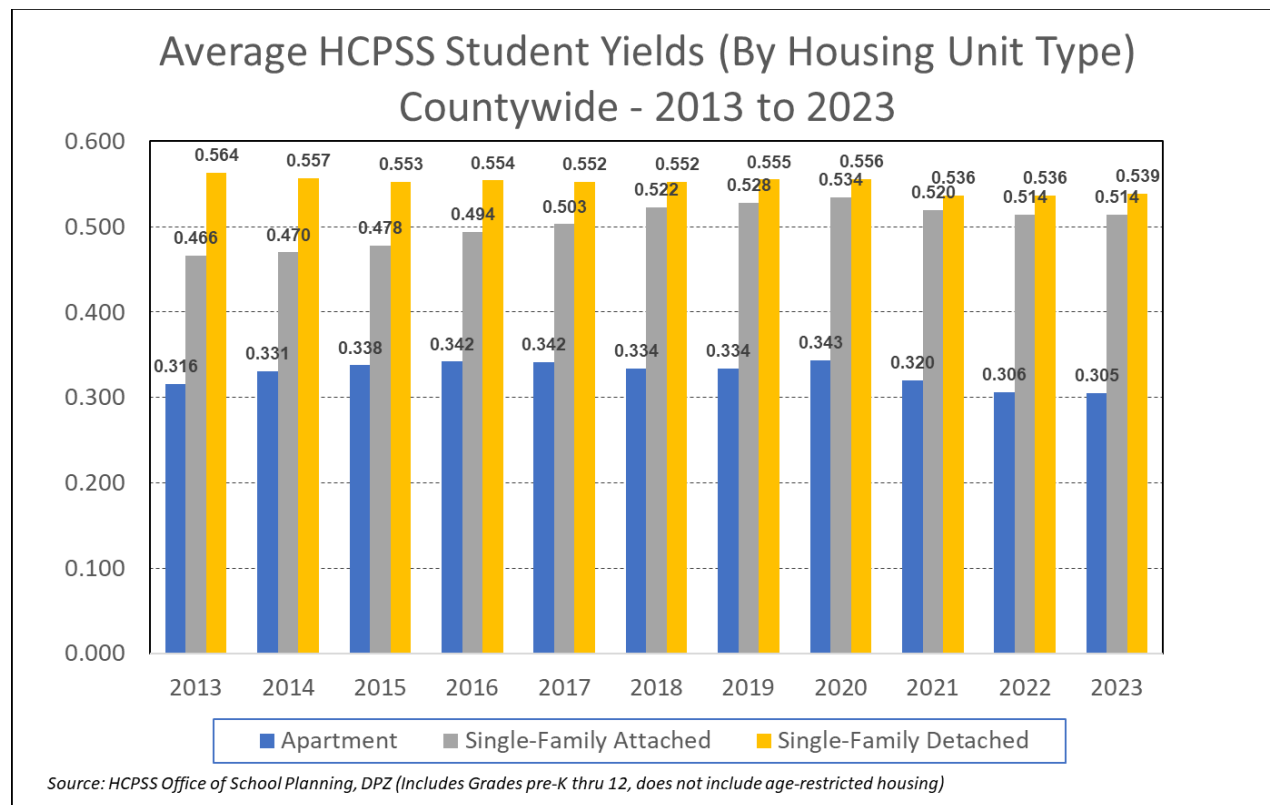


Student Yield Trends

The tables below show the average student yields per housing unit in Howard County. Student yields have remained largely consistent over time. In 2013, there was an average of 0.487 students per housing unit. The yield increased to a peak of 0.505 in 2020 and was reduced back down to 0.482 in 2023. Since 2013 more than 13,000 new homes have been built.



Overall, the average yield at 0.482 in 2023 is less than it was 10 years earlier, when it was 0.487. This difference is only about 1%, however, and so it can be concluded that yields have been consistent over time in Howard County. Yields vary by housing unit type. The charts below show this from 2013 to 2023 for single family detached, single family attached and apartment units.

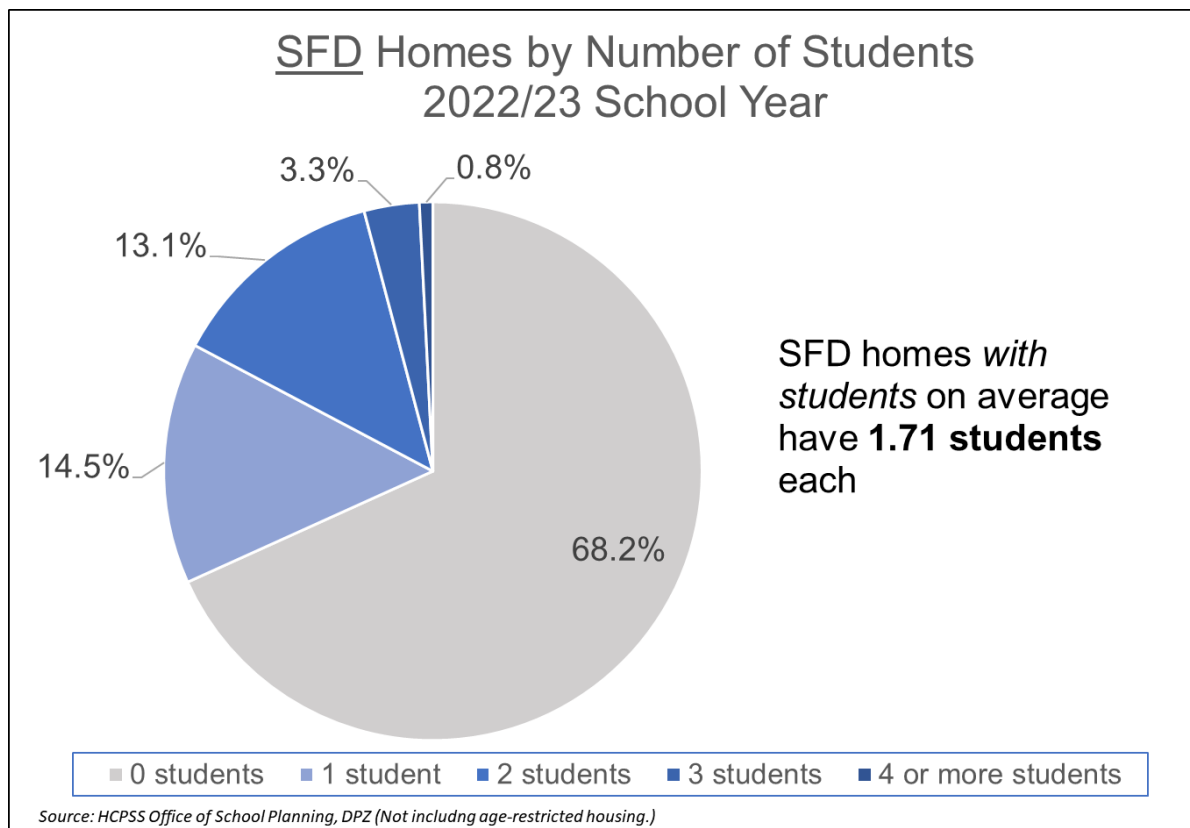


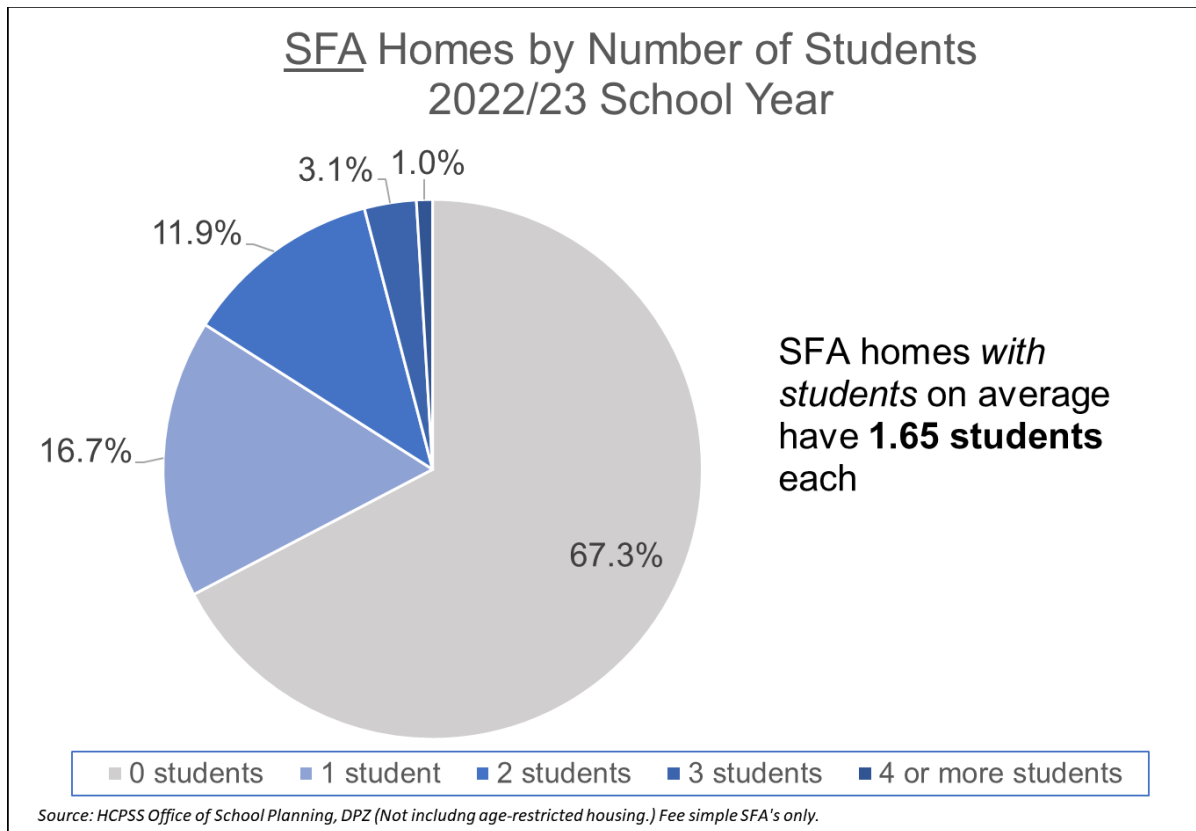
Of all three housing unit types, yields for apartment units are the least, ranging from the smallest average most recently in 2023 of 0.305 students per unit to the highest of 0.343 student per unit in 2020. Single family attached units have the next greatest average yield, ranging from 0.466 students per unit in 2013 to 0.534 students per unit in 2020, dropping down again to an average of 0.514 student per unit in 2023. For single family detached units, which have the highest yields of all three housing unit types, the range is an average of 0.564 students per unit in 2013 to 0.536 student per unit in 2022. In general, yields for all housing unit types have decreased slightly since the 2019/2020 school year. It can be surmised that this is due to the Covid pandemic when more families have opted for home or private school choices.

The majority of households in Howard County have no children attending public schools. The pie chart below shows this for the 2022/23 school year with more than two-thirds of all single family detached homes having no children attending HCPSS schools. About 15% of SFD's had one child in attendance, 13% had two children, 3% had three children, and less than 1% had four or more children in attendance. Of the 32% of SFDs with school children they averaged 1.71 students each.

The second pie chart at the top of the next page shows similar statistics for single family attached units. About the same percentage have no school children, although there are slightly more, close to 17%, that have only one child enrolled and slightly less, at 12%, that have two children enrolled.

Note that similar statistics are not possible for apartment units given the school data geocoded to apartment complexes, not individual apartment units.



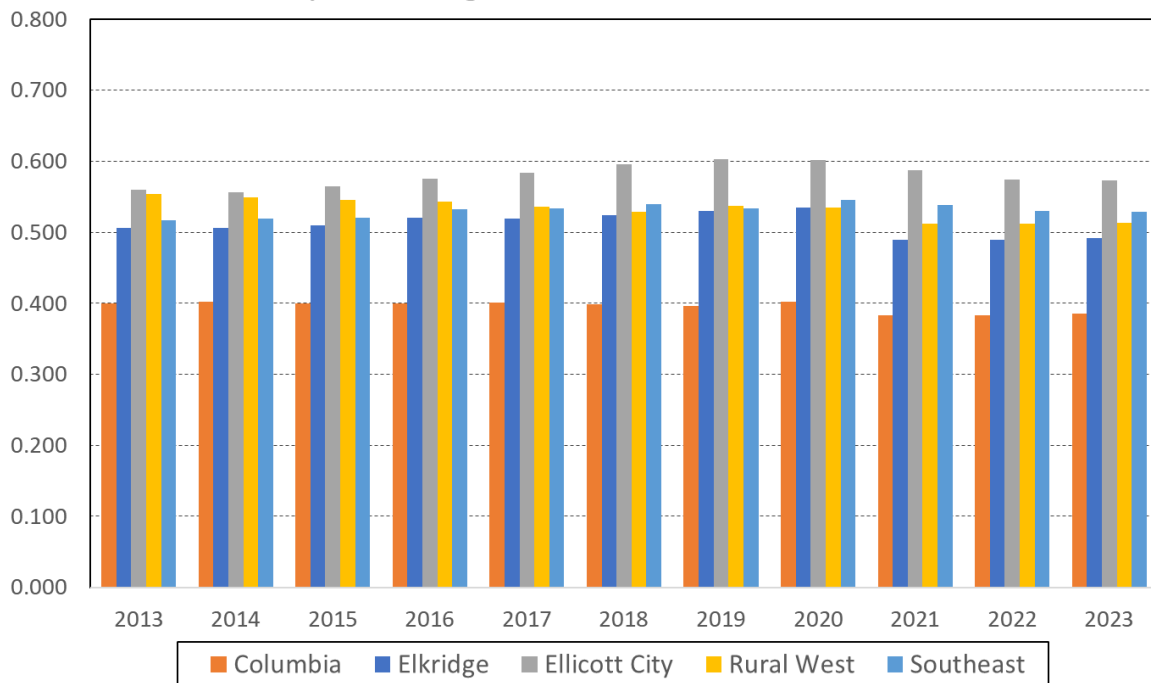


Student Yield Trends by Planning Area

The series of charts below shows student yields over time from the 2012/13 school year to the 2022/23 school year by Planning Area. The first chart shows the yields for all housing units combined, followed by charts depicting yields by the different unit types. The last chart shows the number of units by unit type built in each Planning Area. The following major points are observed:

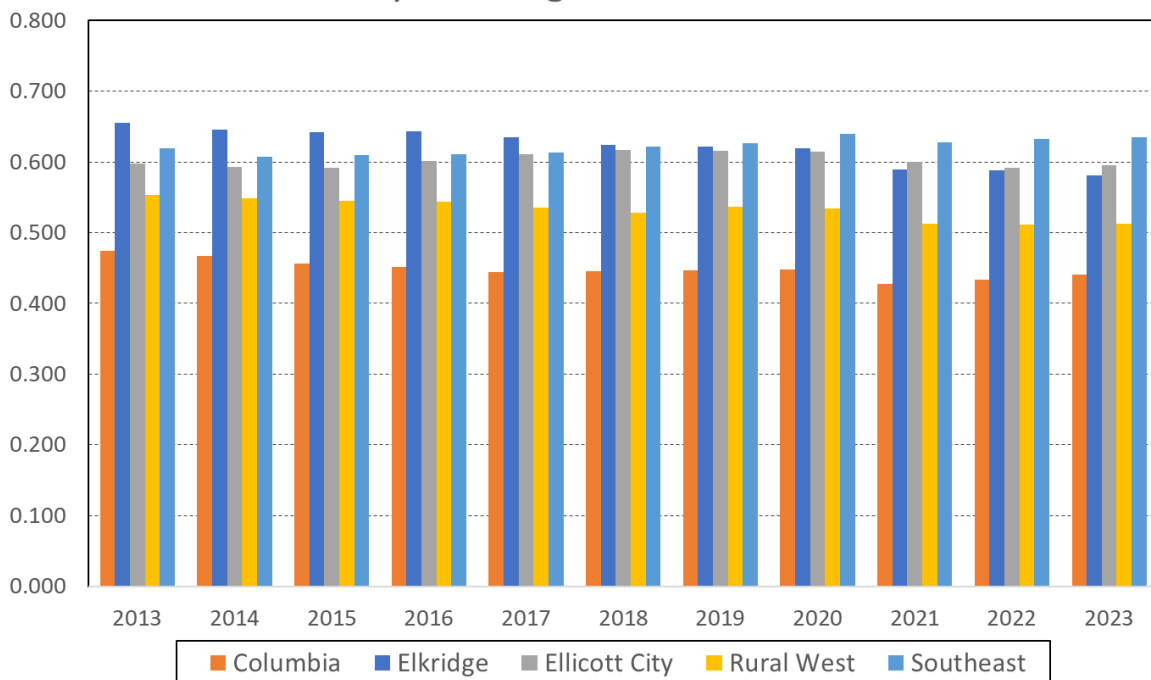
- The highest average yields are in Ellicott City. In particular, SFA yields are significantly higher and apartment yields are also higher in Ellicott City compared to the other Planning Areas. This could be due to the relatively small number of SFA units built in Ellicott City.
- Yields are the lowest in the Columbia Planning Area for all unit types, particularly for SFD units. Of all Planning Areas Columbia has the greatest number of built units.
- The second highest yields after Ellicott City are in the Southeast, taking over that position from the Rural West beginning in 2018 for all unit types combined.
- Elkridge has experienced the second lowest yields, although a fair amount higher than the lowest yields in Columbia and not significantly lower than the yields in Ellicott City and the Southeast.

Average HCPSS Student Yields (All Housing Units)
By Planning Area - 2013 to 2023



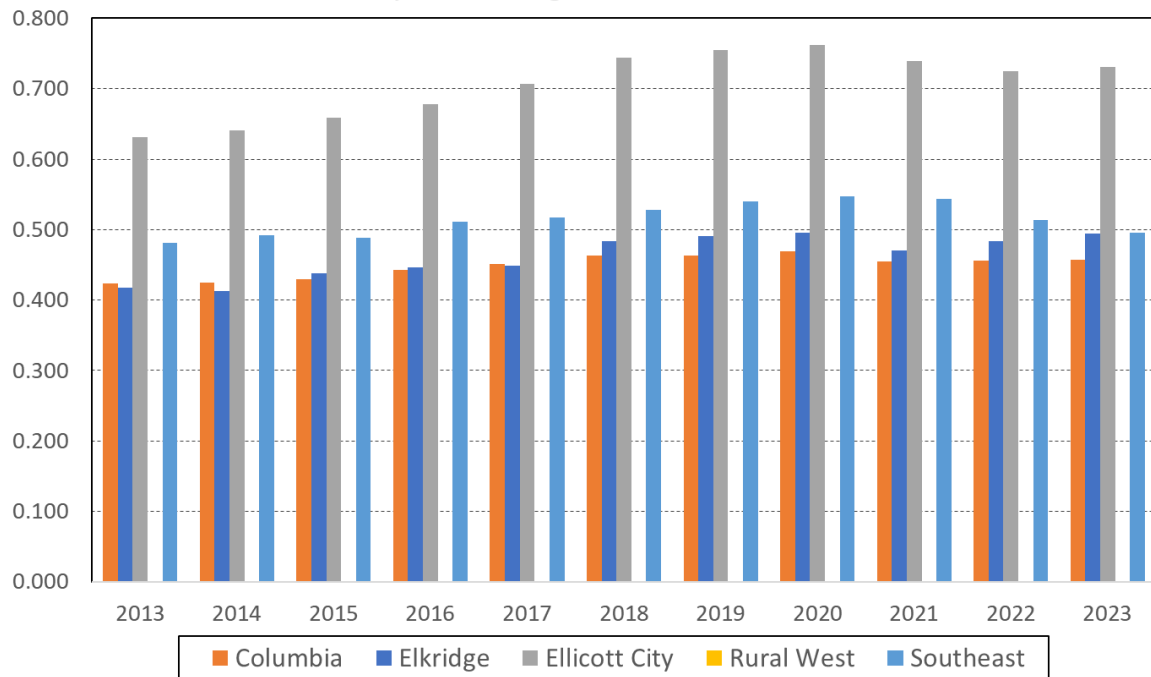
Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

Average HCPSS Student Yields (SFD Units)
By Planning Area - 2013 to 2023



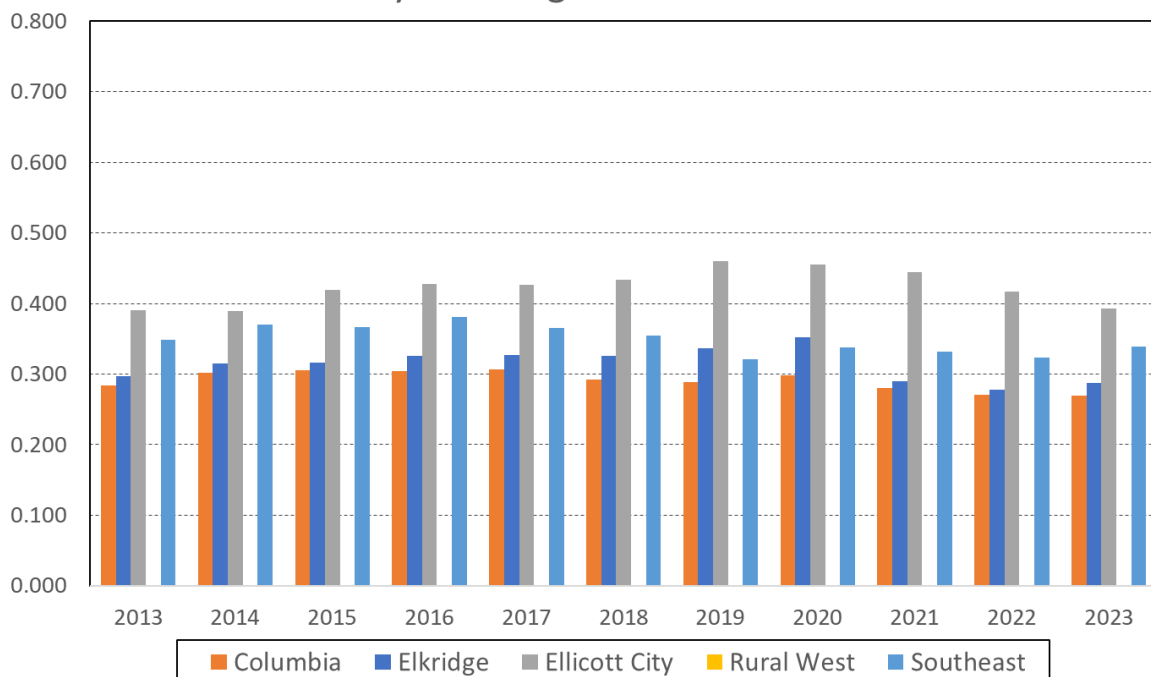
Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

Average HCPSS Student Yields (SFA Units)
By Planning Area - 2013 to 2023

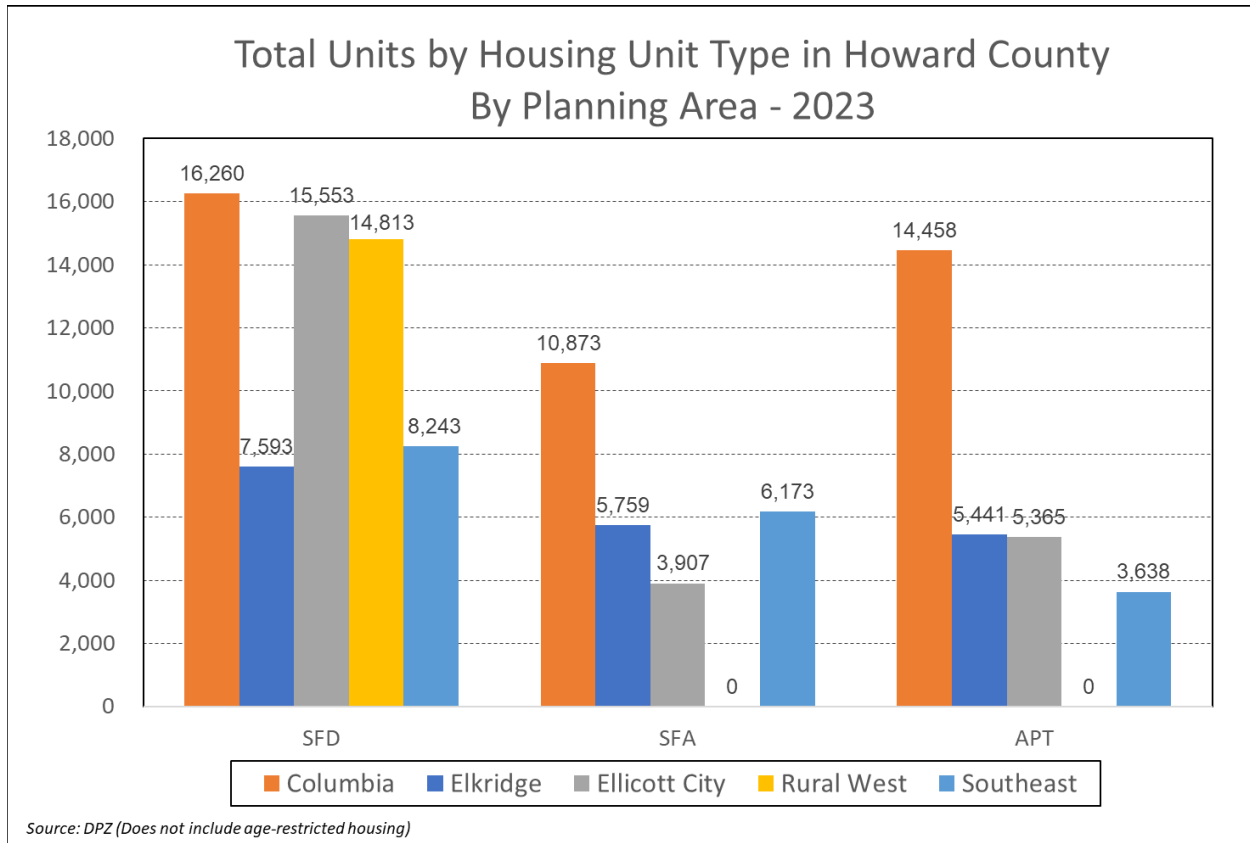


Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

Average HCPSS Student Yields (APT Units)
By Planning Area - 2013 to 2023



Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

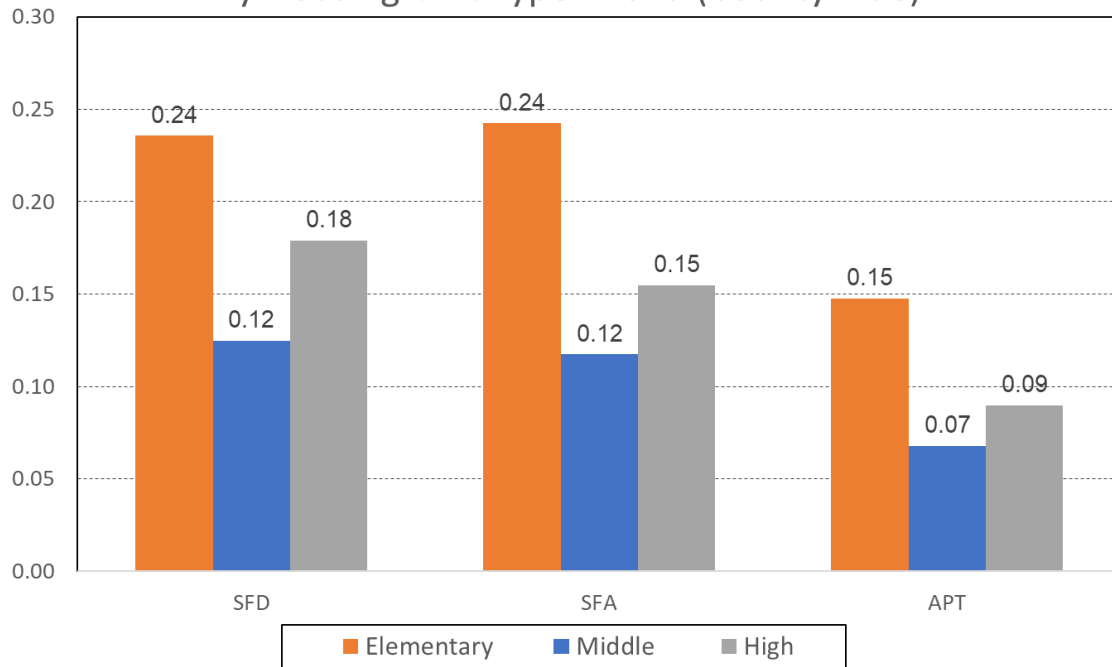


Student Yields by School Level

The charts on the next page summarize average yields by school level for the latest 2022/23 school year. The first chart shows this for each unit type and the second chart shows the results by Planning Area. Overall, yields are highest for elementary schools, followed by high schools and then middle schools. This is to be expected given that elementary schools have 6 grade levels, high schools 4 grades and middle school 3 grades. At the Countywide level, yields for single family detached and single family attached units are similar for elementary and middle schools, whereas high schools yields are 20% greater for single family detached compared to single family attached units (0.18 for SFDs compared to 0.15 for SFAs). Apartment yields are significantly less by comparison for all school levels.

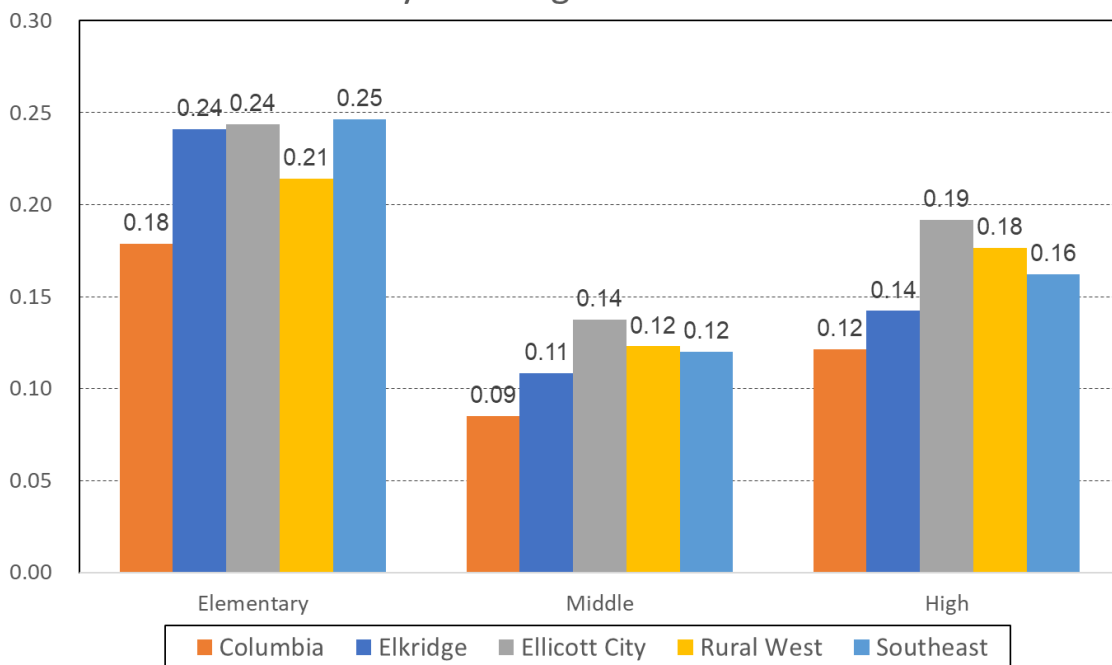
Average yields by Planning Area show similar patterns as discussed earlier, with Ellicott City showing relatively higher yields and Columbia the smallest. Of all five Planning Areas, Elkridge and the Southeast are the most similar for all school levels.

Average HCPSS Student Yields by School Level
By Housing Unit Type - 2023 (Countywide)



Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

Average HCPSS Student Yields by School Level
By Planning Area - 2023

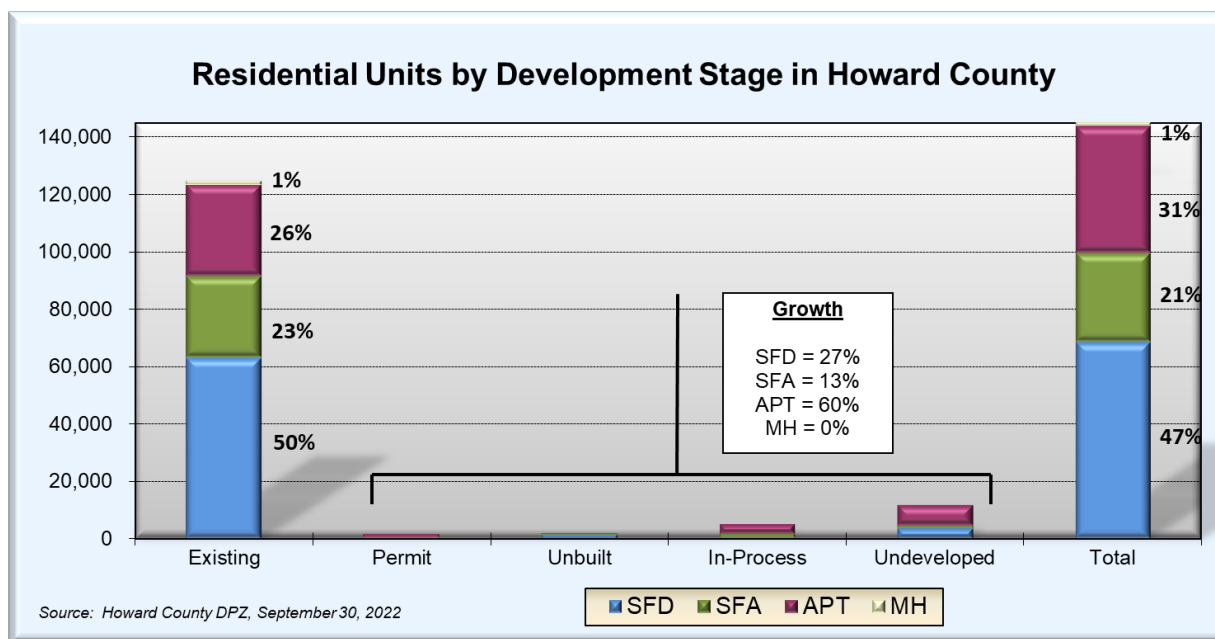


Source: HCPSS Office of School Planning, DPZ (Includes Grades pre-K thru 12, does not include age-restricted housing)

Multifamily Apartment Yields – A Deeper Dive

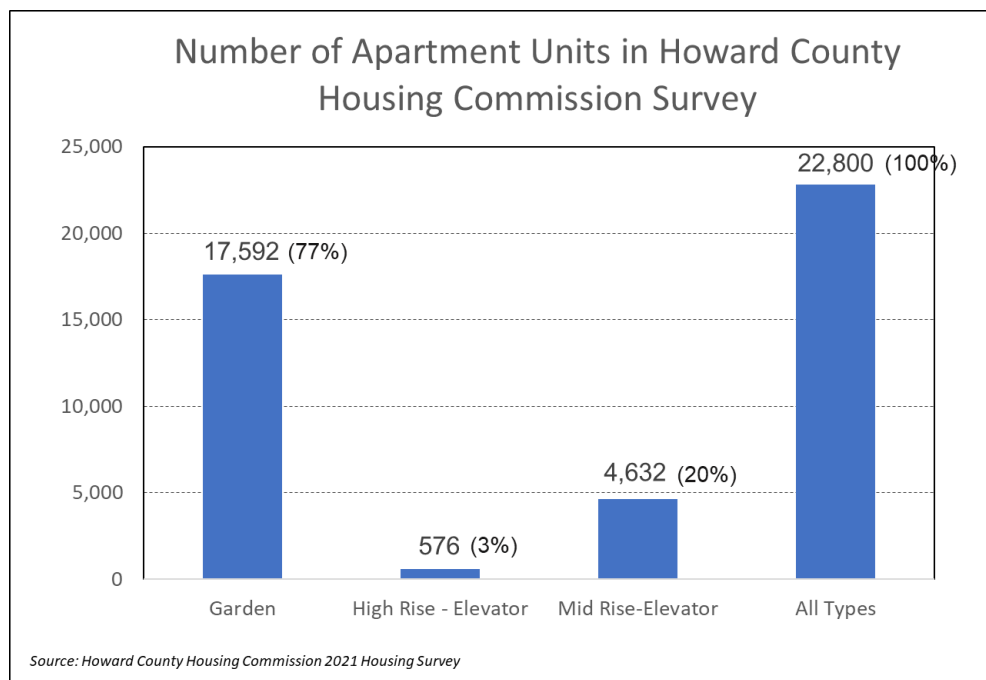
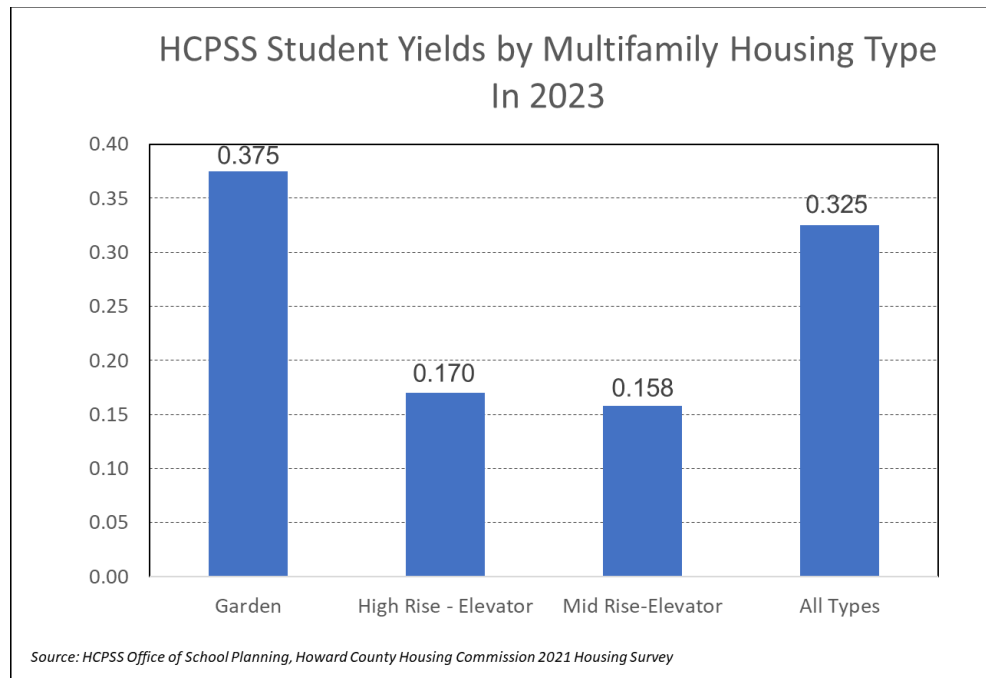
The majority of future residential development in Howard County will consist of multifamily apartment units. As indicated in the recently adopted General Plan, *HoCo By Design*, available land for new development is limited and therefore most new residential construction will consist of higher density mixed-use development in Activity Centers. Activity Centers include Downtown Columbia, the Columbia Village Centers, Gateway, areas around the Route 1 and Route 40 Corridors, and some other select large retail and industrial areas as defined in the Future Land Use Map in *HoCo By Design*.

The chart below shows the future residential unit potential based on current zoning. The multifamily capacity shown below will increase once the Gateway Master Plan and the comprehensive zoning effort are completed but serves as a good guide now to show the extent of future development by unit type compared to the breakdown of existing units. Currently, half of all units built in the County are single family detached units, 23% are single family attached units, 26% are apartment units, and 1% mobile homes. Future units, however, estimated based on current zoning, will be 60% apartment units, 13% single family attached units, and 27% single family detached units. The apartment percentage will likely increase once the Gateway Master Plan and the comprehensive zoning efforts are completed in the next few years.



Given that most new units to be built in Howard County in the decades ahead will be apartment units, it is important to have a good understanding of apartment unit student yields. As discussed earlier, apartment unit yields are less than single family detached and attached unit yields. However, general averages do not convey the variation of yields from the diversity of apartment designs. The range of the number of bedrooms offered in apartment products range from studio and one-bedrooms to two and three and rarely four bedroom options. By comparison, most new single family detached and attached units come with a standard of three or four bedrooms,

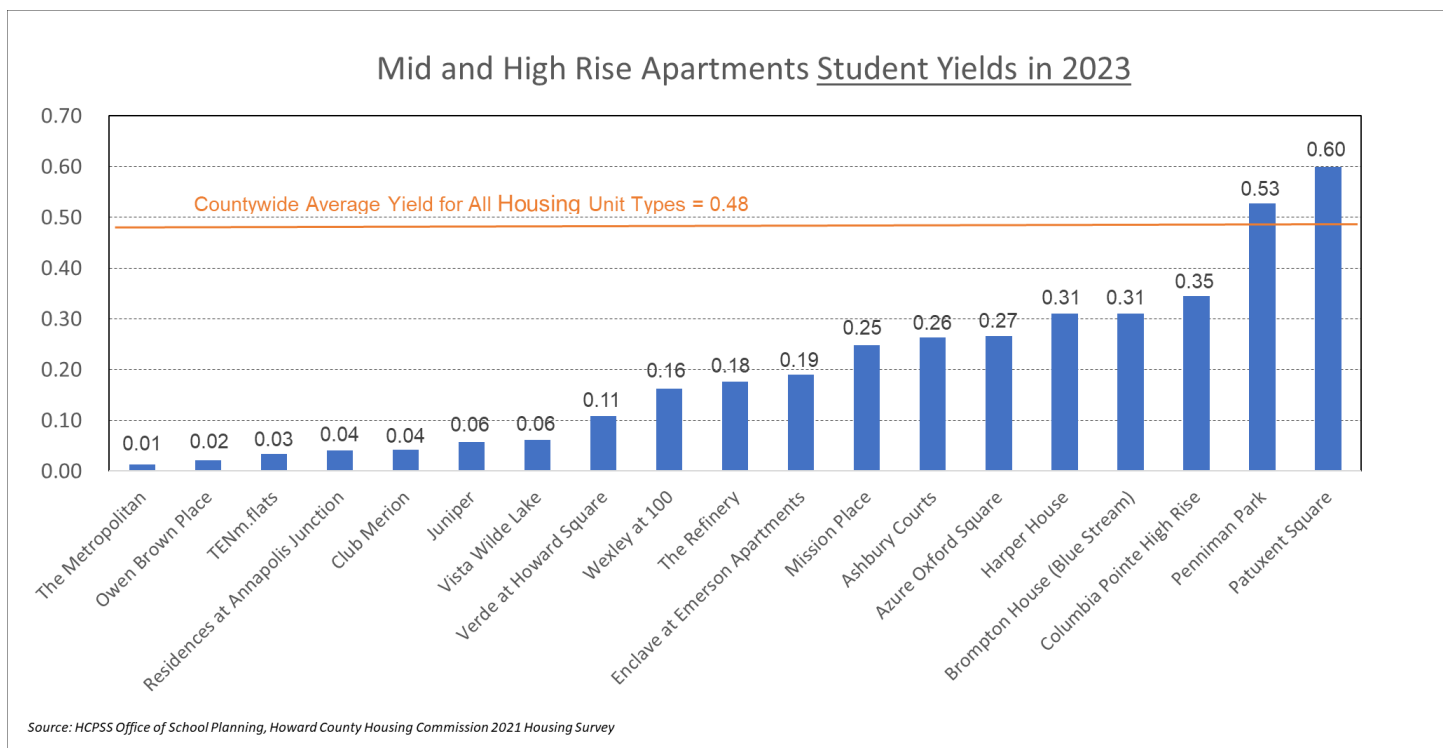
primarily designed for families with children. Apartments, on the other hand, offer plentiful options for householders living alone or with one other person. Therefore, student yields in apartment units are more varied, depending on the product type, than the yields in more standardized single family detached and attached units. The first chart below shows the average yields for garden, high-rise, and mid-rise apartment types. The second chart below shows the number of apartment units by product type used to determine the average yields. The second chart data come from a survey conducted by the Howard County Housing Commission in 2021, representing close to 80% of all apartment units built in the County.



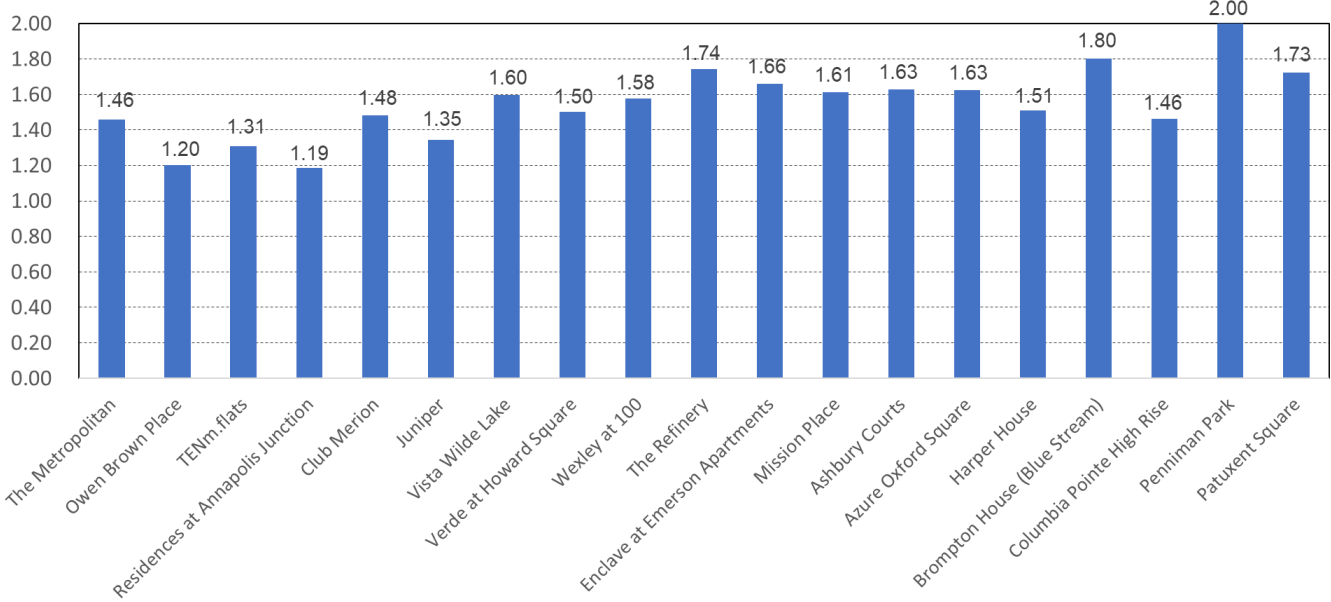
Garden style apartments are defined as walk up non-elevator buildings, typically two to three stories, but sometimes up to four stories. Mid-rise apartment buildings are elevator-served up to eight stories. High-rise apartments are also elevator-served and nine stories and above. Garden apartments are the most common in Howard County, followed by mid-rise and then high-rise styles.

The average student yield for the 2022/23 school year for garden apartments is 0.375 students per unit. This compares to only 0.170 students per unit for high-rise apartment units and 0.158 students per unit for mid-rise units, both less than half the average yields of garden style apartments. Most of the future apartment units to be built in the Activity Centers in Howard County will likely be mid and high-rise elevator buildings. For example, the most recent apartment buildings constructed in Downtown Columbia are of the mid-rise elevator style. The chart below shows the student yields of all the mid and high-rise apartment buildings found in the Housing Commission Survey, including the recent buildings constructed in Downtown Columbia (The Metropolitan, TENm.flats, and Juniper). The yields are very low in these newer buildings in Downtown given relatively small number of bedrooms per unit. The Metropolitan, for instance, includes 237 studio and one-bedroom units (62%), 111 two-bedroom units (29%), and 32 three-bedroom units (8%), an average of only 1.46 bedrooms per unit.

The top chart on the next page summarizes the average bedrooms per unit for all the surveyed mid and high-rise apartments. The bottom chart expands these data to include all apartments surveyed, including all the garden apartments. An upward trend can be gleaned. Greater average yields result in apartment buildings that have greater average numbers of bedrooms per unit.

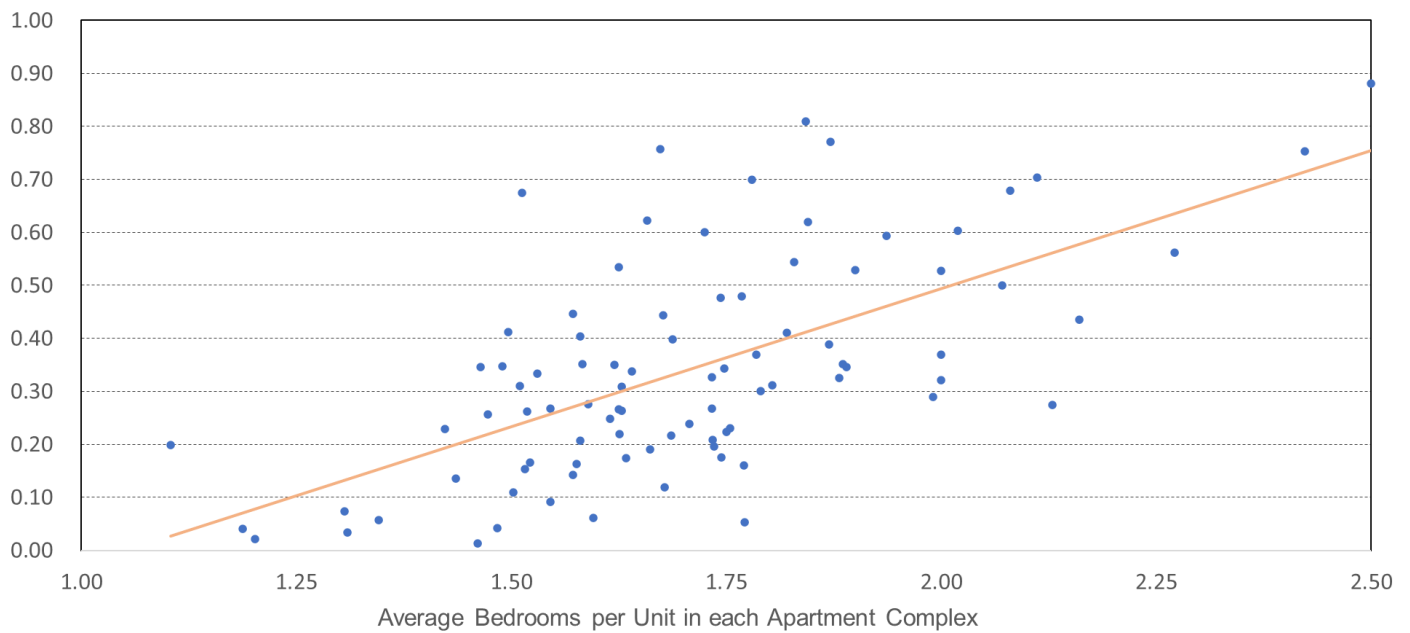


Mid and High Rise Apartments Average Bedrooms per Unit



Source: Howard County Housing Commission 2021 Housing Survey

Multifamily Student Yields by Average Bedrooms per Unit (2023 Yields)

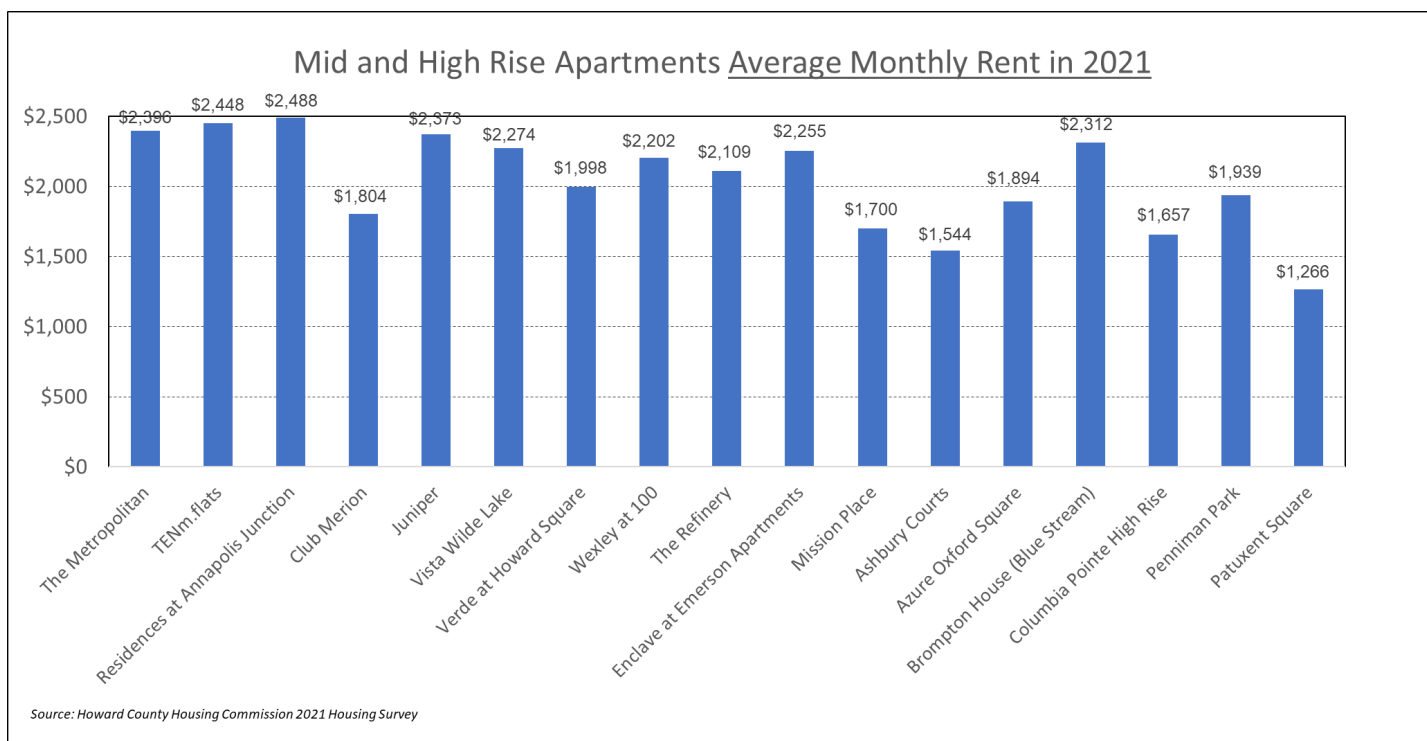


Source: HCPSS Office of School Planning, Howard County Housing Commission 2021 Housing Survey

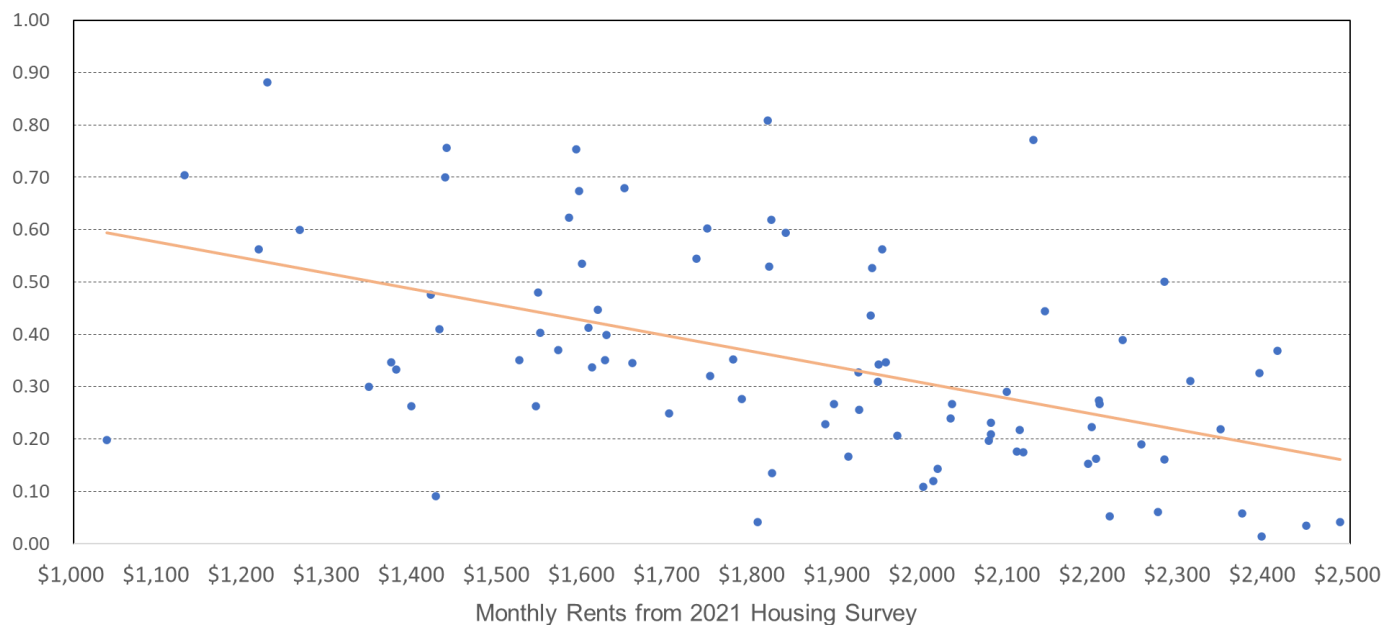
Another factor to consider are monthly rental costs. Mid and high-rise apartments generally have higher monthly rents than garden apartments in Howard County. Based on the survey data, average rents in 2021 for garden style apartments was \$1,810. This compares to an average rent of \$2,040 for mid and high-rise style apartments, about 12% higher. Higher rents may be less affordable for young families with school age children, which would result in lower average student yields for units that have higher rents.

The chart below shows the average monthly rents for apartment units from the 2021 Housing Commission survey for mid and high rise apartments, and the second chart depicts rents versus yields for all the apartment data, including all the garden apartments. It is clear that as rents increase, student yields decrease. There are exceptions to this rule, as other factors come into play, but the general trend line is apparent.

Another factor to look at is year built. This is reflected in the last two charts below. In general, the more recently built apartment buildings have lower average student yields. Most all of the mid and high rise apartment complexes built in Howard County were constructed more recently in the last ten to fifteen years. These styles have lower student yields for all the reasons discussed: less bedrooms and higher rents, on average, and not necessarily marketed to households with school age children. As indicated earlier, most new apartment buildings to be constructed in Howard County will be mid and high rise types and will likely yield lower student numbers compared to the many existing garden apartments already constructed in the County.

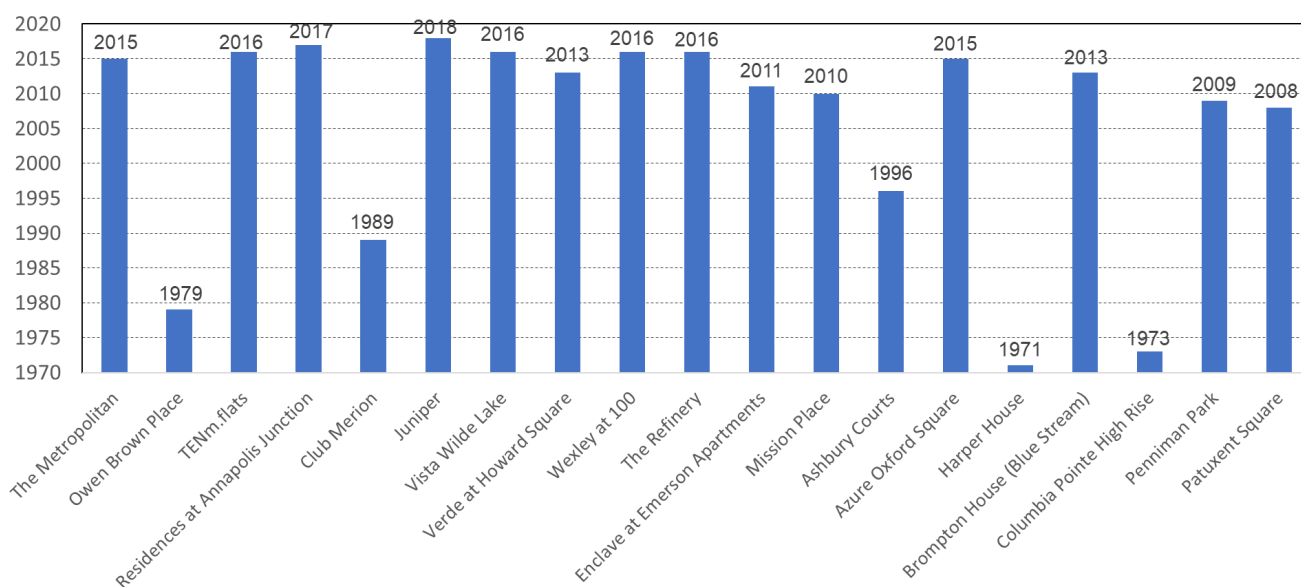


Multifamily Student Yields vs. Rents (2023 Yields)

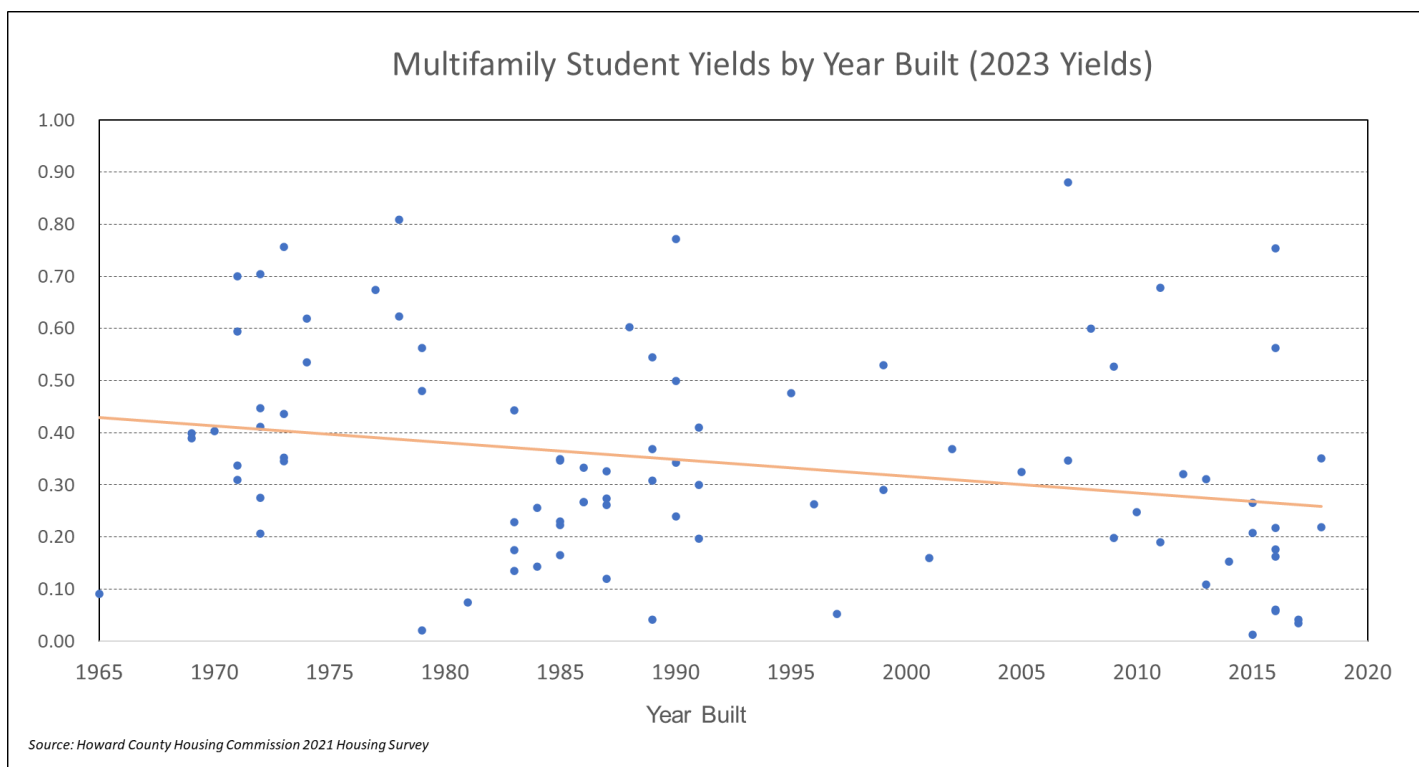


Source: HCPSS Office of School Planning, Howard County Housing Commission 2021 Housing Survey

Year Built of Mid and High Rise Apartments



Source: HCPSS Office of School Planning, Howard County Housing Commission 2021 Housing Survey

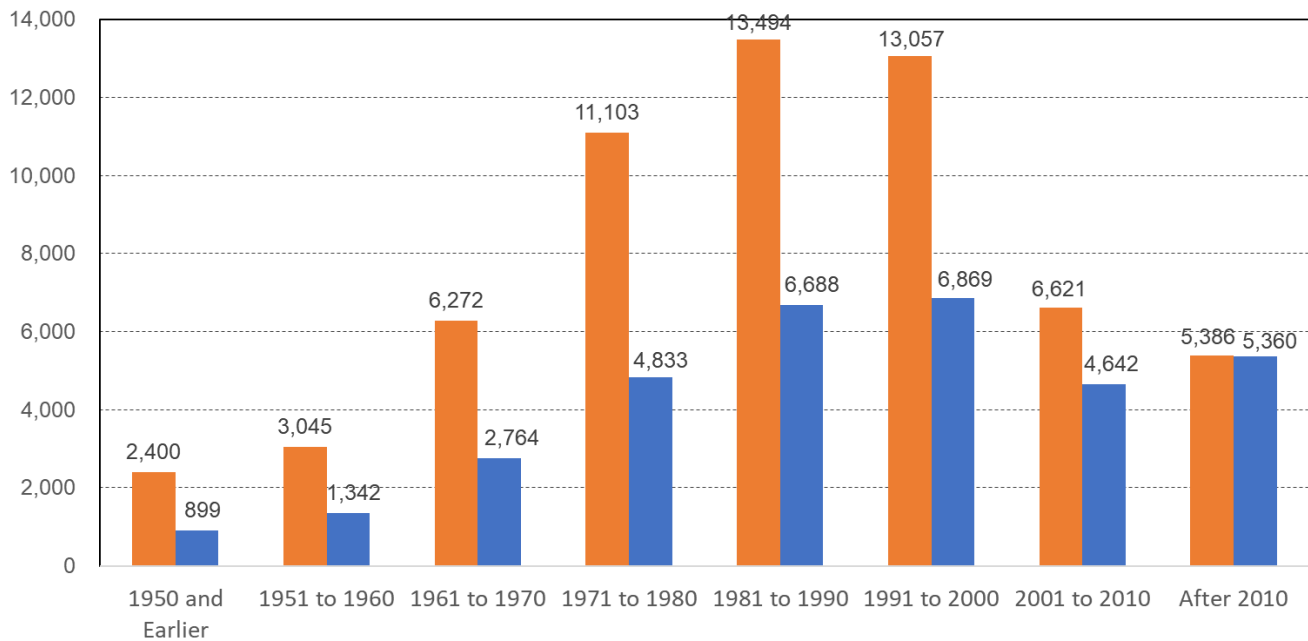


Yields for SFD and SFA Units By Year Built and by Planning Area

The first chart on the next page shows the number of SFD homes built in Howard County by year in ten year ranges, along with those built before 1950 and after 2010. The chart also shows the number of students living in these homes for the 2023 school year. Average yields for each year built range can then be calculated, which is shown in the second chart. A significant portion of SFD homes in Howard County were built between 1970 and 2000 (55% of the total). New SFD home construction has slowed since 2000, in large part due to APFO allocation limitations set by the 2000 General Plan, and also as a result of diminishing residential land supply for SFD units.

The average student yields shown in the second chart below show a clear trend with newer homes yielding more students. There is a significant increase in yields for SFD units built after 2000. Homes built between 2001 and 2010 have an average yield of 0.70 students per SFD compared to an average yield of 0.53 for SFDs built the decade before during the 1990s. And the average yield increases even more to 1.0 students per SFD for homes built after 2010. This compares to an average yield for all SFDs of 0.54. SFD homes built during the 1980's have an average yield slightly below this overall average of 0.50. Average yields for SFD homes built during the three decades from 1950 through 1980 are even lower, each at 0.44. Home built in 1950 and early have the lowest average yield of 0.37. These yield statistics are not unexpected given that most new SFD homes are purchased by families with children, and older homes tend to be occupied by relatively more "empty nesters."

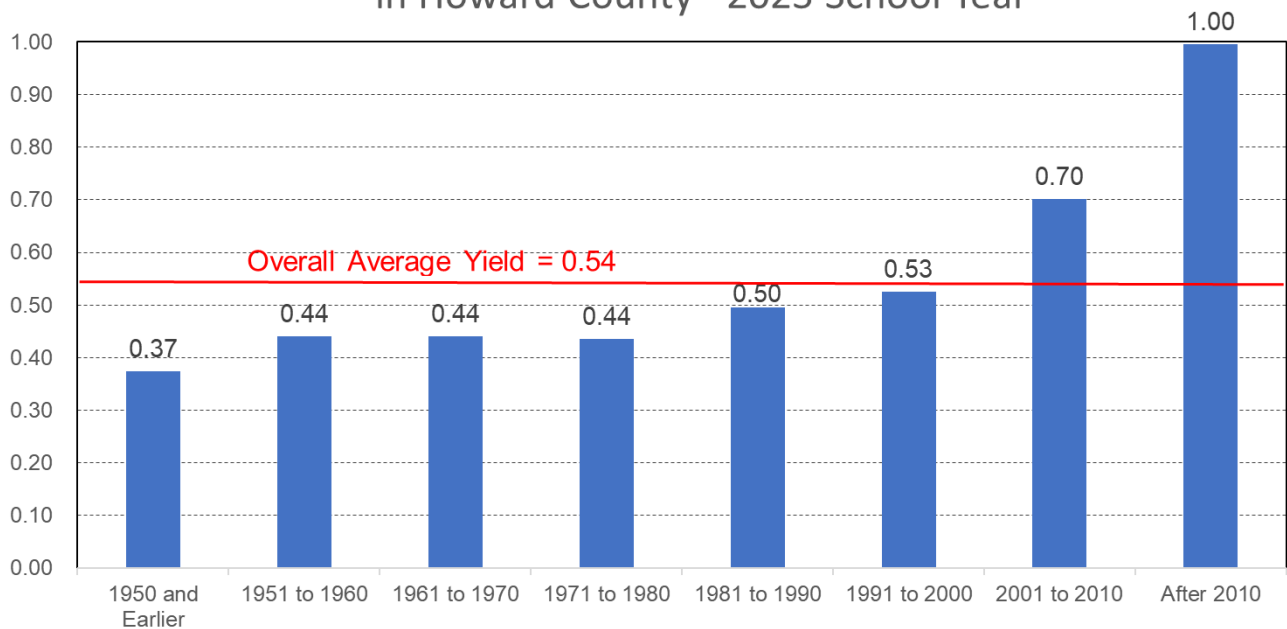
SFD Homes by Year Built and HCPSS Students in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

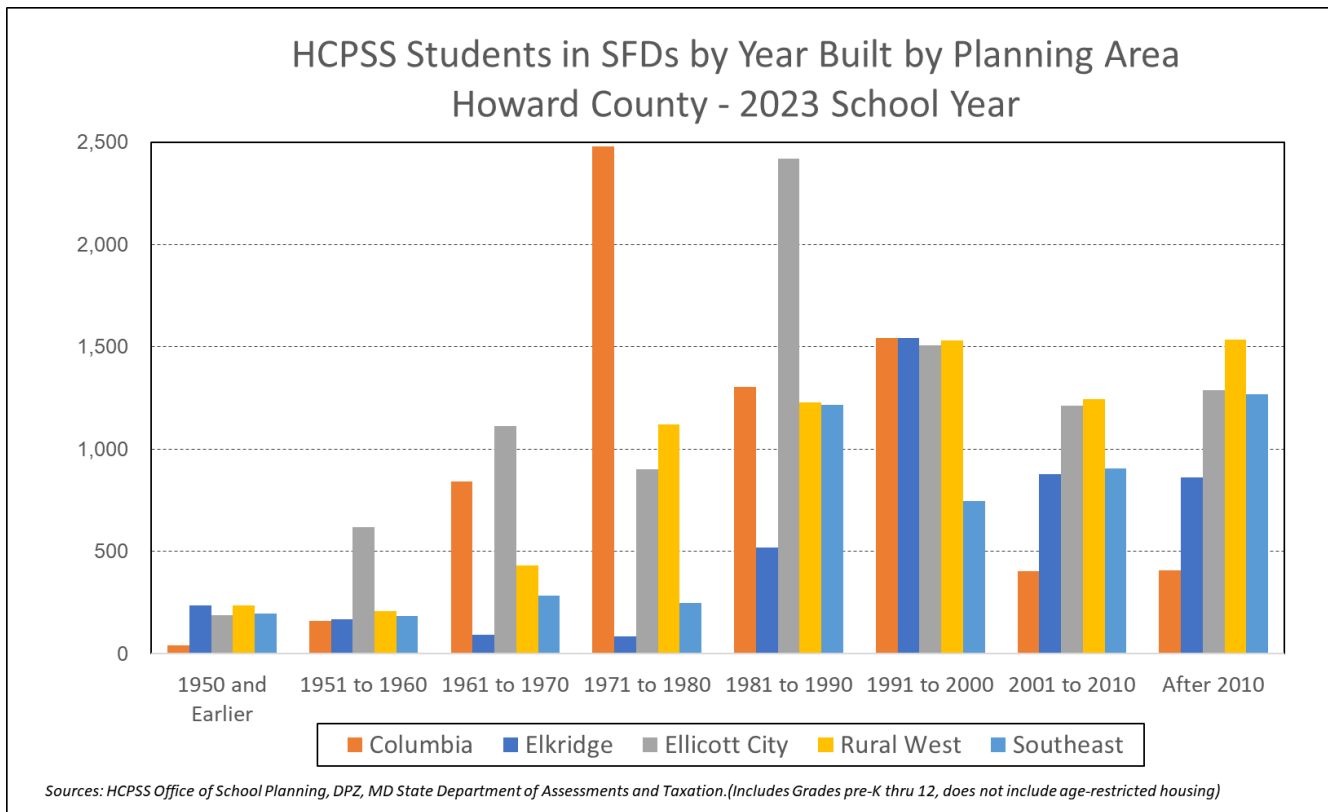
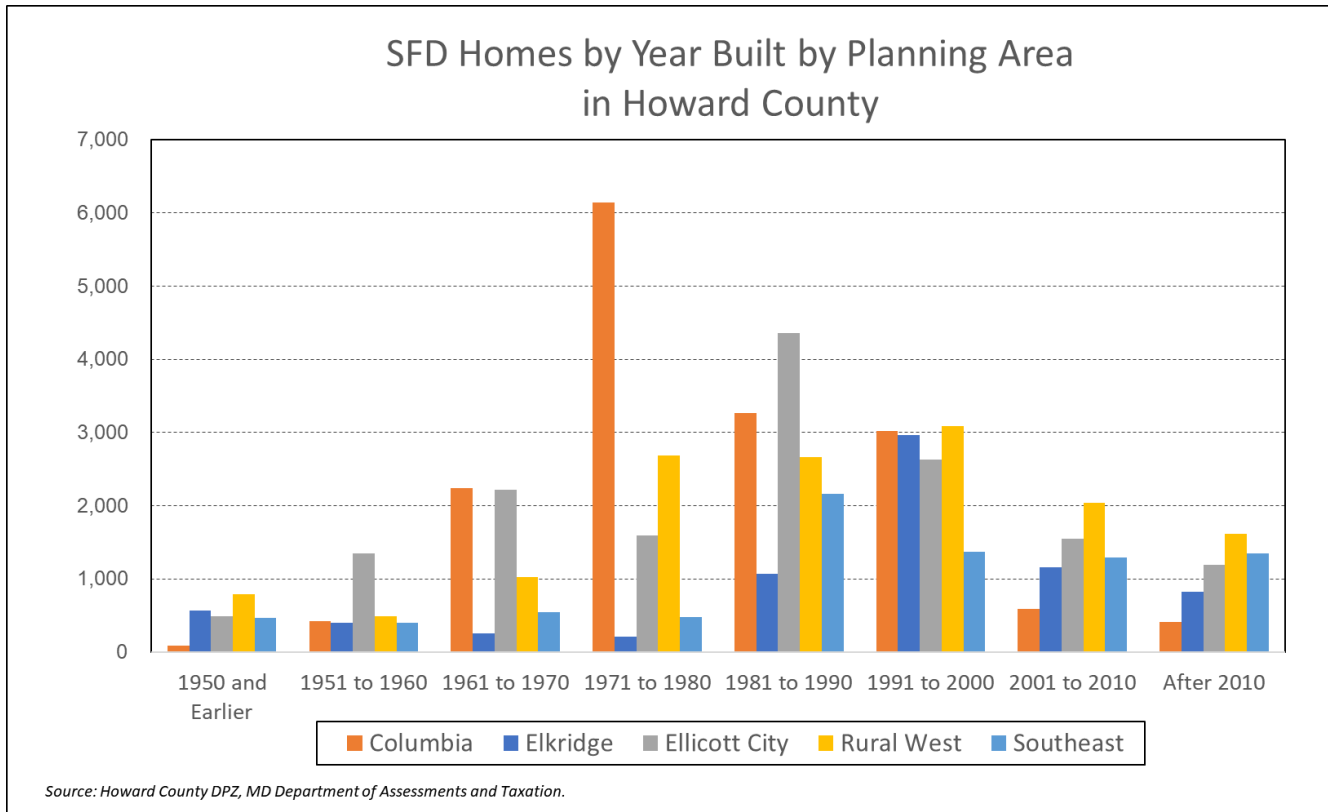
■ SFDs Built ■ Students

Average HCPSS Student Yields for SFDs By Year Built in Howard County - 2023 School Year

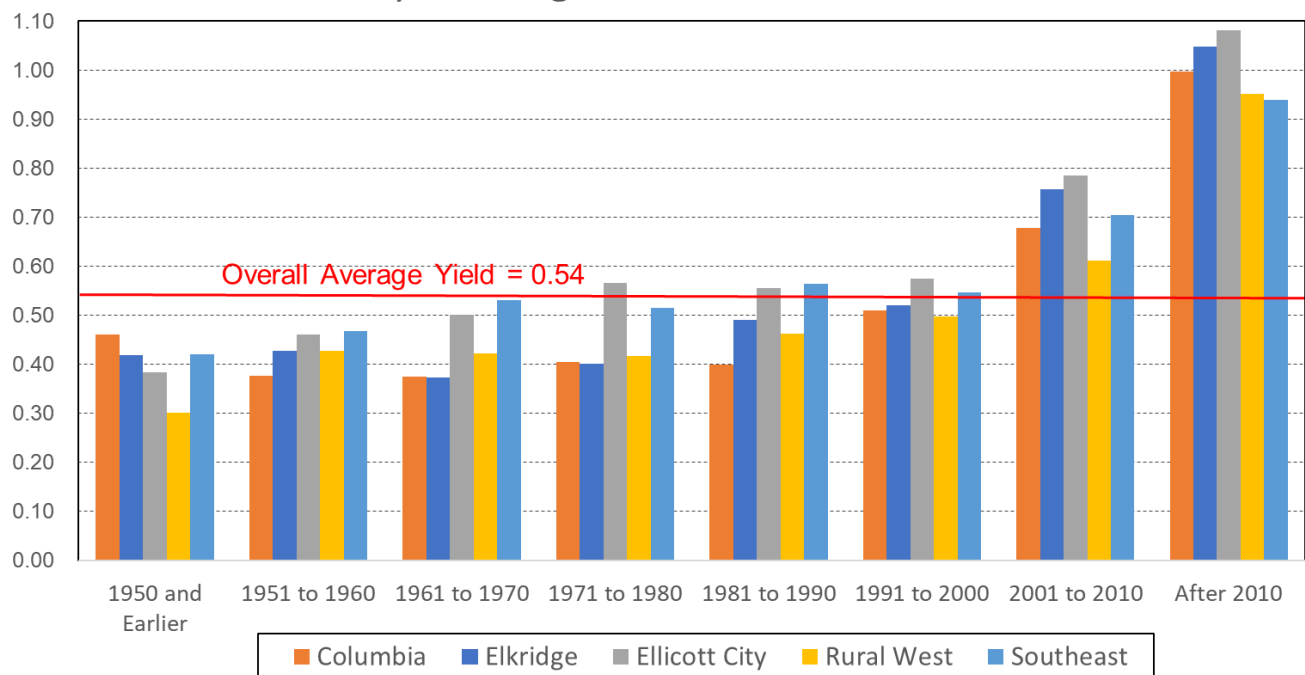


Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

This same analysis was conducted for each Planning Area and is reflected in the charts below.



Average HCPSS Student Yields for SFDs By Year Built by Planning Area - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

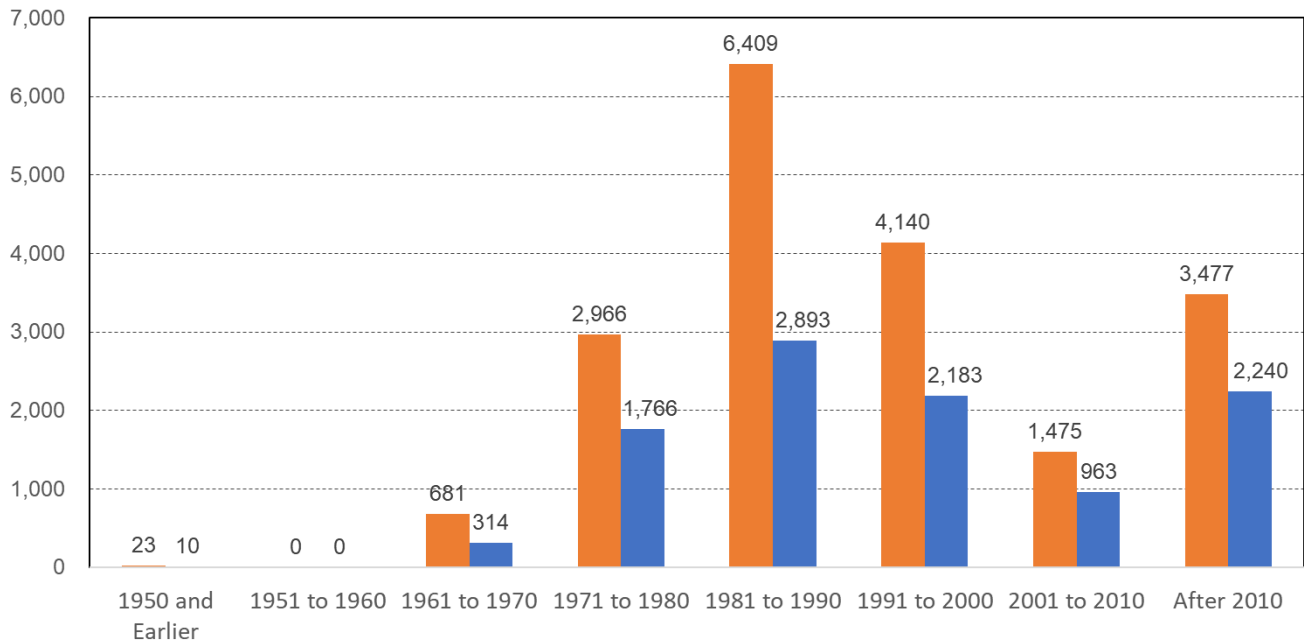
Overall trends by Planning Area are similar to the Countywide pattern, with increasing average yields for the newer built homes. It is notable that average yields for SFDs built after 2010 in Elkrige and Ellicott City are higher than the Countywide average of 1.0, whereas average yields for SFDs built during this most recent time period in the Rural West and Southeast are less than 1.0. Average yields for SFDs built in Columbia for units built after 2010 are right at the 1.0 Countywide average, although there were only about 400 new SFDs built in Columbia then. Most new SFDs were built in Columbia during the 1970s, more than 6,000, which is by far the most of all the Planning Areas of all the year ranges depicted.

The charts on the next page show the same analysis for fee-simple townhomes.³ The trends show a slightly different pattern for SFA units compared to SFDs. Overall, more recently built SFAs do show higher average yields. However, SFA units built in the 1970s have higher average yields compared to the those built in the 1980s and 1990s, and the highest yields are for those built in the 2000s.

The charts on Page 30 and the top of Page 31 show the SFA results by Planning Area. Most townhomes have been built in Columbia, particularly during the 1970s and 80s. Most townhomes built after 2010 have been in Elkrige. Notably, the greatest average SFA yields for all year built ranges are in Ellicott City, far exceeding the 0.51 Countywide average yield.

³ Condo townhomes were not included in this particular analysis given the way the student data geocoded within land parcels shared by multiple units, which did not allow for an easy discernment of the number of students in each unit.

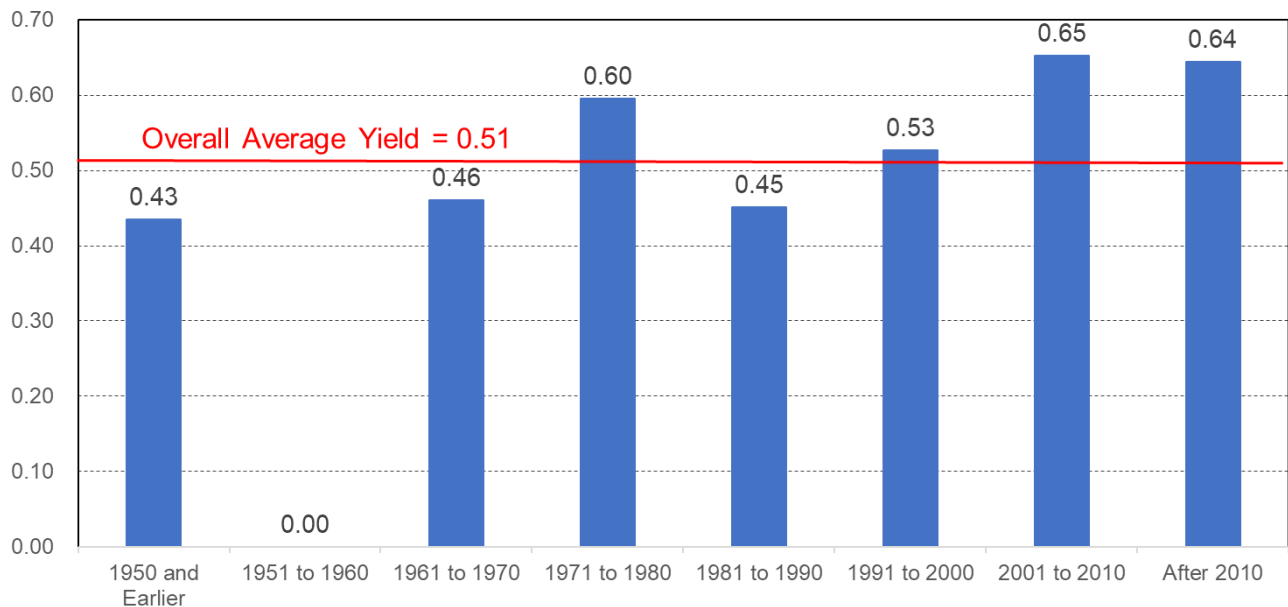
SFA Homes by Year Built and HCPSS Students in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

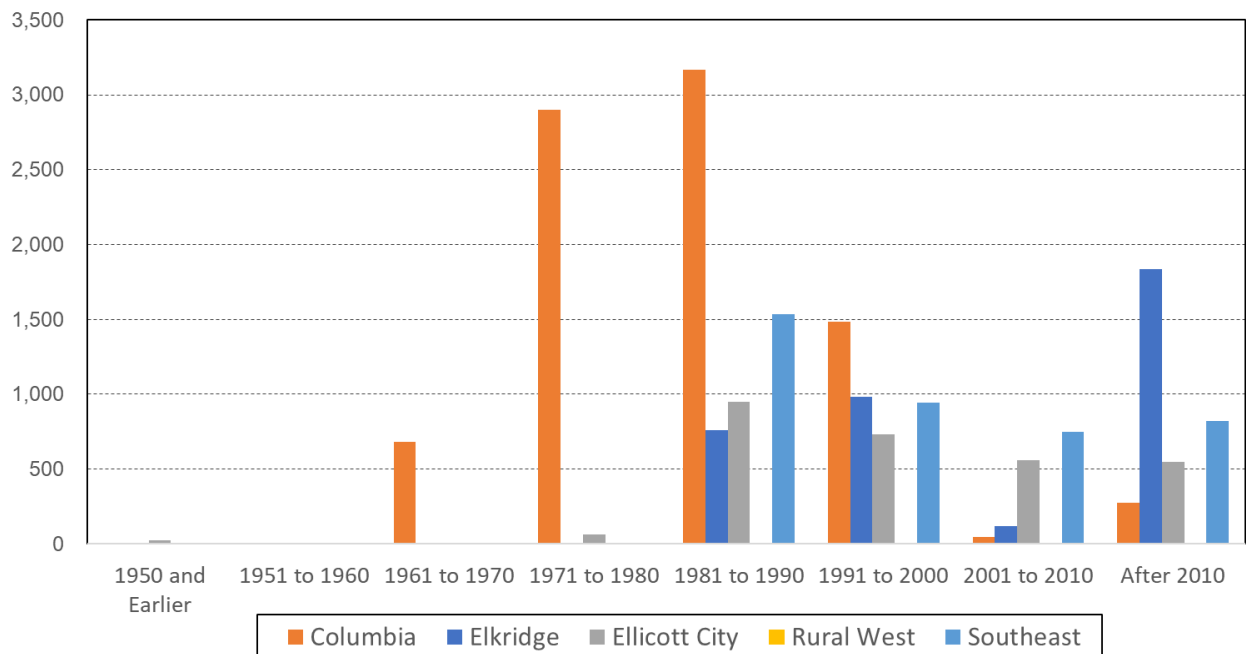
■ SFAs Built ■ Students

Average HCPSS Student Yields for SFAs By Year Built in Howard County - 2023 School Year



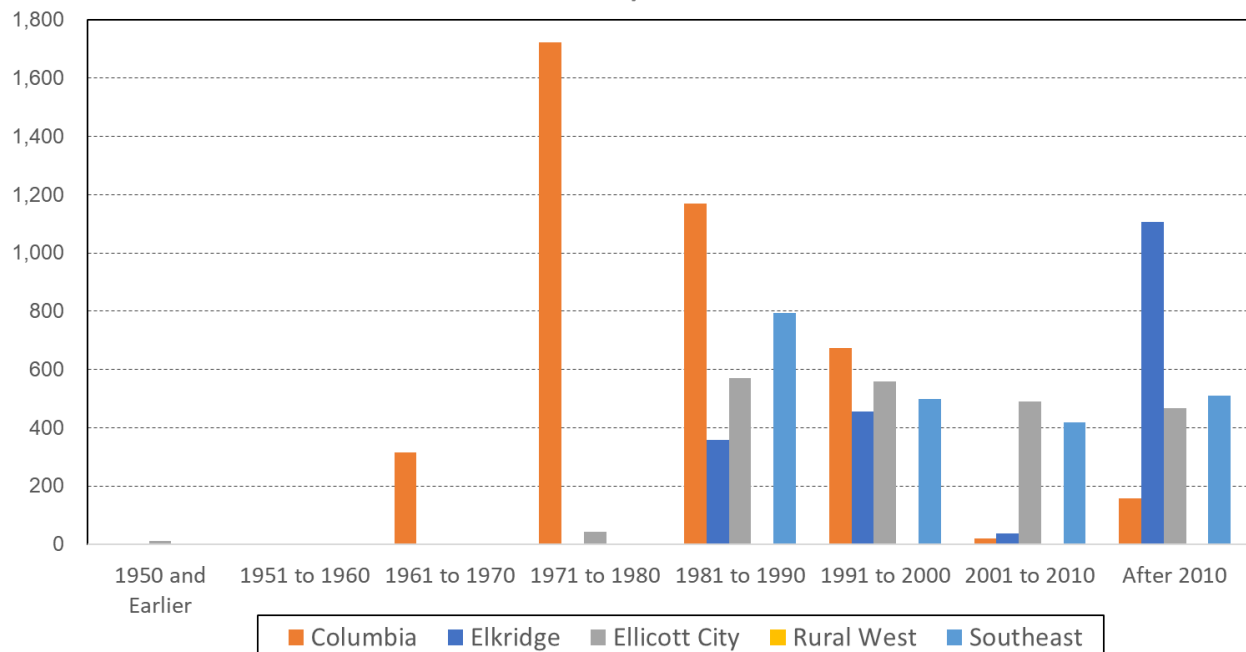
Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

SFA Homes by Year Built by Planning Area in Howard County



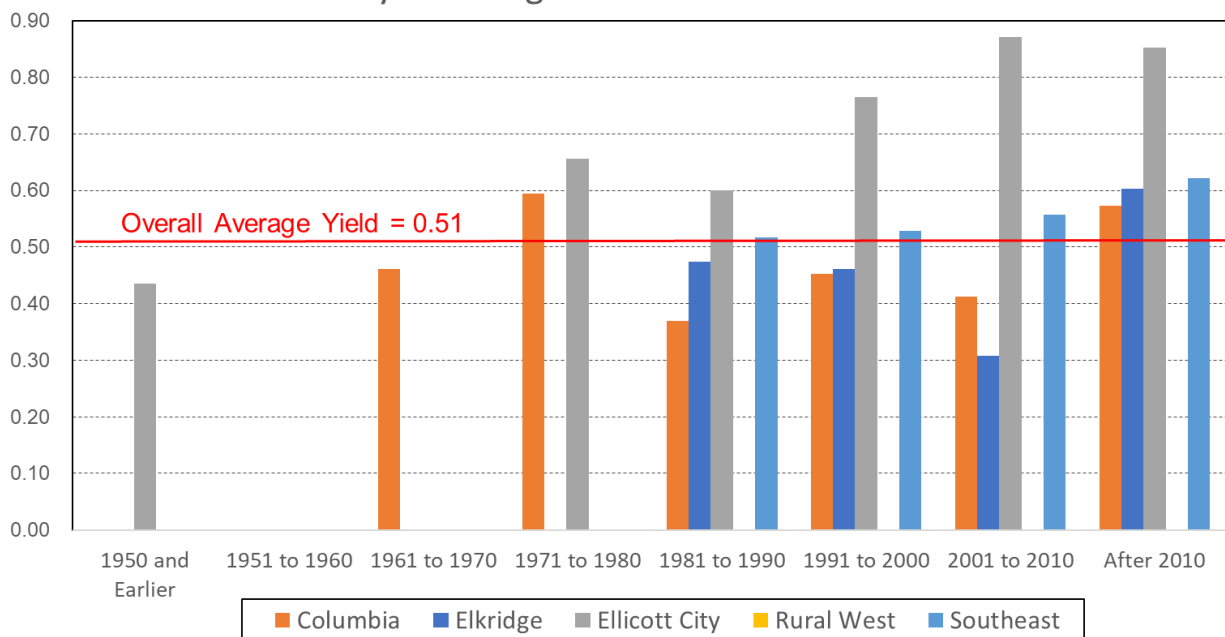
Source: Howard County DPZ, MD Department of Assessments and Taxation.

HCPSS Students in SFAs by Year Built by Planning Area Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

**Average HCPSS Student Yields for SFAs By Year Built
by Planning Area - 2023 School Year**



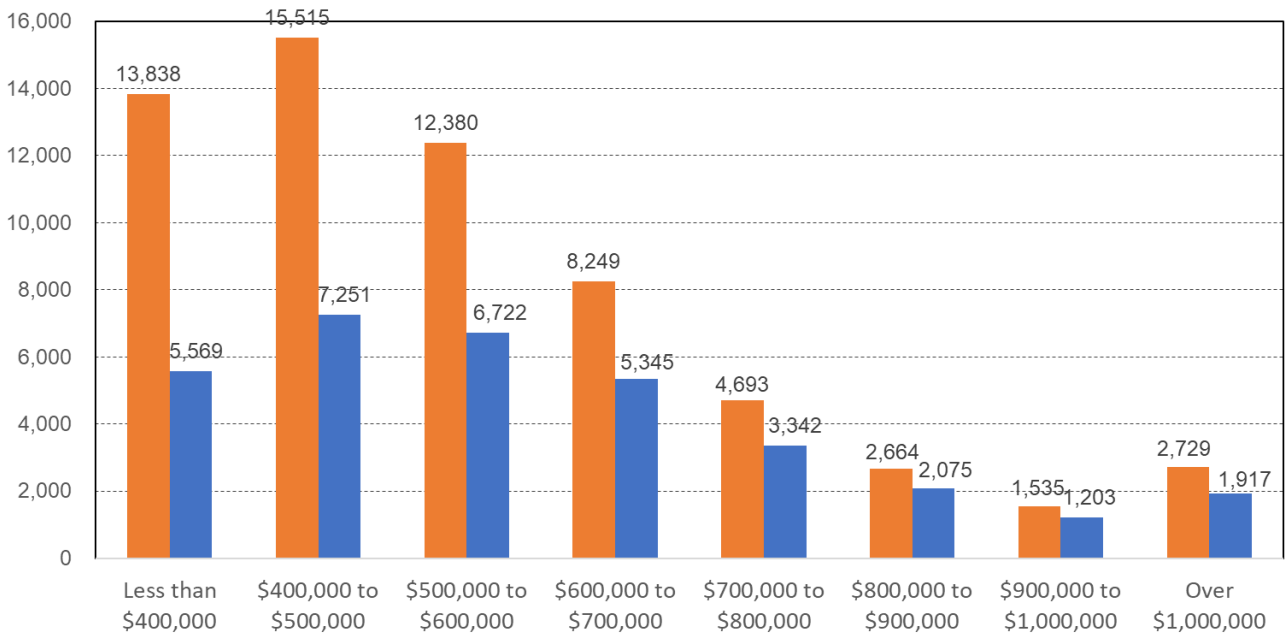
Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

Yields for SFD and SFA Units By Assessed Value

The top chart on the following page shows the number of existing single family detached homes built in Howard County by assessed value range and the number of students living in those homes during the 2023 school year. The second chart shows the resulting average student yields based on these data points. A general trend becomes clear, whereby average yields increase with increasing assessed values. The average yield increases from a low of 0.40 students per SFD for homes valued less than \$400,000 to a high of 0.78 students per unit for homes valued between \$800,000 and \$1 million. For homes valued at more than \$1 million the average yield drops to 0.70. For homes valued between \$500,000 and \$600,000 the average yield is 0.54, the same as the Countywide average for all SFDs combined.

These results are similar to the results by year built discussed in the previous section, with newer homes having greater average yields. New homes are typically more expensive than older homes, and families with children tend to move into newly built housing. Families with children typically have higher household incomes with two working adults and are thus able to purchase these new, higher valued homes. Older homes that are valued less and are typically smaller than new homes are more likely to be owned by “empty nesters” with their children already having gone through the school system. About two-thirds of all SFDs built in Howard County have assessed values of less than \$600,000, where close to 59% of students lived in the 2023 school year.

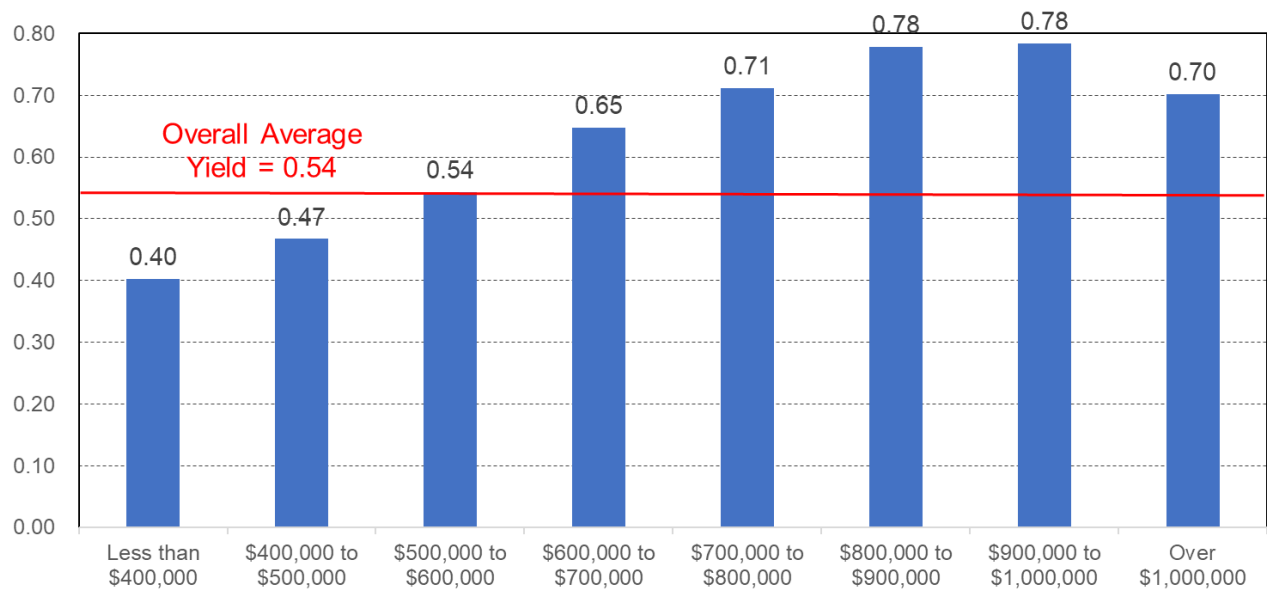
SFD Homes by Assessed Value and HCPSS Students in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

■ SFDs ■ Students

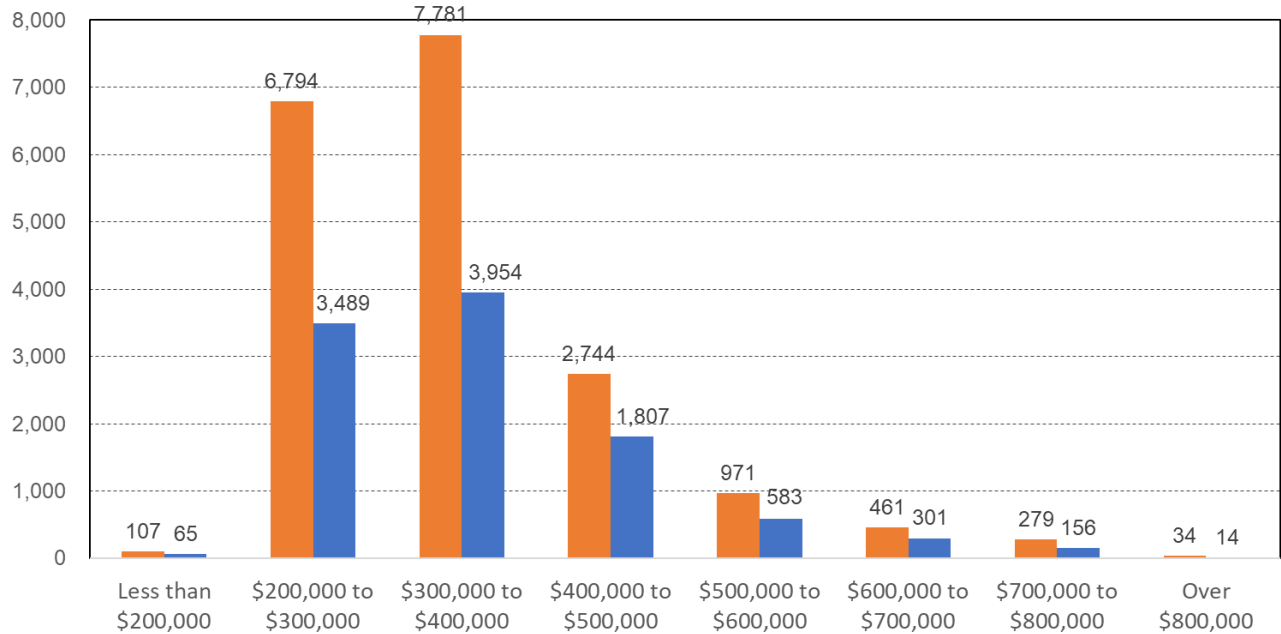
Average HCPSS Student Yields for SFDs By Assessed Value in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

This same analysis was conducted for fee simple SFAs and is reflected in the two charts below.

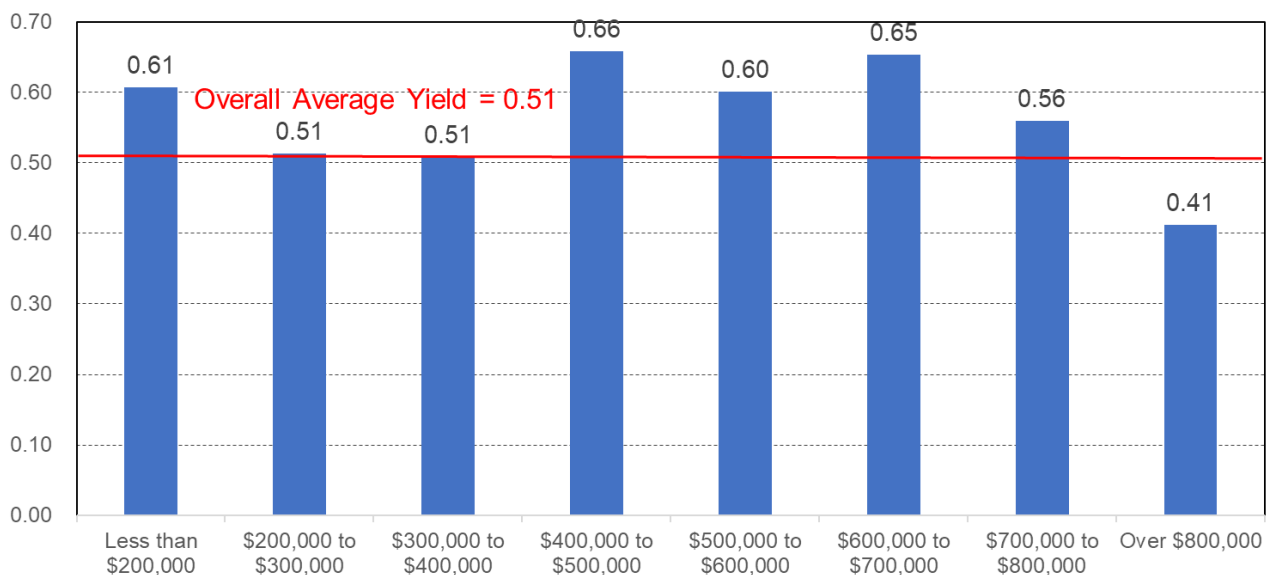
**SFA Homes by Assessed Value and HCPSS Students
in Howard County - 2023 School Year**



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

■ SFAs ■ Students

**Average HCPSS Student Yields for SFAs By Assessed Value
in Howard County - 2023 School Year**



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

As depicted in the chart above, unlike SFD units, the trend of increasing average yields as assessed values increase is not as apparent for SFA units. Yields for SFAs for the various assessed value ranges tend to move up and down and do not follow the general smooth trend upward as is the case with SFD units (with the exception of SFDs valued at over \$1 million). However, there are not that many SFA units built at the lower and upper assessed value ranges. About three-quarters of all SFAs built in the County are valued between \$200,000 and \$400,000, and the average student yields for these both match the Countywide average of 0.51 students per unit. Smaller numbers of more expensive and newer townhomes have higher yields than this average.

Yields for SFD and SFA Units By Year Last Sold

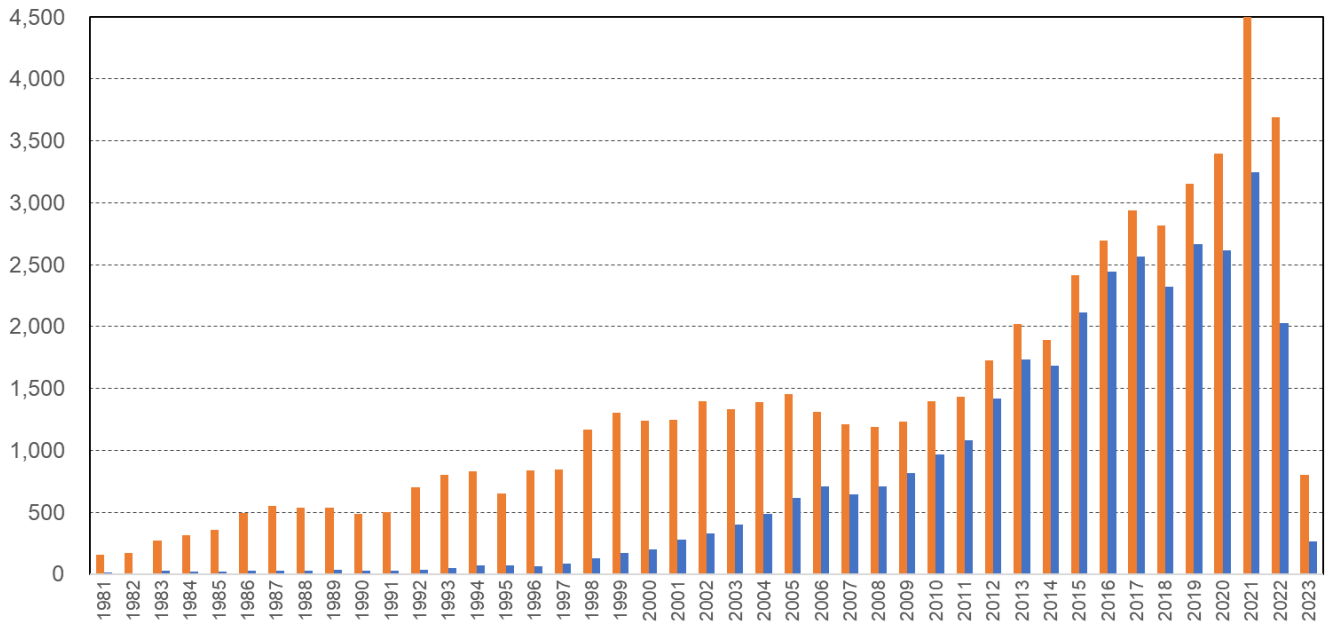
The charts on the next page summarize yields for SFD units by last year sold. Similar charts are shown on the subsequent page for SFA units. In both cases, the data depict students living in homes during the 2023 school year. For SFDs, peak student yields occur for homes last sold 7 years earlier (0.91 students per household). For SFAs the peak occurs for homes last sold 8 years prior (0.76 students per household). In both cases, a general, albeit not exact, bell curve forms around the peak student yield values. Homes last sold many years earlier have much lower yields on average. SFDs last sold about 15 years ago and earlier have average yields that are lower than the countywide average of 0.54 students per unit. For SFAs this crossover generally occurs slightly earlier at about 17 years, although the pattern is a bit bumpier.

Comparing the trends of students living in and numbers of homes sold over time for both SFDs and SFAs (shown in the first chart on each of the two pages below) it becomes evident that greater sales activity yields more students. This makes intuitive sense, as homes are often purchased by growing families who are seeking larger homes with more bedrooms for their additional children.

It is also intuitive that homes that have not been sold for many years will not include as many children. Children grow older and cycle out of the school system with only the parents remaining in the home. These are the so-called “empty nesters.” Eventually, these homes will be sold and new families with children may move in. However, in the current economic environment, with higher mortgage rates resulting from a higher federal funds rate which has been increased in response to high inflation, after being at historical low levels for many years since late 2008, the likelihood of “empty nesters” moving out and buying or renting an alternative dwelling is lessened given that many are locked into much lower monthly mortgage rates. This trend may take some time to work itself out, and in the meantime the extra bedrooms may not fill up with new children as quickly when home turnover was higher.

In general, as less single family detached and attached homes are built each year in the County given the land use trends discussed earlier in this report, the overall numbers of students living in these home types may be less in the future due to reduced turnover. HCPSS tracks home turnover statistics and includes estimates of new students from neighborhood trends, which varies across the County. These trends will need to be continually monitored to observe changing patterns. It could be that with a more limited supply in the years ahead relative to demand and families wishing to enroll their children in Howard County Schools, homes may be sold more frequently. Of course, this is driven by prices offered and will continue to exasperate affordable housing challenges.

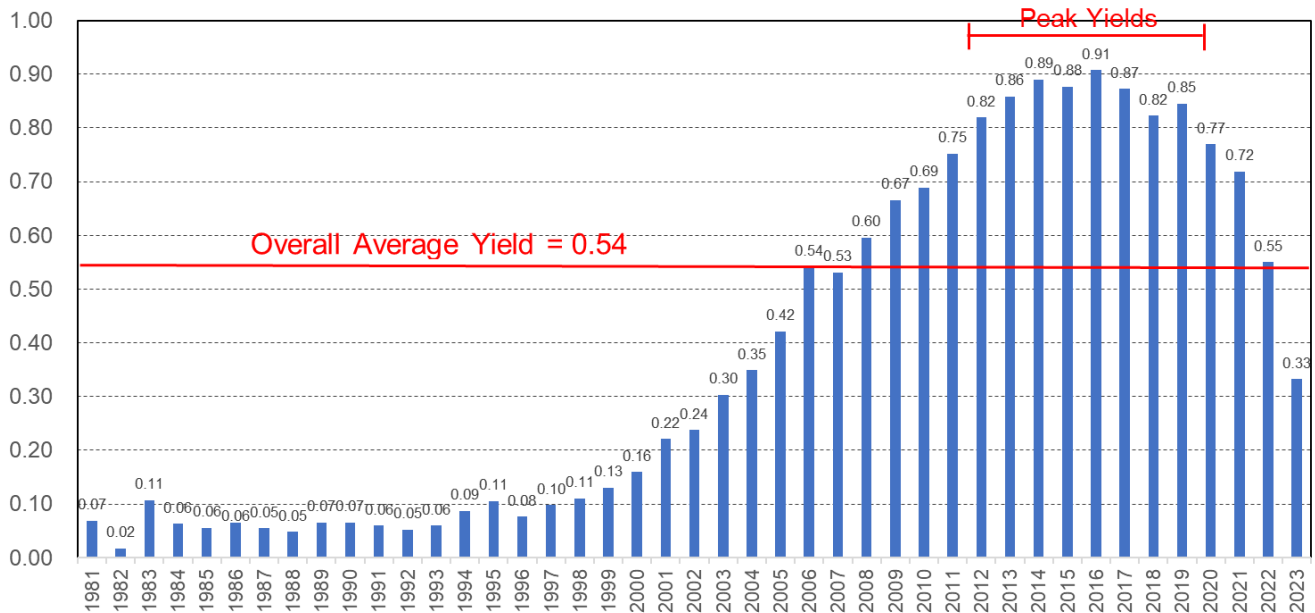
SFD Homes by Last Year Sold and HCPSS Students in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

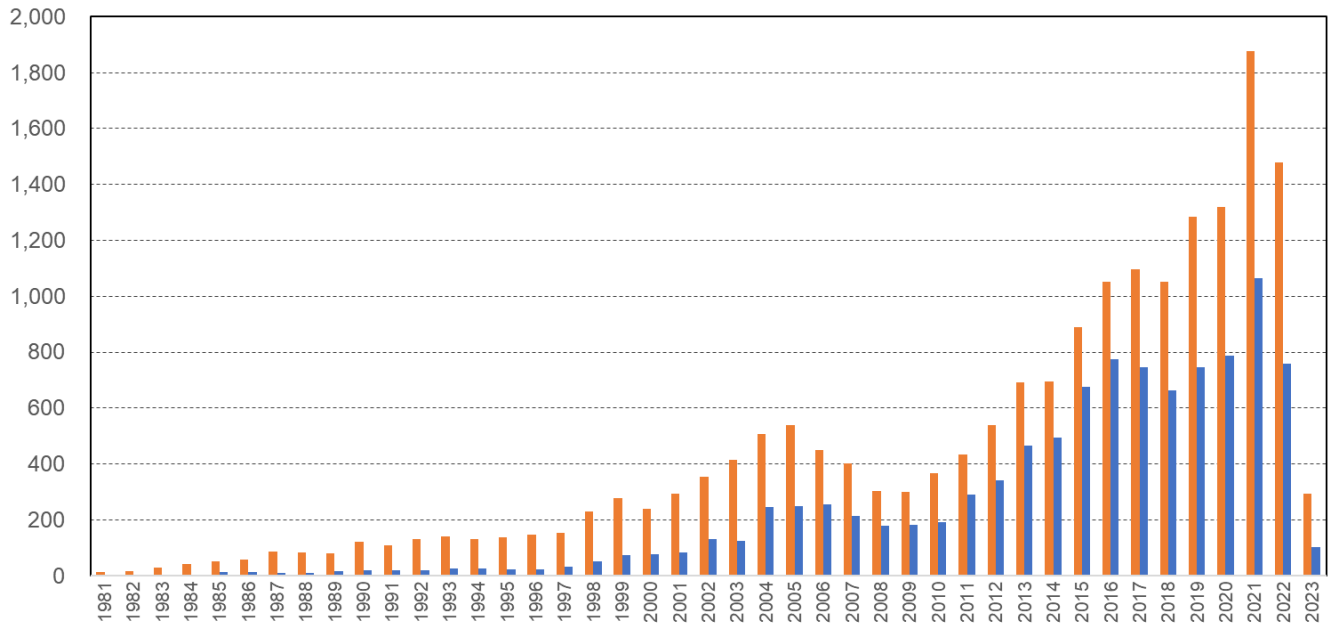
■ SFDs Last Year Sold ■ Students

Average HCPSS Student Yields for SFDs By Last Year Sold in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

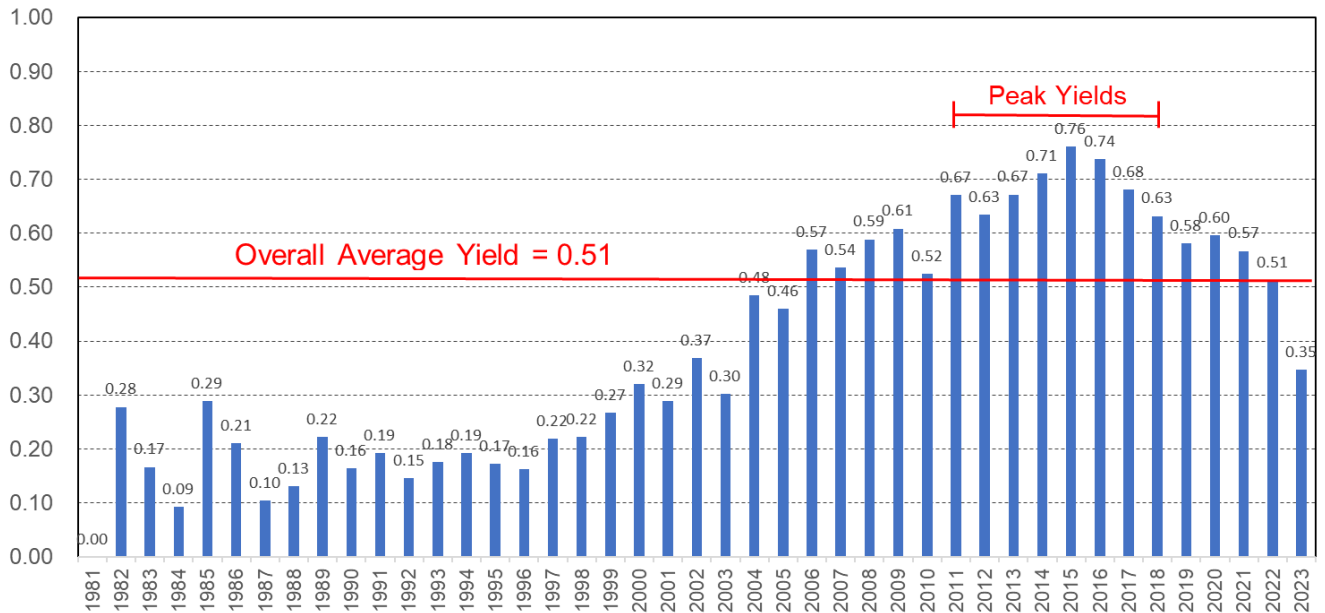
SFA Homes by Last Year Sold and HCPSS Students in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)

■ SFDs Last Year Sold ■ Students

Average HCPSS Student Yields for SFAs By Last Year Sold in Howard County - 2023 School Year



Sources: HCPSS Office of School Planning, DPZ, MD State Department of Assessments and Taxation. (Includes Grades pre-K thru 12, does not include age-restricted housing)