

9th Grade Student Enrollment in District High Schools by Home Zip Code, 2017-18 to 2020-21

Theodore Wills, Ph.D., Director, Research, Policy and Practice

.....

Key Findings

- **Most SDP high schools draw more students from a nearby zip codes than ones that are distant.** This is especially true for Catchment schools, but also holds for most Citywide and Criteria-Based schools.
- **Similarly, in most zip codes the largest group of students attend a nearby school, rather than one that is more distant.** There are some exceptions involving Criteria-Based schools.
- **For four of the most competitive high schools, students from some zip codes are represented in much higher percentages than others.**

Introduction

In Philadelphia, students entering high school have several options. This brief focuses on those who choose to enroll at one of their School District of Philadelphia (SDP) options (as opposed to charter, private, or parochial schools). Within the SDP landscape a student might opt for their catchment high school, one of several high schools with citywide admission, or one of the criteria-based high schools (see Box 1 for more details about admission types).^{1 2}

SDP has a school choice system. Students from all neighborhoods can attend a designated school that is close to home, or apply to attend other schools which might be in distant parts of the city. However, this does not mean that students in all neighborhoods exercise these options in the same ways or to the same degree. This brief looks at geographical trends in enrollment at SDP high schools from 2017-28 to 2020-21 by examining the relationships between two key variables: 1) which SDP high schools first time 9th graders enroll in and 2) those students' home zip codes (see Appendix for a map of Philadelphia zip codes).

¹ For more information about the School Selection Process see:
<https://www.philasd.org/studentplacement/services/school-selection/>

² For research briefs and reports about the School Selection Process see:
<https://www.philasd.org/research/category/school-selection/>

Box 1. Terms and Definitions: School Types

Catchment (Formerly *Neighborhood*): Every student may attend their designated catchment school, and it is not necessary to apply for admission, though students may apply to attend a catchment school that is not their designated school.

Citywide: These schools do not have entry criteria, and accept students from anywhere in the city, but students must apply to gain admission.

Criteria-Based (Formerly *Special Admission*): These schools all have entry standards for grades, and attendance, and may also have additional requirements as well (e.g., a standardized writing sample, audition, etc.). The rigor of these requirements varies from school to school.

Research Questions

This brief explores enrollment patterns at SDP high schools through the following three questions:

1. For each high school, which zip code was home to the largest number of first-time 9th graders?
2. For each zip code, which high school attracted the largest number of first-time 9th graders?
3. For each zip code, what percent of first time 9th graders attended one of four competitive, featured high schools (Carver, Central, Masterman, and Palumbo)?

Methods

Analyses were based on administrative data from 2017-18 through 2020-21. Specifically, the October 1 Enrollment Snapshot³ files for each year were merged into a single data set. These files have records for every student who was enrolled in an SDP school at the time of the snapshot, including information about the student (demographics), as well as which school the student was enrolled in.

³ No single-date enrollment snapshot can account for student movement across the year, but the October 1 Snapshots are used across a variety of contexts as a recognized best practice. Uses include research, such as in this brief, as well as accountability metrics.

Key Data Points

This analysis combines student address information with their first-time 9th grade school of enrollment. The following data points are central to this analysis:

- Home zip code: this is based on information provided by families and caregivers
- First-time 9th grade status: indicates a student's first year of high school
- Enrolled first-time 9th grade school, as of October 1

Analytic Sample

The analytic sample was restricted to students who were first-time 9th graders at an SDP school, during the 2017-18 through 2020-21 school years, as of October 1. These restrictions resulted in a sample of 36,689 students (Table 1).

Table 1. First-time 9th graders in SDP high schools, 2017-18 through 2020-21

Number of First-Time 9 th Graders			
2017-18	2018-19	2019-20	2020-21
9,005	9,216	9,142	9,326

Source: Data from Qlik RL-Enrollment Snapshots – Oct 1. Data retrieved: 12/10/2021.

Findings

For each high school, which zip code was home to the largest number of first-time 9th graders?

For each SDP high school, there were one or two zip codes which accounted for a larger share of first-time 9th graders than any other (Table 2). In 17 cases, particularly among catchment schools, that zip code was the school's "home zip code," or the zip code where the school itself is located. In 25 additional cases, these zip codes were not identical – but were adjacent. In the remaining 12 cases, the schools were separated by one or more intervening zip codes from the home zip code of the most first-time 9th graders.

Table 2. SDP high schools, with enrollment of first-time 9th graders, 2017-18 through 2020-21; overall and from zip code accounting for largest number of first-time 9th graders

School	Admission Type	School's Zip Code	Total 1st Time 9th Graders, 2017-18 to 2020-21	Most Represented Student Home Zip Code(s)	Number of Students who live in Most Represented Student Home Zip code(s)	Percent of Students at School who live in Most Represented Student Home Zip Code(s)
Frankford	Catchment	19124	834	19124	461	55.3%
Bartram	Catchment	19142	417	19142	223	53.5%
Furness	Catchment	19148	654	19148	325	49.7%
Kensington H.S.	Catchment	19125	509	19134	244	47.9%
Sayre	Catchment	19139	354	19143	150	42.4%
Kensington Health	Catchment	19125	439	19134	186	42.4%
Vaux High	Catchment	19121	366	19121	148	40.4%
Kensington CAPA	Catchment	19122	480	19134	194	40.4%
Strawberry Mansion	Catchment	19121	139	19132	56	40.3%
Fels	Catchment	19124	901	19120	315	35.0%
Edison	Catchment	19140	1196	19140	407	34.0%
Motivation	Criteria-Based	19143	446	19143	142	31.8%
Northeast	Catchment	19111	3425	19149	1089	31.8%
Penn Treaty	Catchment	19125	353	19134	110	31.2%
Mastbaum	Citywide	19134	873	19134	264	30.2%
South Philadelphia	Catchment	19148	577	19148	155	26.9%
West Philadelphia	Catchment	19139	381	19104	102	26.8%
Workshop School	Citywide	19139	255	19143	68	26.7%
Overbrook High	Catchment	19131	408	19131	108	26.5%
MLK	Catchment	19138	510	19138	130	25.5%
GAMP	Criteria-Based	19145	276	19145	69	25.0%
Parkway W.	Criteria-Based	19139	349	19143	80	22.9%
Rush	Criteria-Based	19154	687	19154	157	22.9%
Palumbo	Criteria-Based	19147	1116	19148	254	22.8%
Washington, George	Catchment	19116	1506	19116	341	22.6%
Lincoln	Catchment	19136	2018	19136	448	22.2%
LINC	Citywide	19140	316	19134	66	20.9%
Building 21	Citywide	19138	446	19138	86	19.3%
Hill-Freedman	Criteria-Based	19150	401	19138	74	18.5%

Table 2 Continued. SDP high schools, with enrollment of first-time 9th graders, 2017-18 through 2020-21; overall and from zip code accounting for largest number of first-time 9th graders

School	Admission Type	School's Zip Code	Total 1st Time 9th Graders, 2017-18 to 2020-21	Most Represented Student Home Zip Code(s)	Number of Students who live in Most Represented Student Home Zip code(s)	Percent of Students at School who live in Most Represented Student Home Zip Code(s)
Hill-Freedman	Criteria-Based	19150	401	19138	74	18.5%
Robeson*	Citywide	19104	300	19139, 19143	54	18.0%
Parkway N.W.	Criteria-Based	19138	304	19138	52	17.1%
Lankenau	Criteria-Based	19128	369	19150	60	16.3%
U School	Citywide	19122	339	19134	52	15.3%
Girls	Criteria-Based	19141	862	19120	129	15.0%
HS of Future	Citywide	19104	740	19143	97	13.1%
Swenson	Citywide	19114	795	19149	103	13.0%
Roxborough	Catchment	19128	808	19144	104	12.9%
SLA at Beeber	Criteria-Based	19131	473	19151	55	11.6%
Dobbins	Citywide	19132	1192	19140	130	10.9%
Saul	Criteria-Based	19128	593	19128	64	10.8%
FLC	Criteria-Based	19130	918	19120	91	9.9%
Masterman	Criteria-Based	19130	471	19147	46	9.8%
Randolph	Citywide	19129	557	19132	52	9.3%
Bodine	Criteria-Based	19123	685	19124	62	9.1%
PMA*	Citywide	19122	453	19133	41	9.1%
				19140		
Franklin HS	Catchment	19130	490	19123	44	9.0%
Parkway C.C.	Criteria-Based	19123	526	19120	47	8.9%
PVA	Virtual	19130	207	19121	17	8.2%
Constitution*	Citywide	19106	392	19120, 19143	32	8.2%
Central	Criteria-Based	19141	2498	19149	201	8.0%
Carver	Special Admit	19121	779	19120	55	7.1%
CAPA	Special Admit	19147	753	19148	53	7.0%
Widener	Citywide	19141	43	19120	3	7.0%
SLA	Special Admit	19130	510	19143	35	6.9%

Source: Data from Qlik RL-Enrollment Snapshots – Oct 1. Data retrieved: 12/10/2021.

How to read this table - columns: The first four columns provide information about each school (its name, admission category, the zip code where it is located, and the total number of first-time 9th graders who enrolled there across the four years). The next column (“Most Represented Student Zip Code”) indicates the single zip code that accounted for the largest number of first-time ninth graders at the given school. The final column indicates the percentage of first time 9th graders enrolled over the 4-year study period who lived in

the most represented zip code. For example, Bartram High school is a Catchment school, located in zip code 19142, and had a total of 417 first-time 9th graders from 2017-18 to 2020-21. Of those 417, 53.5%, or a total of 223, had a home address that was also in Zip Code 19142 – and no other zip code sent this many first-time 9th graders to Bartram during that time.

* For three schools (Robeson, PMA, and Constitution), two zip codes tied for the most students.

How to read this table – color coding: The colors in the “Top Student Zip Code” column indicate the distance between the school itself, and the zip code that supplied the largest number of first-time 9th graders. **Dark Green** indicates that the two zip codes are identical, **Light Green** means they are geographically adjacent, **Light Blue** means they are separated, with exactly one zip code between them, and **Dark Blue** means they are separated, with at least two other zip codes between them.

For each zip code, which high school attracted the largest number of first-time 9th graders?

For each home zip code with at least 50 first-time 9th graders from 2017-18 to 2020-21, there was a particular school which enrolled more of those students than any other school (Table 3). In two cases, that school actually enrolled a literal majority (more than 50 percent) of those students (Lincoln and Northeast). At the other extreme, the 400 students residing in zip code 19126 were widely dispersed; with only 37 of those students attending the zip code’s most-attended school (Building 21).

Further, the most-attended school for most zip codes was geographically close by, with 37 cases where the school was in the same, or an adjacent, zip code. In only four cases did the largest group of students travel across at least two intervening zip codes; and in all four cases the school they traveled to was Central.

Table 3. Home zip codes with a minimum of 50 first-time 9th graders, 2017-18 through 2020-21; overall and most frequently attended high school

Zip Code	Number of First-Time 9 th Graders From Zip Code	Most-Attended School	Admission Type of Most-Attended School	Zip Code of Most-Attended School	First Time 9 th Graders From Zip Code Who Enrolled at Most-Attended School	
					Number	Percent
19136	829	Lincoln	Catchment	19136	448	54.0%
19111	2,019	Northeast	Catchment	19111	1,028	50.9%
19152	933	Northeast	Catchment	19111	442	47.4%
19116	739	Washington, George	Catchment	19116	341	46.1%
19135	984	Lincoln	Catchment	19136	405	41.2%
19149	2,697	Northeast	Catchment	19111	1,089	40.4%
19118	59	Central	Criteria-Based	19141	23	39.0%
19103	71	Masterman	Criteria-Based	19130	24	33.8%
19154	554	Washington, George	Catchment	19116	182	32.9%
19115	828	Washington, George	Catchment	19116	258	31.2%
19107	146	Central	Criteria-Based	19141	45	30.8%
19140	1,486	Edison	Catchment	19140	407	27.4%
19114	442	Lincoln	Catchment	19136	116	26.2%
19148	1267	Furness	Catchment	19148	325	25.7%
19137	132	Frankford	Catchment	19124	30	22.7%
19142	983	Bartram	Catchment	19142	223	22.7%
19147	643	Central	Criteria-Based	19141	137	21.3%
19124	2,170	Frankford	Catchment	19124	461	21.2%
19128	440	Roxborough	Catchment	19128	89	20.2%
19146	514	South Philadelphia	Catchment	19148	98	19.1%
19125	331	Penn Treaty	Catchment	19125	62	18.7%
19133	1,064	Edison	Catchment	19140	194	18.2%
19130	239	Central	Criteria-Based	19141	41	17.2%
19145	807	South Philadelphia	Catchment	19148	136	16.9%
19129	113	Roxborough	Catchment	19128	19	16.8%
19121	896	Vaux High	Catchment	19121	148	16.5%
19123	284	Franklin HS	Catchment	19130	44	15.5%
19120	2,047	Fels	Catchment	19124	315	15.4%

Table 3 Continued. Home zip codes with a minimum of 50 first-time 9th graders, 2017-18 through 2020-21; overall and most frequently attended high school

Zip Code	Number of First-Time 9 th Graders From Zip Code	Most-Attended School	Admission Type of Most-Attended School	Zip Code of Most-Attended School	First Time 9 th Graders From Zip Code Who Enrolled at Most-Attended School	
					Number	Percent
19119	580	Central	Criteria-Based	19141	87	15.0%
19131	723	Overbrook High	Catchment	19131	108	14.9%
19122	474	Penn Treaty	Catchment	19125	70	14.8%
19104	694	West Philadelphia	Catchment	19139	102	14.7%
19151	723	Overbrook High	Catchment	19131	103	14.2%
19144	935	MLK	Catchment	19138	129	13.8%
19132	935	Dobbins	Citywide	19132	126	13.5%
19153	233	Motivation	Criteria-Based	19143	31	13.3%
19138	978	MLK	Catchment	19138	130	13.3%
19134	2027	Mastbaum	Citywide	19134	264	13.0%
19139	1,034	Sayre	Catchment	19139	125	12.1%
19150	606	Hill-Freedman	Criteria-Based	19150	71	11.7%
19141	758	Dobbins	Citywide	19132	74	9.8%
19143	1,610	Sayre	Catchment	19139	150	9.3%
19126	400	Building 21	Citywide	19138	37	9.3%

Source: Data from Qlik RL-Enrollment Snapshots – Oct 1. Data retrieved: 12/10/2021.

How to read this table - columns: The first two columns provide information about each zip code (the code itself, and the total number of first-time 9th graders with a home address in that zip code). The next three columns provide information about the high school that attracted the most first-time 9th graders from the zip code (the school's name, admission type, and zip code). The last two columns provide the number and percent of first-time 9th graders from the indicated zip code, who were enrolled at the indicated high school.

How to read this table – color coding: The colors in the zip code of Most-Attended School column indicate the distance between the indicated home zip code of first-time 9th graders, and the school that was attended by the largest number of those students. **Dark Green** indicates that the two zip codes are identical, **Light Green** means they are geographically adjacent, **Light Blue** means they are separated, with exactly one zip code between them, and **Dark Blue** means they are separated, with at least two other zip codes between them.

For each zip code, what percent of first-time 9th graders attended one of four competitive, featured high schools (Carver, Central, Masterman, and Palumbo)?

As part of the District's School Selection Process, any Philadelphia resident may apply to one (or more) of 19 high schools⁴ that have entry criteria for admission. Historically, criteria across these schools have varied, and a small number have had especially rigorous requirements⁵. Four of those schools (Carver, Central, Masterman, and Palumbo) are among the most competitive, and are explored here in more depth.

All four of these schools drew students from across the City – but some zip codes were more heavily represented among first-time 9th graders than others during the 4-year study period. Collectively, these schools seated just over 13% of SDP first-time 9th graders – but the enrollment rates from specific home zip codes ranged from a minimum of 3.0%, to a maximum of 69.0% (Table 4).

⁴ There are two additional criteria-based programs, which are embedded in Catchment schools. Students do not need to be in the school's catchment to apply. These programs are excluded from this analysis because admission to the school can be independent of admission to the program.

⁵ For previous reports on the SDP School Selection Process, please visit:
<https://www.philasd.org/research/category/school-selection/>

Table 4. Student home zip codes, of first-time 9th graders, 2017-18 through 2020-21, and enrollment rates at Carver, Central, Masterman, or Palumbo (minimum of 50 first-time 9th graders)

Zip Code	Total Number of First-Time 9th Graders from Zip Code Enrolled in any SDP School (2017-18 to 2020-21)	Number of 9th Graders from Zip Code Enrolled at Carver, Central, Masterman and Palumbo	Percent of First-Time 9th Graders from Zip Code that Enrolled at Carver, Central, Masterman and Palumbo
19133	1,064	32	3.0%
19140	1,486	60	4.0%
19134	2,027	88	4.3%
19132	935	44	4.7%
19121	896	49	5.5%
19135	984	54	5.5%
19122	474	28	5.9%
19138	978	60	6.1%
19141	758	51	6.7%
19124	2,170	154	7.1%
19139	1,034	78	7.5%
19154	554	44	7.9%
19136	829	69	8.3%
19144	935	89	9.5%
19131	723	69	9.5%
19149	2,697	277	10.3%
19120	2,047	216	10.6%
19126	400	46	11.5%
19111	2,019	233	11.5%
19142	983	115	11.7%
19143	1,610	197	12.2%
19151	723	96	13.3%
19150	606	81	13.4%
19114	442	61	13.8%
19152	933	140	15.0%
19129	113	18	15.9%
19123	284	46	16.2%
19137	132	24	18.2%
19104	694	135	19.5%
19125	331	67	20.2%
19116	739	155	21.0%

Table 4 Continued. Student home zip codes, of first-time 9th graders, 2017-18 through 2020-21, and enrollment rates at Carver, Central, Masterman, or Palumbo (minimum of 50 first-time 9th graders)

Zip Code	Total Number of First-Time 9th Graders from Zip Code Enrolled in any SDP School (2017-18 to 2020-21)	Number of 9th Graders from Zip Code Enrolled at Carver, Central, Masterman and Palumbo	Percent of First-Time 9th Graders from Zip Code that Enrolled at Carver, Central, Masterman and Palumbo
19153	233	53	22.7%
19146	514	132	25.7%
19128	440	114	25.9%
19119	580	159	27.4%
19115	828	243	29.3%
19145	807	243	30.1%
19130	239	78	32.6%
19148	1,267	448	35.4%
19147	643	301	46.8%
19118	59	29	49.2%
19107	146	92	63.0%
19103	71	49	69.0%
Grand Total (Including Zip Codes with < 50 Students)	36,689	4,864	13.3%

Source: Data from Qlik RL-Enrollment Snapshots – Oct 1. Data retrieved: 12/10/2021.

Conclusion

Overall, the analyses in this brief are consistent with the premise that geographical proximity is a meaningful factor in where students enroll in high school. With very few exceptions, high schools drew the largest share of their students from nearby zip codes AND with very few exceptions, zip codes sent the largest share of their first-time 9th graders to a nearby high school. These statements are, not surprisingly, particularly true of catchment schools where the core mission is to serve nearby students.

However, there are important exceptions to the trend of home-to-school proximity – and these exceptions are more accurately restricted to specific schools than to groups of schools. For example, several schools with citywide admission showed patterns that are very much like the catchment schools (e.g., Mastbaum and the Workshop School) while others served a more dispersed body of first-time 9th graders (e.g., Swenson and the U School). The same inconsistency was seen with Criteria-Based schools, with some cases of localized enrollment (e.g., GAMP, Saul, and Parkway NW) and some others with more varied enrollment (e.g., Central, Bodine, and Parkway Center City).

Similarly, first-time 9th graders from some zip codes did not concentrate nearby in large numbers. For example, three zip codes (19126, 19141, and 19143) send fewer than 10 percent of first-time 9th graders to any one school. Further, first-time 9th graders from four zip codes (19107, 19118, 19130, and 19147) enrolled a higher percentage of their students at Central than any other school, despite being located several zip codes distant.

In the case of four featured, criteria-based high schools (Carver, Central, Masterman, and Palumbo), we conducted additional analyses to better understand the composition of their incoming 9th grade classes. The results indicate that some zip codes send very large percentages of students to these sites, while others send only very small percentages. To the extent that these schools are particularly high-achieving, this discrepancy in geographic access may be an indicator of inequities in student access to the opportunities offered by these schools.

Appendix: Philadelphia Zip Code Map

