



Saint Paul
PUBLIC SCHOOLS

Envision SPPS

Early Childhood Education: Data Analysis Report

June 28, 2021



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Introduction

This report and data analysis was developed to provide Saint Paul Public Schools (SPPS) with data to assist the district in planning for the expansion of early childhood education programming across the city. While SPPS's long-established early childhood programs are a mixture of comprehensive early learning programs and special education services from birth to kindergarten, this report is focused on planning for early-learning school readiness for 3- and 4-year-olds.

The beneficial outcomes that school readiness services deliver is the current driver for school districts and other community agencies to expand their early childhood services and reimagine the scope of services and the clients served in their programs.

There are several examples of recent state and federal government initiatives focused on this age group of learners:

1. Saint Paul 3K—an initiative of the City of Saint Paul, Ramsey County, Saint Paul Public Schools and the community—is focused on providing equitable access to affordable, high-quality preschool for all Saint Paul 3- and 4-year-old children.
2. A Minnesota statewide focus on early childhood resulted in allocations to increase child care grants for families to take advantage of early-learning services and grants to encourage agencies to plan for the expansion of their programs.
3. As part of the Minnesota 2021 legislative session, a bill authored by Representative Dave Pinto (DFL, St. Paul) was introduced to have early childhood programs that are currently administered by multiple state agencies to be transferred to a single, dedicated cabinet-level agency.
4. Minnesota legislative leaders established the Great Start for All Minnesota Children Task Force and charged it to develop a 10-year plan to provide high-quality, affordable early education for all children and livable wages for teachers.
5. The federal infrastructure bill advanced through President Joseph Biden's proposal supports universal early learning for 3- and 4-year-old children. This will potentially send annual resources to states and cities to build an infrastructure for early childhood education.

Envision SPPS: Early Childhood Education Workgroup

The SPPS Early Childhood Education Workgroup comprised of experienced early childhood education staff and community partners was charged with the following as part of the Envision SPPS strategic initiative launched in 2019:

“To determine and illustrate how underutilized SPPS elementary schools could be leveraged to create Early Childhood Education hubs (services) encompassing Early Learning, Early Childhood Special Education (ECSE), Early Childhood Family Education (ECFE), and other early childhood resources to support early learners and their families in centralized locations.”

The Early Childhood Education Workgroup was keenly aware that the requirements necessary to deliver services to 3 and 4 year olds are not the same as for K-12 students. Significant differences in curriculum, staffing models, and facilities requirements need to be understood before opening an early-learning program in a school or community setting. Best practice and licensing codes make it difficult for districts to open early-learning classrooms without modifications and changes to the facilities, hiring additional staff, renegotiating service contracts, and reevaluating delivery service models.

Impact of historical decision-making on prekindergarten (PreK) program delivery

The Early Childhood Education Workgroup advocates that it is critical for district and community leaders to better understand the early childhood field before quickly launching new programs and policies based on traditional school management assumptions. The workgroup cited key practices with unintended consequences that the district historically used for placement of early learning programs that should be reevaluated:

- Existing K-5 schools were chosen to house early learning programs if space existed in a school and would not displace students from high-demand programs. This caused multiple moves of early learning centers across the city from year to year as space grew or shrank.
- With frequent moves and difficulty in finding space at magnet programs, few PreK programs functioned as a direct feeder or pathway to high-demand schools.
- With few centralized and dedicated facilities for PreK support staff, delivery of program services by support staff was fragmented and stalled the creation of one-stop-service centers for families.

- Decisions on where to located PreK programs were not informed by where the greatest need was for early-learning centers and where most children lived that would benefit from the services.

Data-driven program delivery model

The following analysis is intended to provide key data points to inform decision-making for policy makers and district staff. The report focuses on two broad areas: First, it provides data to answer questions on where to locate services; and secondly, the report raises key questions for district leadership to consider as they strategically plan for expanding early childhood learning programs in Saint Paul.

1) Key questions informing program locations:

- A. Where are 3- and 4-year-old children located?
- B. Where are large and small licensed child care and family centers located?
- C. Where are the areas of greatest need for child care services in Saint Paul?
- D. Where do the most vulnerable populations live?
- E. Where are the classrooms in SPPS elementary schools that meet Minnesota Department of Education (MDE) guidelines for appropriate early learning programs?

2) Key questions informing program structure and delivery:

- A. How many children can the district expect to serve?
- B. What model(s) of early learning program delivery should be used?
- C. How will community partnerships and the integration of systems be determined?
- D. What governance and structural changes are needed to infuse the district's universal early learning programs with county and city child care services in alignment with K-12 learning outcomes?

Analysis limitations

The focus on only 4-year-old children in much of this report is a pragmatic decision: with SPPS's long history of providing for this age group, the needs of 4 year olds are better understood. SPPS is currently serving over 1,000 children who are 4 years old. However, programming for 3 year olds is believed to require significant service modifications from current district-run early learning programs. These changes could impact provider staffing ratios and the need for additional facilities space to address the developmental needs of 3 year olds; appropriate program models, levels of services, and the types of facilities are still evolving. Until there is a better understanding of needs and guidelines for what changes are needed for 3 year olds, this

report and SPPS staffing focuses on 4-year-old children. The expectation is that much of this analysis can transfer to 3 year olds once parameters are developed nationally.

Program locations

Location question: Where are 3- and 4-year-old children located?

Methodology

By March 2022, the U.S. Census Bureau will release its 2020 census data that will provide the most accurate estimate of where 3- and 4-year-old children live in Saint Paul. Until that data are available, the best estimate of 3- and 4-year-old children living in the city is derived from Esri Demographics data projections. These projections are based on surveys and other metrics gathered from previous years. Jobs, housing, and demographic indexes as well as the demographic estimates from the U.S. Census Bureau's American Community Survey (ACS) are all used. In the past Esri Demographics' population estimates showed high correlations when compared to actual decennial census data. The Esri estimates are most useful at large-scale levels, such as for a metropolitan city. The estimates have higher degrees of error at smaller-scale levels, such as the neighborhood setting.

However, the COVID-19 pandemic's impact on models that, in the past, reliably generated trend and projection results is not known. Therefore, any projection data that are based on historical patterns need to be viewed with caution. A possibility exists that mathematical models will generate greater degrees of error during this unprecedented time period than previously demonstrated.

Market analysis of Saint Paul children

Esri demographics estimate that the total number of 3- and 4-year-old children living in Saint Paul on July 1, 2020, was:

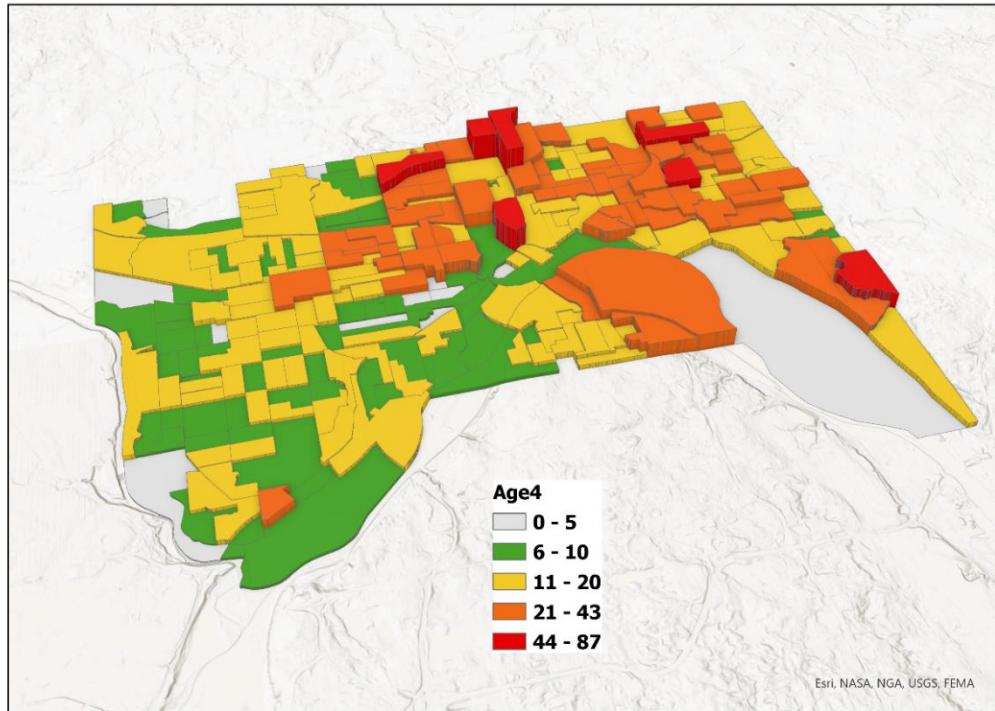
- 3 year olds: 4,256
- 4 year olds: 4,174

Findings

The following map (Figure 1) of Census Block Groups displays the relative distribution of the 4,174 4-year-old children who live in Saint Paul. The map uses census block group boundaries as bins. Since the size of a census block group boundary has little correlation with the density or number of 4-year-old children in the area, the reader should attend to the differences in color

(red signifying highest density) and the height of the bin (block groups) to see the emerging patterns where 4-year-old children are concentrated.

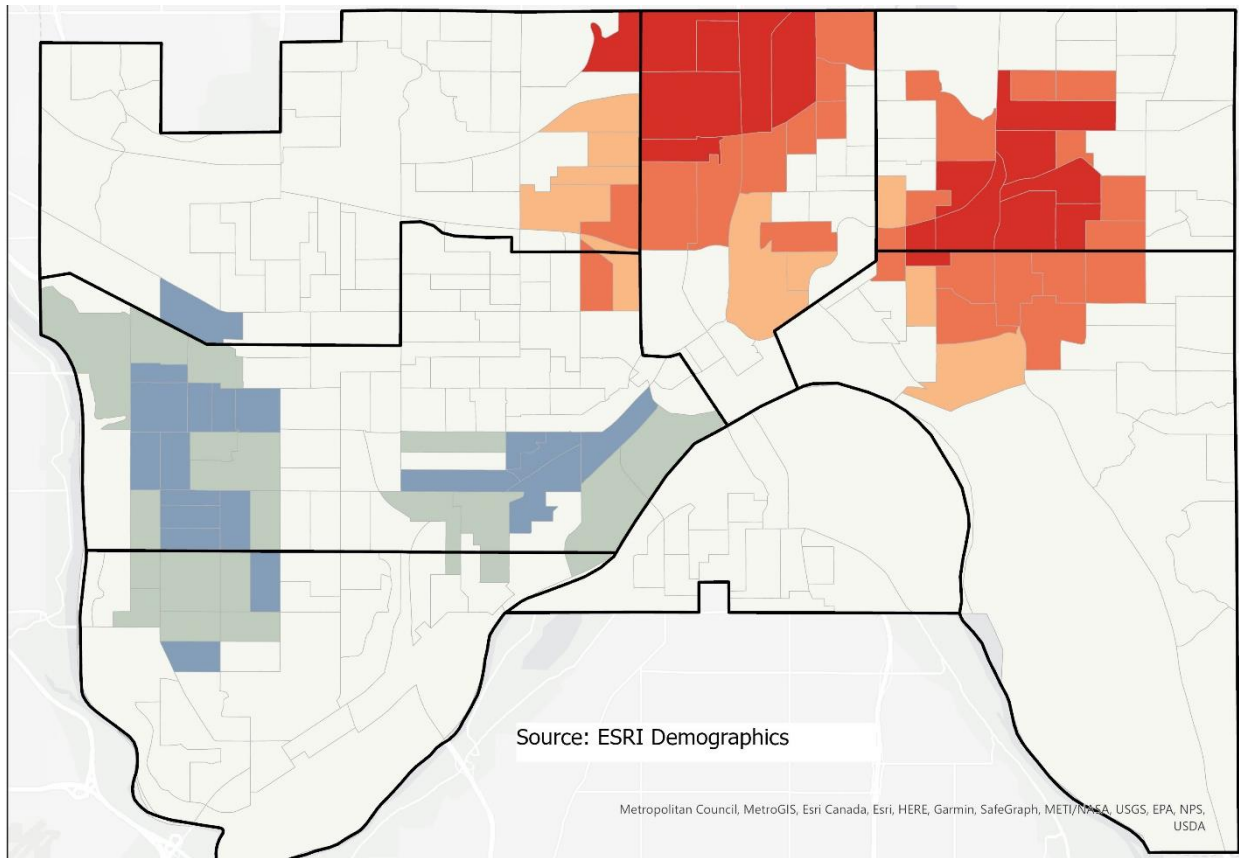
Figure 1: Where do 4-year-old children live in Saint Paul by census block group?



Source: ESRI Demographics

The following map (Figure 2) of census block groups displays the result of a spatial tool that identifies statistically significant spatial clusters of high values (hot spots) and low values (cold spots). The red block groups on the map indicate statistically high levels (99% confidence) where four-year-old children are clustered. The blue block groups are where statistically low (99% confidence) levels of children are clustered.

Figure 2: Statistically significant high and low clusters of where 4 year olds live



Gi_Bin

- Cold Spot with 99% Confidence
- Cold Spot with 95% Confidence
- Cold Spot with 90% Confidence
- Not Significant
- Hot Spot with 90% Confidence
- Hot Spot with 95% Confidence
- Hot Spot with 99% Confidence

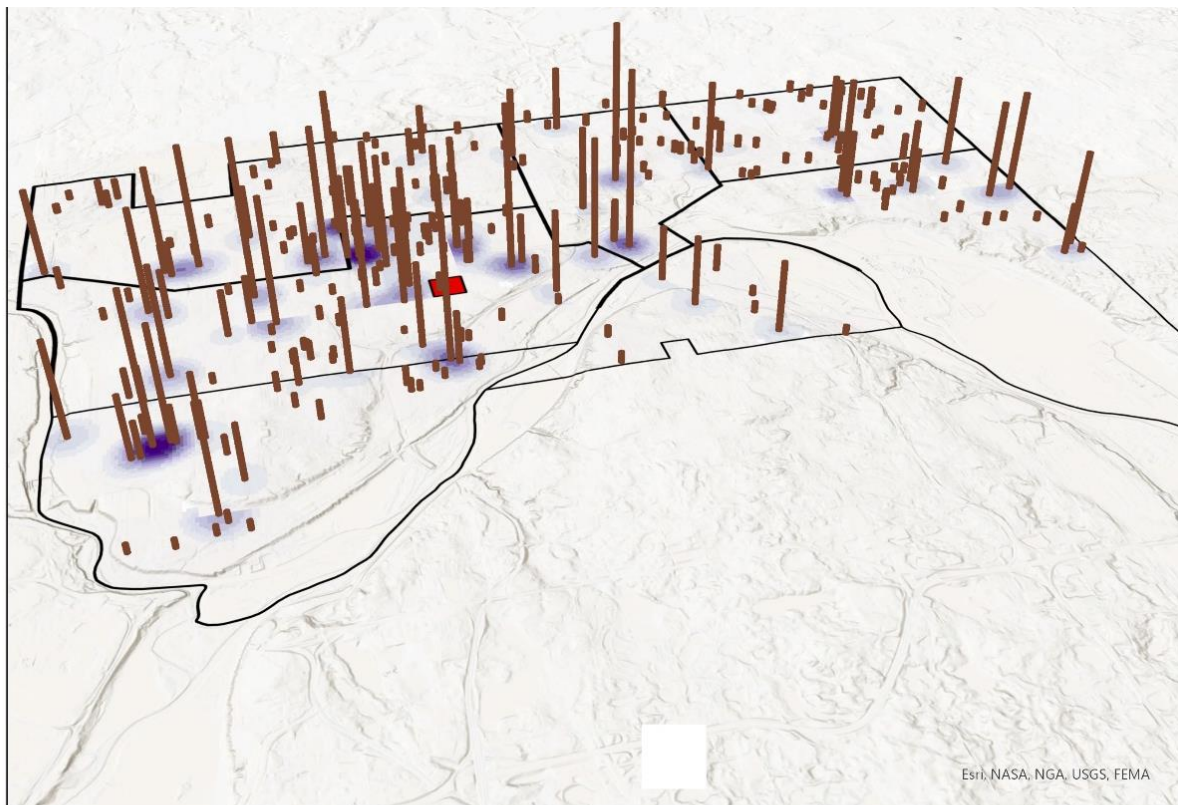
Conclusion

The highest concentrations of 4-year-old children are in the northeast and north-central sections of Saint Paul while lower densities of 4-year-old children are in the west and south-central areas of the city.

Location question: Where are large and small licensed child care and family centers located?

The Minnesota Department of Human Services (MDHS) provided data of the 281 licensed family and child care center providers in the city of Saint Paul. The data set included capacity totals and locations of the centers. The *Where are large and small child care centers concentrated?* map (Figure 3) is a geocoding of the child care center addresses with the capacity of the facilities. The height of the columns represents the maximum number of multi-age children the facility is licensed to serve. Significant clustering of large centers is evident in the Maxfield neighborhood (The district's Attendance Area F), while smaller capacity and fewer centers are observed in the east side of the city.

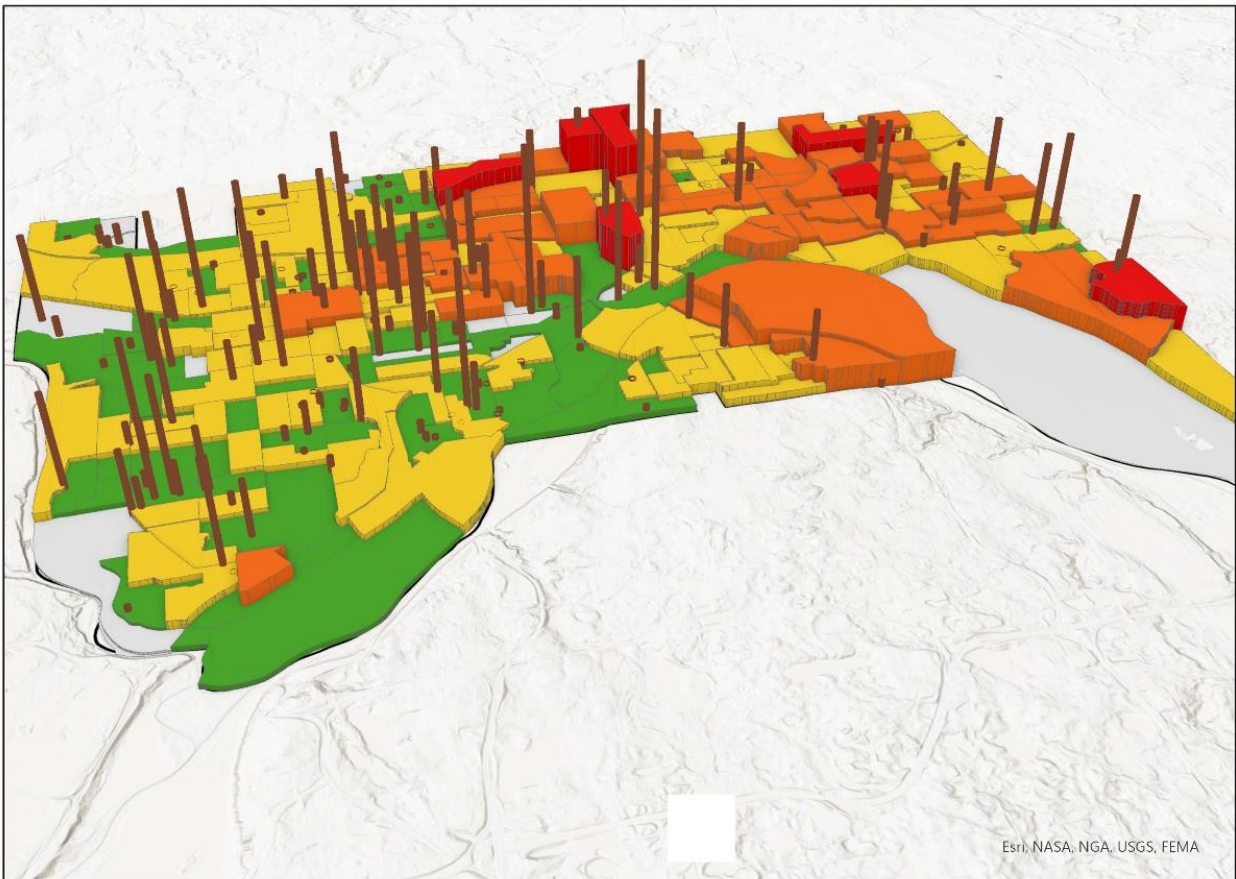
Figure 3: Where are large and small child care centers concentrated? (Spring 2021)



Source: Minnesota Department of Human Services; ESRI Demographics

The next map (Figure 4) illustrates the combined relationship between the two variables of child population and child care center density. The findings show the east area contains the lowest density of child care centers while having the highest density of children.

Figure 4: Concentration of large and small child care centers vs. where 4-year-old children live.



Source: Minnesota Department of Human Services; ESRI Demographics

Location question: Where are the areas of greatest need for child care service in Saint Paul?

Overview

The current child care market across Saint Paul exhibits many of the inequities found across the nation for families to access quality child care. (Malik, 2018) The child care market is largely a private pay system with a few public policies for supports such as vouchers, tax-credits or scholarships. A family's inability to afford care is accelerated by the existence of disparities in income, race, disability and where they live. The result is termed nationally and locally as "child

care deserts” which are communities with little access to child care let alone quality child care. (Jessen-Howard, 2020). This research points to measures of quantity, cost and quality of child care centers at the neighborhood level as three key attributes to determine greatest need.

Methodology

University of Minnesota professors Elizabeth E. Davis and Aaron Sojourner established [a web-based tool](#) to draw attention to Minnesota families’ struggles to access, afford, and obtain early care and education that “helps them both earn a living and help their children thrive.” The innovative web site, [Mapping Access to Child Care for Minnesota Families](#), illustrates at the neighborhood level where dense areas of young children live in Saint Paul and the availability of child care centers close to their homes.

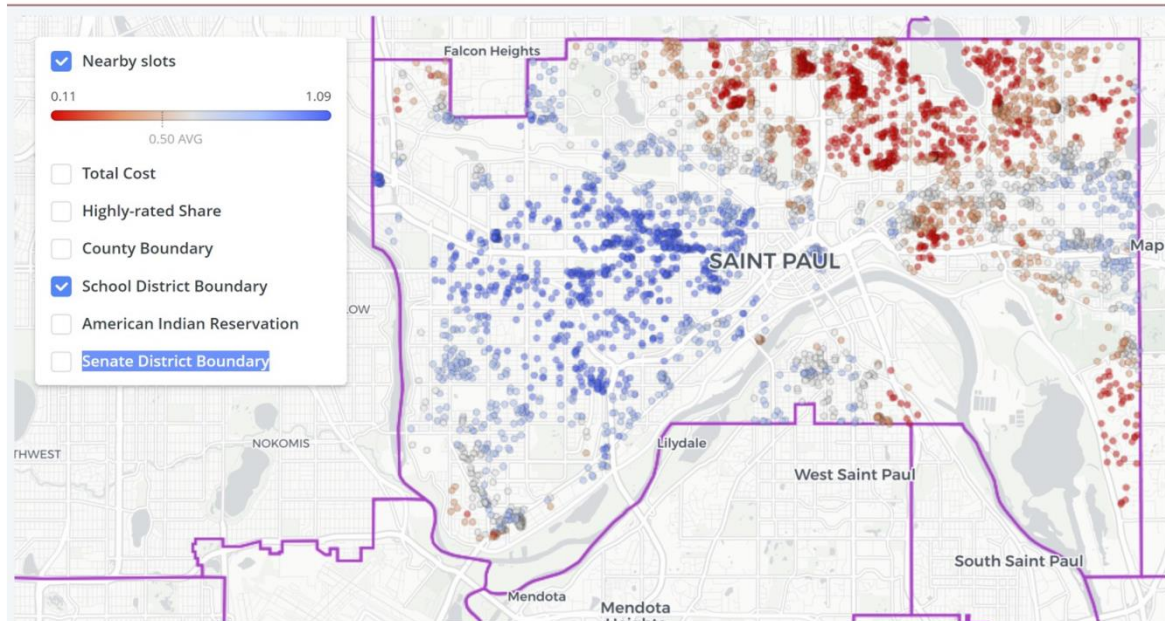
Each of the maps uses a bivariate statistical method to display a family’s access to child care. The first map, *Access to child care*, compares the relationship between the density level of where child live (similar to Figure 1) with proximity to the quantity of family and child care centers. The dots represent approximately where families with young children are located. Each dot denotes about four families. Actual family locations are not shown, but rather only simulated locations. However, the dots are densely packed in areas where many families with young children live. The dots are sparser in areas where few children live. Each dot’s color signifies the child care access to the other variable of the bivariate statistic.

Availability of care centers

The legend to the Figure 5 map shows the average available child care slots for every child living close to the center. Overall, the legend displays a .5 average (Note: A .5 slot per one-child metric converts to two children per 1 slot) or an average of two children for every slot in a child care and licensed family care center (grey dots) across the city of Saint Paul.

However, at the community and neighborhood level, a different picture exists: The dark blue dots reflect ratios that show 1 or more slots are actually available for each child in the neighborhood. In contrast, the dark red dot areas have ratios where up to nine children must compete for each slot in the neighborhood. The AccessChildcare.org researchers’ findings provide a compelling picture of the “child care dessert” that exists in various neighborhoods of the city.

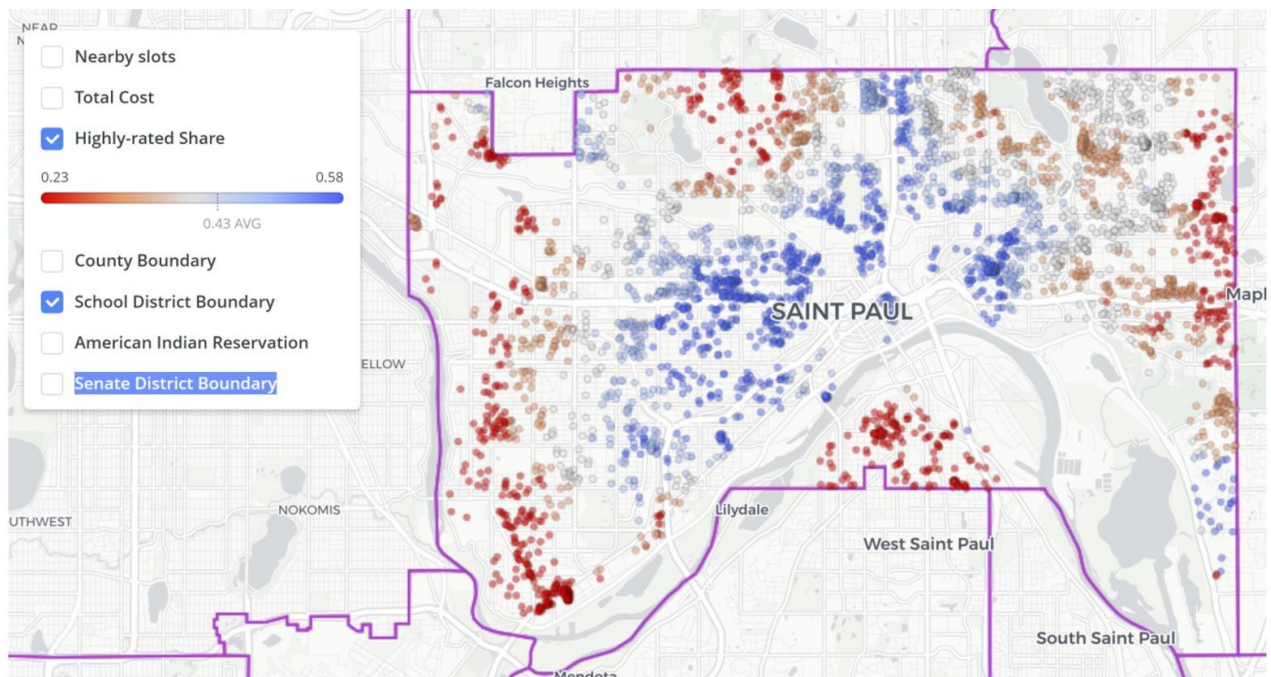
Figure 5: Access to child care “close to home” availability in Saint Paul (2019)



Quality care

The Figure 6 map legend indicates that the city average for access to a quality child care and licensed family care center slots (grey dots) is close to three (.43 average) children competing for 1 quality slot. The quality rating of child care centers is provided by the [Parent Aware](#) organization through MDHS. The map illustrates that the distribution of families with access to quality care are centrally clustered with less access for families closer to the city boundaries.

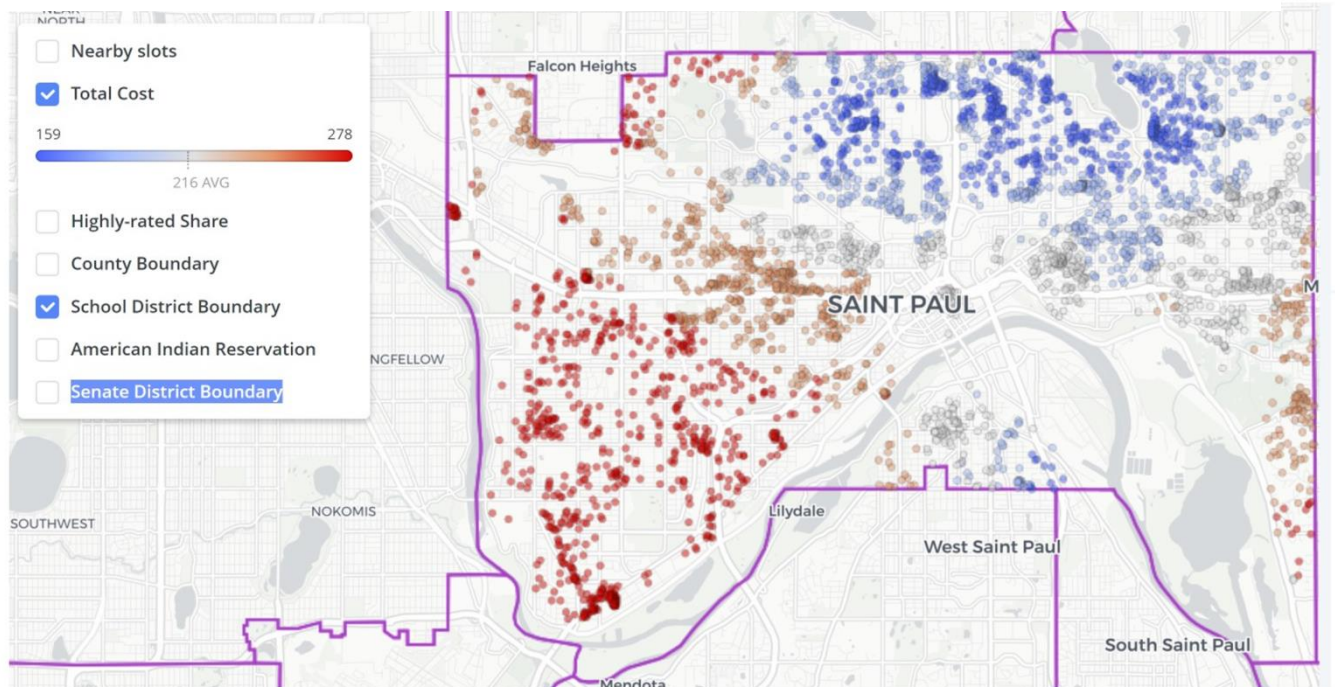
Figure 6: Access to child care “close to home” and “highly rated” care in Saint Paul (2019)



Total Costs

The Figure 7 map legend indicates that the city average for the total cost for child care and licensed family care center slots (grey dots) is estimated at \$216 /week or \$11,200 a year. The range of total costs is related to the average income of the population in the census block group where the center is located. Adjusting to market demand, the lowest-cost slots are located in the lowest average income areas of the city. As previously illustrated, the east area of the city also has the lowest-quality rated centers.

Figure 7: Access to child care “close to home” by total cost of care in Saint Paul (2019)



Location question: Where do the most highly vulnerable children and families live?

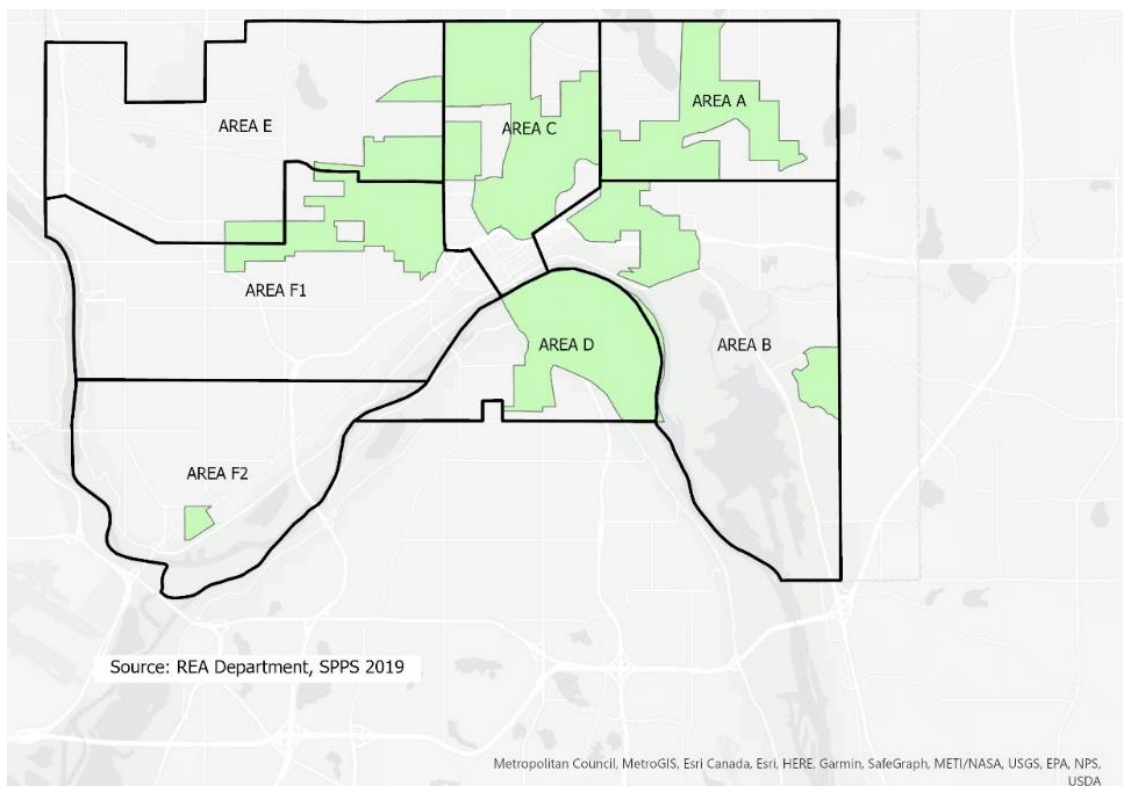
Methodology

Each year, SPPS reviews demographic and student achievement data to determine where K-12 students with the highest needs live. Those high-need neighborhoods are identified as census blocks and termed by the district as Reflecting Saint Paul (RSP). The rating as an RSP census block is based on the presence of high proportions of families with students eligible for free or reduced price lunch; high proportions of residents with a home language other than English; and low rates of student reading and math proficiency.

Findings

Most of the high-need areas are in the district's Attendance Areas A, B, C and D with Area C having the greatest percentage of RSP areas (75%) (Figure 8).

Figure 8: Reflection Saint Paul (RSP) census blocks: Highest-need areas



Location question: Where are the classrooms in SPPS elementary schools that meet Minnesota Department of Education (MDE) guidelines for appropriate early learning programs?

Methodology

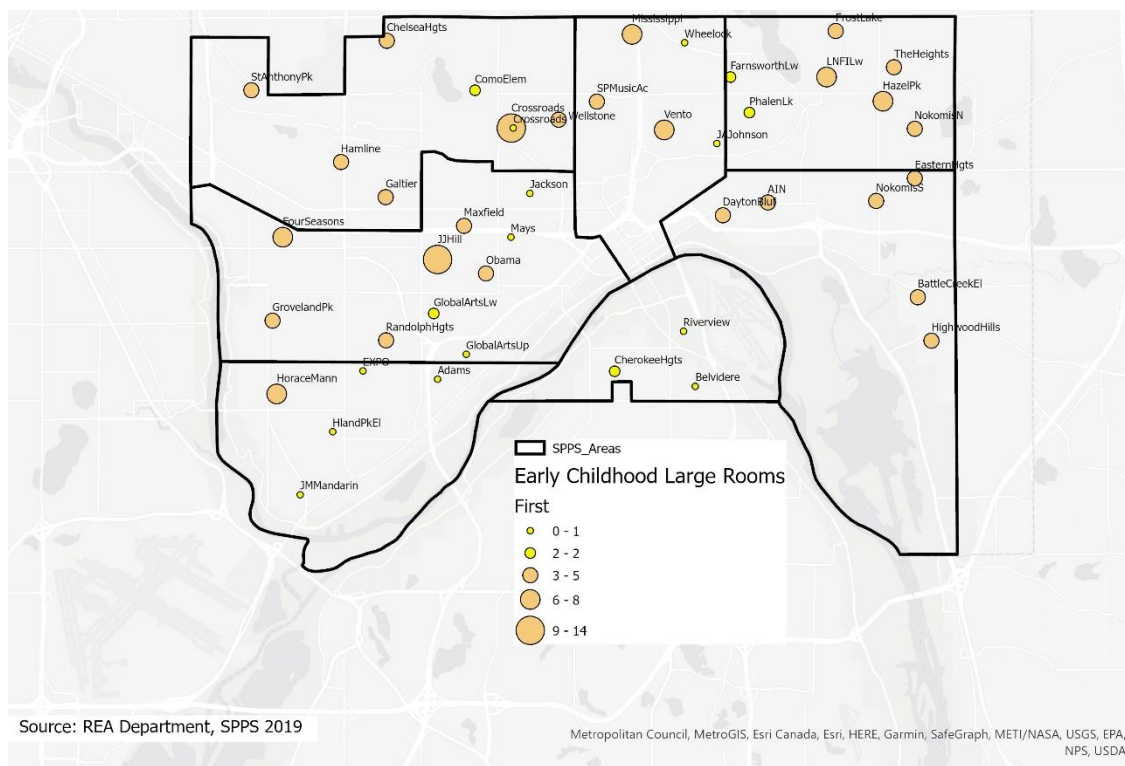
In June 2021, MDE released its guidelines to districts on the square footage for early childhood education program facilities with recommendations for rooms to be set between 1,000 to 1,400 sq. ft. and with rooms needing to be on the first floor unless the school is a dedicated early learning center.

SPPS's Facilities Department has data documenting the square footage and general use of all its buildings. The facilities use and utilization survey data was conducted in 2019 to record how rooms were being used. Filters were run on the data to identify rooms above 970 sq. ft. that were instructional classrooms, multi-purpose room, or used for early childhood programs.

Findings

A total of 318 classrooms were identified in 44 elementary schools that were at or above the 970 sq. ft. criteria. Of these, only 189 were on the first floor of the building. The median number was three per school with a high of 14. Fifteen schools have two or fewer rooms with 970 sq. ft. or bigger. Figure 9 shows the distribution of where the elementary schools are with larger numbers of “guideline” acceptable rooms.

Figure 9: Elementary schools with classrooms greater than 970 sq. ft.



Summary of early childhood center locations

The information contained in Figures 1-9 provided the Early Childhood Education Workgroup with a starting point to begin the most challenging aspect of planning for the addition of early childhood programs for 4-year-olds (and potentially 3-year-olds): Sorting through geographic and demographic data, and definitions of need (e.g., RSP, free/reduced lunch, race, homeless/highly mobile, etc.) to select the best locations to establish early learning programs.

Program structure and delivery

To determine the program structure and delivery model needed to serve younger learners, the district must determine the scale of programs needed and how best to deliver services. This, along with determining which ages of children can be served by SPPS, present four key questions to address to determine the feasibility of expanding early childhood education services:

1. How many children can the district expect to serve?
2. What model(s) of early learning program delivery should be used?
3. How will community partnerships and the integration of systems be determined?
4. What governance and structural changes are needed to infuse the district's universal early learning programs with county and city child care services in alignment with K-12 learning outcomes?

Program structure and delivery: How many children can the district expect to serve?

Methodology

The research article by Anna Shapiro, Eleanor Martin and Christina Weilan, ["If You Offer It, Will They Come? Patterns of Application and Enrollment Behavior in a Universal Prekindergarten Context"](#) (2019) provides a framework for a discussion on how many Saint Paul families might expect to participate in an expanded prekindergarten education model. The research attempts to provide some information on why not all eligible families apply to universal public prekindergarten programs, when offered.

Highlighted are lessons learned to take into account when engaging families who are most in need of services when rolling out universal prekindergarten programming. Planning needs to take into account not just demographic and economic variables, but factors influencing low participation rates in school placement processes.

An estimate was needed to model the number of 4-year-old enrollments at existing Head Start centers in Saint Paul in the analysis. A national estimate of 50% of children enrolled in Head Start programs was used to determine are 4-year-old.

Overview

In recent years many cities have expanded public early learning programs with the goal to reduce the kindergarten readiness gap of low-income children when compared to middle-class children.

Surprisingly, the answer to how many children actually enrolled was an average of 71% for the five major cities offering universal PreK in 2019 (Shapiro, et. al., 2019).

One of those cities, Boston, where public schools have a long history of offering early learning services, is quite similar to SPPS. A closer look at the findings of researchers who have studied the Boston Public Schools (BPS) district could guide the planning and rollout of a universal 4-year-old program in Saint Paul. BPS is similar to SPPS in its cultural, racial and economic diversity. Like SPPS, BPS has also had early learning programs that produce significant impacts on reducing education readiness gaps. Both districts operate in a rich preschool market and use a lottery-based system to assign students to programs from early learning, kindergarten and other grades.

In the first years of the BPS program (2008 and 2009), of the 8,391 children who one year later enrolled in BPS kindergarten, 4,220 (52%) had applied while 4,171 did not apply.

Families were asked to indicate in a kindergarten entry survey what type of care settings they attended in the previous year. The families who did not apply to an early learning program with BPS (4,171) instead chose the following options:

- 31% attended private settings
- 36% attended Head Start
- 4% attended other public schools (non BPS)
- 7% went to family day care settings
- 21% attended none

The researchers raised various structural factors that districts should consider when implementing an early learning program. The following reasons were cited as contributing factors as to why families did not choose to participate in BPS the first years of universal programming:

- The complexities of the district's lottery system created information, communication and transactional barriers for new families applying for a school district program.
- The limited supply of early learning programs in some areas of the city as well as in other areas, an excess of competitors, e.g., full-day and all-year child care centers.

- Program location related to families' ability to access transportation to the center.
- Proximity to home.
- Full or partial hours/year of operation.
- Safety and perceived quality of the program.

Findings: How many children can be expected to come to the program in the first year?

With a population based on the 2020 estimated total of 4,127 children who are 4 years old living in Saint Paul, if SPPS experienced a similar response as BPS in the first year of implementing a universal 4-year-old program (52% of children attending BPS program) and adjusted for current early childhood special education children (an additional 3%) enrolled in SPPS, SPPS can expect approximately 55% (2,270) of children to attend the program. (See Figure 10).

Figure 10: Universal PreK Participation Estimate for SPPS <i>Boston Public Schools Results Applied to SPPS</i>		
Group	Percent	Count
Total apply for SPPS early learning	55%	2,270
Total do not apply	45%:	1,857:
	<i>Private</i>	<i>576</i>
	<i>Head Start</i>	<i>650</i>
	<i>Family daycare</i>	<i>130</i>
	<i>Other Public Schools</i>	<i>130</i>
	<i>Stay Home</i>	<i>371</i>
	Total	4,127

Unfortunately, many of the broad assumptions that this analysis used are highly questionable in 2021 when applied to Saint Paul. In Saint Paul, the existence of a strong charter network (unlike BPS), open enrollment opportunities, the quality of family daycare centers, Head Start enrollments, and private daycare centers would all challenge many market share assumptions.

Regardless, while the analysis is not useful to determine actual enrollments, its primary usefulness is to raise the awareness for decision makers that SPPS 4-year-old programming is,

and will be, part of a much larger support system for families with young children. Understanding the constraints and economic limitations of families as they make choices for early child education and care is essential in program planning if what is delivered in the end is an increased benefit for all children and not just a few.

A significant factor that impacts the “child care dessert” areas of the city is that family-based daycare centers and child care centers serve infants and toddlers as well as PreK children. The most expensive children to care for are infants and toddlers due to the higher adult-to-child ratio (1:4) required for quality care compared to early learning ratios of 1:10 (Steven Jessen-Howard, Rasheed Malik, and MK Falgout, 2020). Consequently, preschoolers who can be served in larger groups are a crucial component to making early child care centers and home-based child care affordable to low-income parents while keeping the child care providers in business.

Program structure and delivery: What models of Early Learning programming might SPPS deliver?

Methodology

In recognition of SPPS’s unique role in early childhood education, the SPPS Early Childhood Education Workgroup outlined three possible program delivery models: Hubs, site-based, and community partnerships. By understanding the relationships between key planning parameters of facilities (buildings and spaces) and staffing standards, a set of proposed SPPS sites were identified in key neighborhoods that took into account the number of low income families around those sites; number of families’ proximity to programs; and density of need as identified earlier in this report.

Key Planning Parameters

Space

MDE has set a guideline for early learning program spaces as being between 1,000 sq. ft. and 1,400 sq. ft. A rough survey of existing SPPS elementary schools shows approximately 318 classrooms (across 44 elementary schools) with square footage of greater than 970. Since current early learning programs, kindergarten, and content electives classes (art, multimedia, music, etc.) are using these spaces, few classrooms are available to transition existing programs out for early learning classes, let alone being available for the expansion of early learning programs.

Staffing and funding

The current SPPS PreK staffing guidelines requires two adults per 20 children per session. While variation occurs between half-day and all-day sessions, the SPPS Office of Early Learning recommends full-day sessions as its best-practice standard.

Model delivery definitions

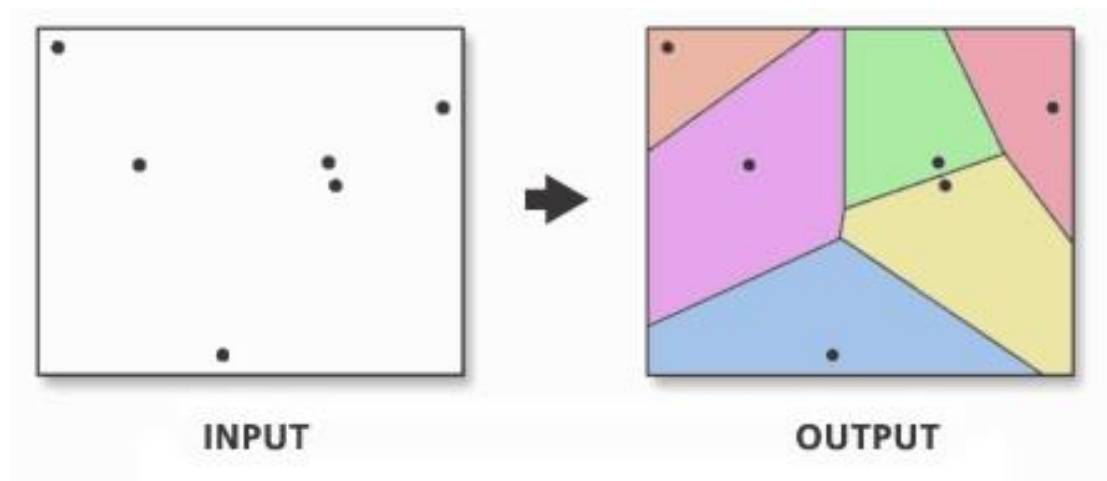
School feeder model

A school feeder model simply adds an early learning grade level/section to all elementary schools. The model assumes only one or two classrooms would be required. In the school feeder model, classes are only half day with two sections per day, per room resulting in 40 to 80 students feeding into kindergarten the following year. Since most elementary schools in SPPS have four sections or fewer of kindergarten, all students would be accommodated and ensure a stable feeder pattern each year.

The site feeder model requires a different method to set attendance boundaries to align with families' needs to have school and daycare in close proximity to home. One way to meet the "close to home" definition is to draw early childhood learning boundaries so that children would attend their closest elementary school to where they live regardless of the school's magnet or community status. After enrolling in a universal 4-year-old program closest to home for a year, families could choose to enter the kindergarten lottery for the following year just as they do now. The family could select a school in their area options or be guaranteed a spot in the kindergarten of their current school.

Methodology for school feeder simulation

All 41* SPPS elementary schools with a kindergarten were selected. A Thiessen polygon tool draws boundaries around a school so that any family living in the area lives closest to that school than any other school in the district. The close-to-home boundaries (CTH) are based on distance "as the crow flies" and does not attempt to adjust to streets, blocks or drive time.



After creating the CTH boundaries, the total number of 4 year olds living in the area was extracted from the Esri Demographics dataset based on American Community Survey 2020 estimates. Available space was computed for each school site by subtracting the current K-5 enrollment at the site from the building's capacity.

The Boston Public Schools universal programming first-year result of 55% of eligible children actually attending their program was applied to the CTH attendance area model to estimate how many children might attend.

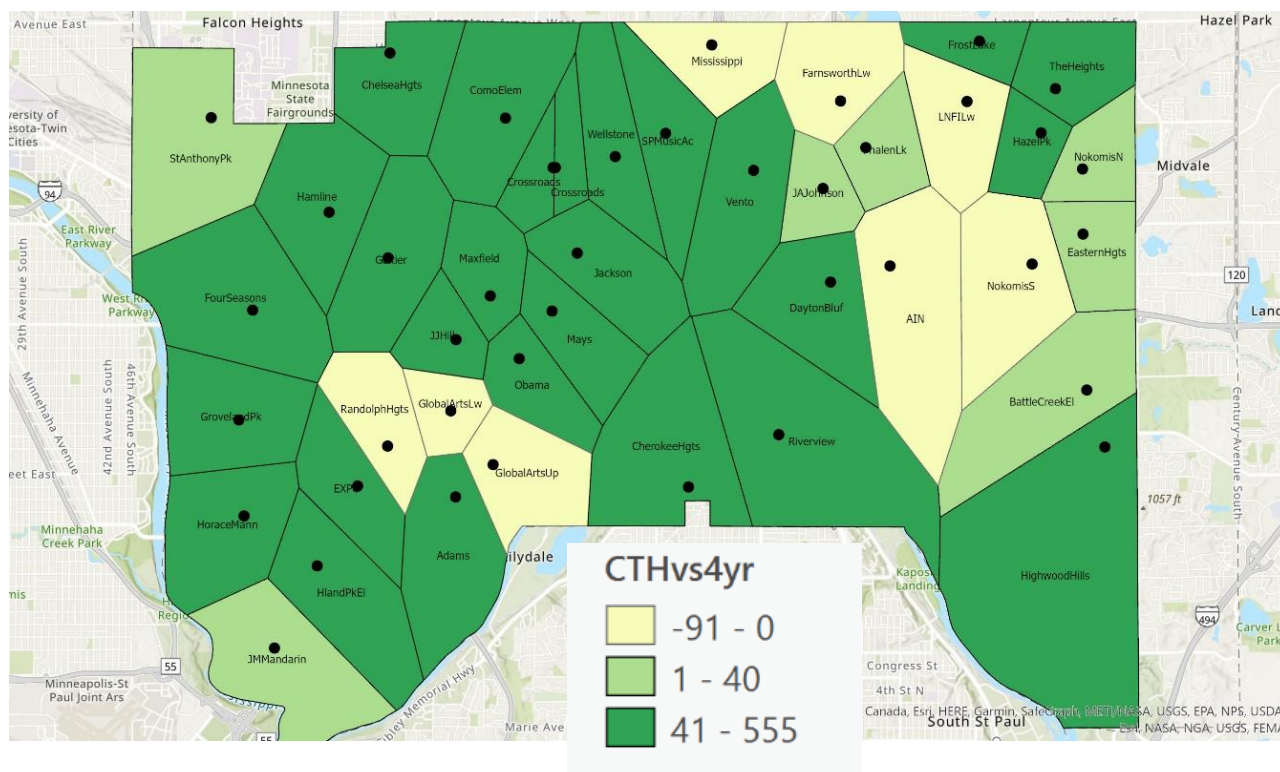
Finally, to determine if a school could accommodate all of the 4 year olds living in its CTH attendance area, all 4 year olds were subtracted from a building's current available space. No adjustments were made for half-day sessions or whether the available space is appropriate for early learning programs. It treats the 4 year old need for space no differently than K-5 students except with accounting for one room to every 20 children, rather than 25, the current district average.

(*One program with a dual campus created two attendance areas.)

Findings

In Figure 11, the results show space still exists (dark green) after the 4-year-old children are enrolled in schools for most children living in their CTH boundary. Only eight CTH attendance areas of the 41 schools with kindergartens do not have space to accommodate the 4 year olds living closest to the school. However, all of these eight schools have adjoining CTH schools that accommodate all remaining unplaced 4 year olds. Therefore, the 55% enrollment estimate of participation the first year shows there is considerable space still available to accommodate higher percentages of children the first year.

Figure 11: Space available if 55% of four year old children living in a school's CTH boundary attend the school



Conclusion

The model demonstrates that at a superficial level, 4-year-old children could be accommodated like other K-5 students in their closest neighborhood school or next closest school. However, the school feeder model has been deemed unfeasible at SPPS due to the lack of space or approved facility areas that meet licensing standards (e.g., toilet sizes and proximity to toilets) in most schools, and the additional lack of adequate space for wrap-around services, such as ECFE and ECSE, in many schools.

Hub model

The hub model clusters multiple early childhood services and staff together to provide a “one-stop service” to families. Hub sites are located in facilities that can accommodate early childhood programs with open spaces, spacious rooms, playgrounds, age-appropriate restrooms, and room for multiple service providers. The result is a nurturing and safe environment for the youngest of children.

The geographic location of early learning hubs target under-served neighborhoods in the city and have high volume of vulnerable populations in close proximity to the site. Hub facilities meet the MDE guidelines for classroom square footage and make accommodations to allow for the best practice of a full-day program model.

A hub site would likely require significant facility retrofits in a K-5 school or a new site if SPPS is to use their facilities to accommodate the multi-service levels and educational support needs (e.g., support services, special education, supports, social emotional, etc.). While significant facilities investment is needed, there is an opportunity to partner with community agencies to deliver services in “code approved” settings other than SPPS sites. A community partner site could leverage a reduction in costs for the total program as expanded services are already delivered in community settings while SPPS would provide the academic services. Other advantages are the minimal disruption to children as they would remain at one location to receive a spectrum of services rather than be transported to another location for educational services. This model also provides opportunities to better coordinate learning goals between community and SPPS staff. The result could be improved student outcomes.

Feasibility considerations for the school feeder and hub models

While the school feeder model has advantages of close proximity to families’ homes, it also creates enrollment retention possibilities as it establishes a natural feeder to the K-5 schools programs and alignment to K-5 learning outcomes of the host school. However, the model is incompatible with many early learning guidelines around staffing, facilities modifications, space, and support services. Consequently, the SPPS Early Childhood Education Workgroup did not select the school feeder model as the dominant approach for delivering early learning services.

Likewise, while the hub model provides comprehensive services and capacity to align children with K-5 learning outcomes, its disadvantages in costs to facility remodeling, transportation costs, and distance to many family homes made that model also unfeasible to the workgroup as a singular solution. Instead, the workgroup determined a mix model that combines both hubs

and school feeders is the preferred model for implementation to balance the advantages and disadvantages across the city and the needs of the families being served by a school location.

Mixed model

The mixed model is intended to build capacity and quality of care across the city through a cooperative network of service providers. The mixed model sets a direction for quickly expanding early learning programs; however, it recognizes the uncertainty of federal, state and local funding streams and the challenges to building and establishing community partnerships across systems, especially during the pandemic. Consequently, a pragmatic solution to expanding early learning services more quickly is to leverage existing facilities, programs and structures while establishing the comprehensive, full-service hubs. To provide the greatest flexibility, the mixed model includes the combination of three distinct program delivery options as outlined below.

- 1) **Geographic hubs** provide a one-stop-shop for families with comprehensive, full-service early learning and day care services provided in one location. Hubs would deliver a core program of ECFE, ECSE, preschool screening, and early learning readiness for 4-year-old children. Hubs would also house itinerant staff who would be deployed to school-based feeders and/or community partner sites to deliver academic services, staff development, operational services such as food, transportation and other support services.
- 2) **School-based feeders** that provide basic early childhood learning services on site at district magnet schools that offer regional or city-wide thematic academic programs such as language immersion, Montessori, STEM, etc. while community-based partners provide day care services at the school site. Overall, SPPS magnet schools have a greater facility capacity to be included in this model while most community schools, with a few exceptions, are too small to be able to deliver the range of early learning and day care services in this model. Feeder schools would deliver a core program of ECFE, ECSE, preschool screening, and early learning readiness for 4-year-old children, when possible. The most important element of the program would be to establish pathway links to the school's elementary program to provide greater alignment and achievement of K-12 learning outcomes for children. The school's academic focus would be introduced in the 4-year-old program. Where Discovery Club is not provided at a site, then day care services would be provided via a hub, a partner site, or home-based day care provider.

At minimum, a basic room configuration at most feeder school sites would need to have three to four MDE-recommended sized classrooms to deliver special education and early readiness programs and one multipurpose smaller space for parent program and support functions. In addition, since few SPPS school rooms meet the MDE square footage guidelines for early childhood direct-service programs, in the initial years that the early childhood program is established, some community and magnet schools may need to accommodate these programs in less-than-ideal spaces and staffing standards, and offer

fewer programs (ECFE or ECSE). As the program expands, facility improvements would need to factor in early childhood room standards as part of the district's capital improvement plans.

Finally, per the Early Childhood Education Workgroup's recommendation, for those school facilities recently upgraded to meet early childhood learning facility standards (such as toilets and sinks within a room, new playgrounds, etc.), it is important to preserve these facility investments and keep these early learning programs and services provided at these sites

- 3) **Community-based partners or family-based day care sites** provide early learning and day care services. This third option may mean SPPS teachers are providing the academic offerings and/or SPPS may contract with the partner's licensed staff to deliver the academic program at the community-based site.

Methodology for mixed model simulations (hub and school-site feeder models)

The Early Childhood Education Workgroup reviewed the previous analysis in several meetings in May-June 2021. Based on a shared understanding of the multiple geographic layers of information presented earlier in this report, the workgroup identified potential sites to align with the mixed service model.

The workgroup looked at all elementary schools and sorted them into three categories. The first category included schools where no early learning programing should be considered. The reasons for placement in this category were because the building had insufficient capacity or due to family program demand, no space would likely be available in the future.

The second group of schools was designated as possible hub locations based on where significant numbers of children were geographically located. Figures 12, 13 and 14 display the overlap of potential hubs with the high density of children (Figure 12), schools with large rooms available to repurpose to meet early childhood room guidelines (Figure 13) and located near high-poverty areas of the city termed as Reflecting Saint Paul (RSP) areas (Figure 14) by the district.

The third group of schools identified was sites housing regional and city-wide magnet programs. The unique program focus of these schools results in a smaller number of potential students entering the program. These schools offer thematic programs (e.g., language immersion, Montessori, STEM) that families are often not ready to commit to at the early learning level. Figures 15, 16 and 17 display where the site-based feeder sites overlap with a high density of children (Figure 15); schools with large rooms available to repurpose to meet early childhood room guidelines; and where both high-density of children and large-room sites are combined (Figure 17). Figure 18 displays site-based feeder sites overlapped with areas SPPS has identified as high poverty areas.

Figure 12: Potential elementary schools that could serve as PreK hub learning sites compared to where high concentrations of 4-year-old children live

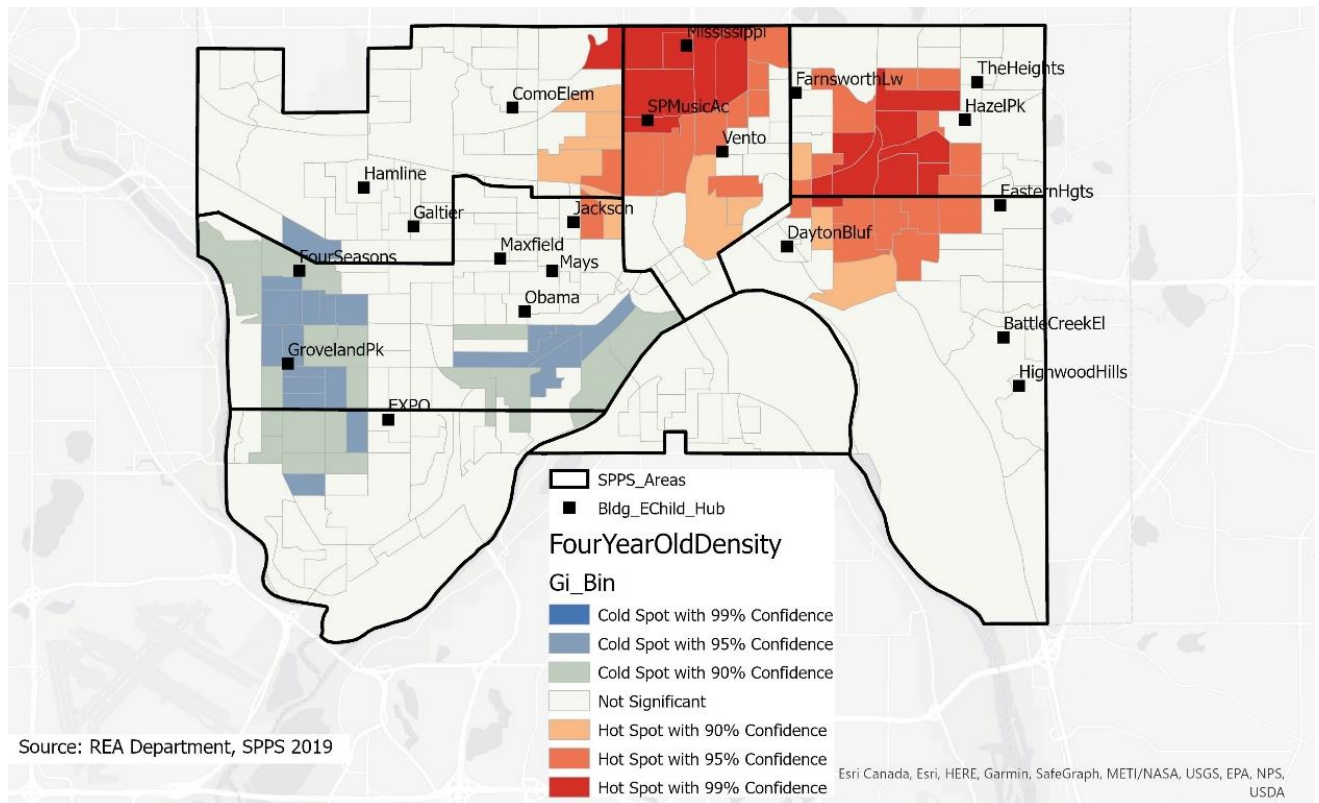


Figure 13: Potential elementary schools that could serve as PreK hub learning sites compared to where large rooms exist

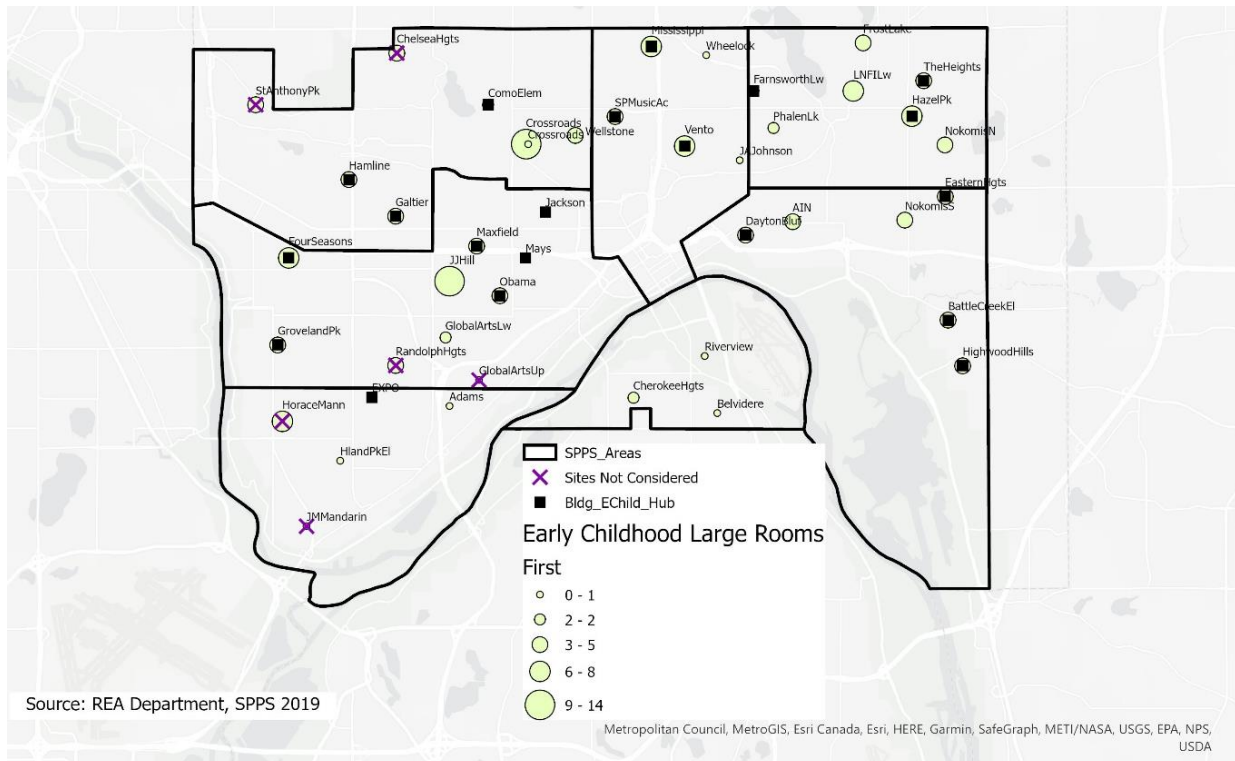


Figure 14: Potential elementary schools that could serve as PreK hub learning sites compared to RSP high-poverty areas

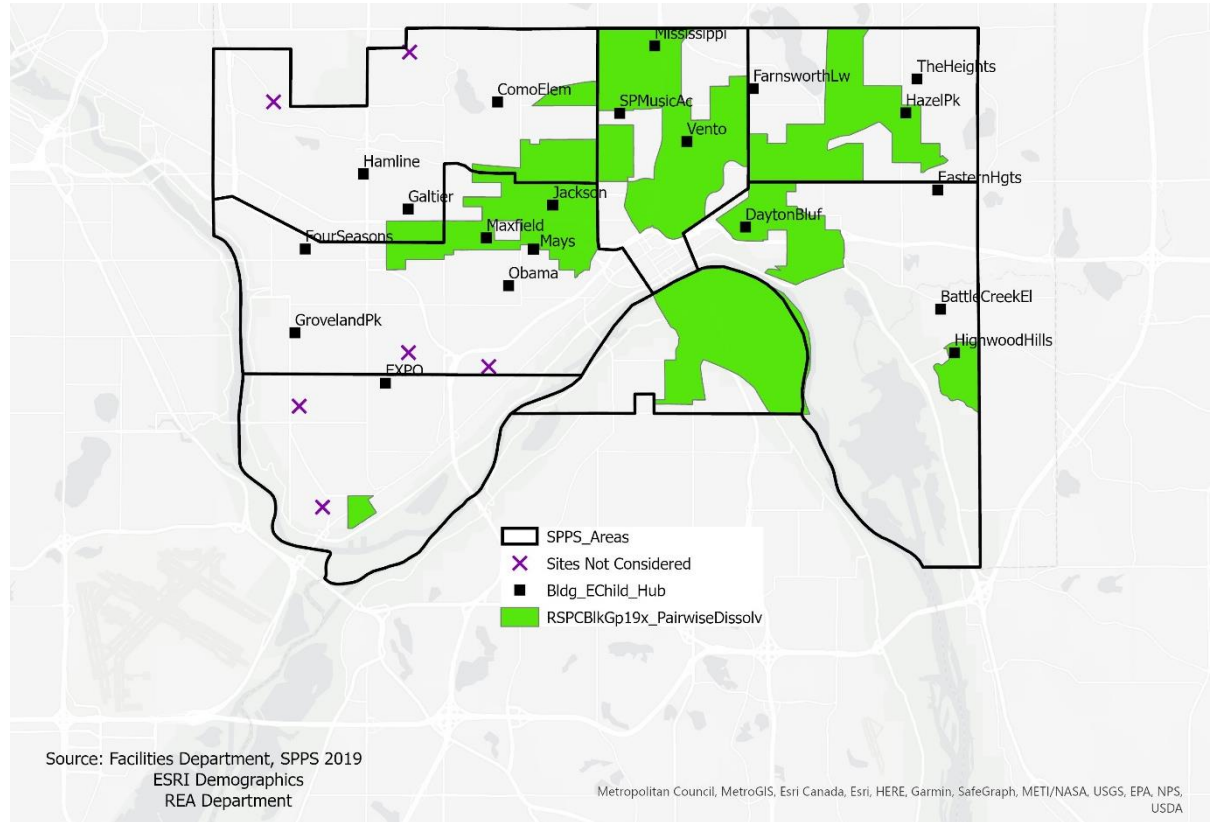


Figure 15: Potential elementary schools that could serve as site-based feeder learning sites compared to where high concentrations of 4-year-old children live

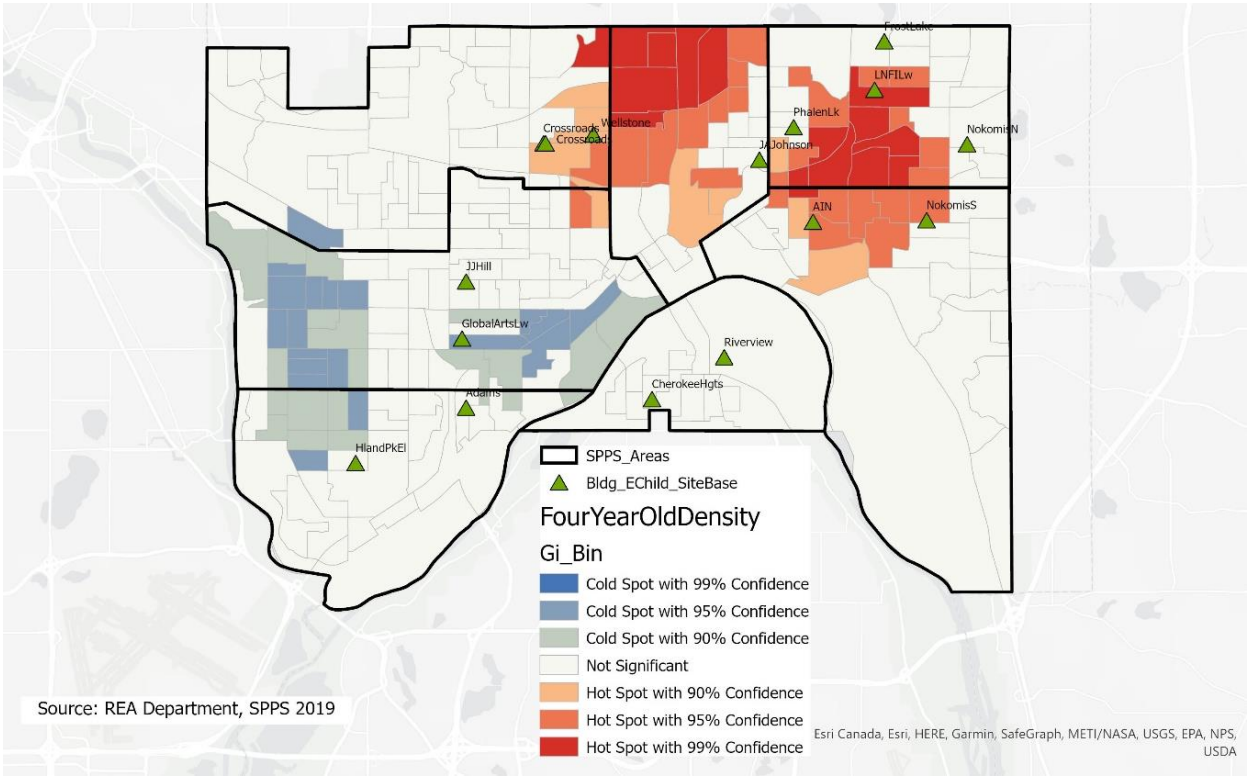


Figure 16: Potential elementary schools that could serve as site-based feeder learning sites compared to where large rooms exist

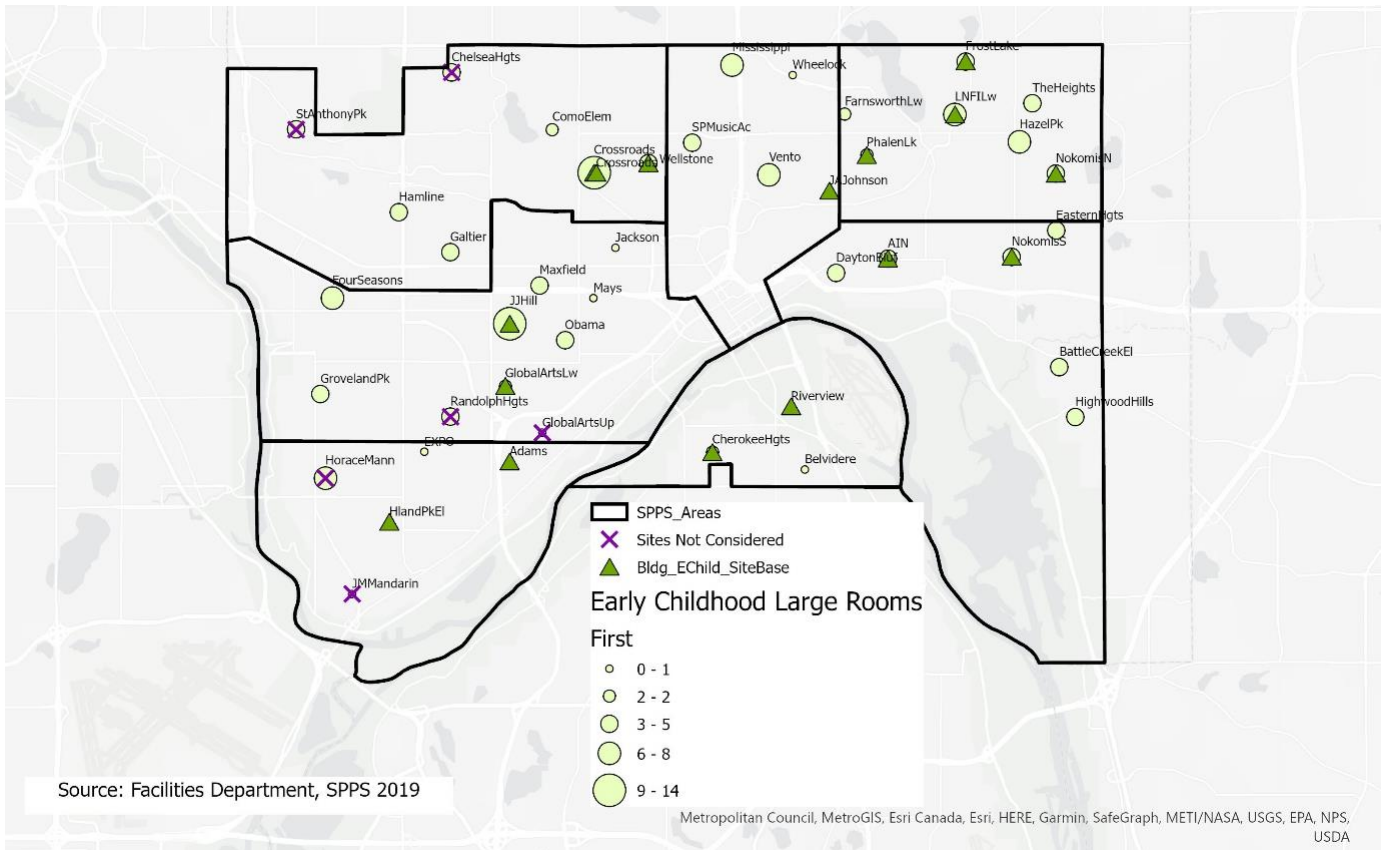


Figure 17: Potential elementary schools that could serve as site-based feeder learning sites compared to where large rooms exist and 4-year-old population density

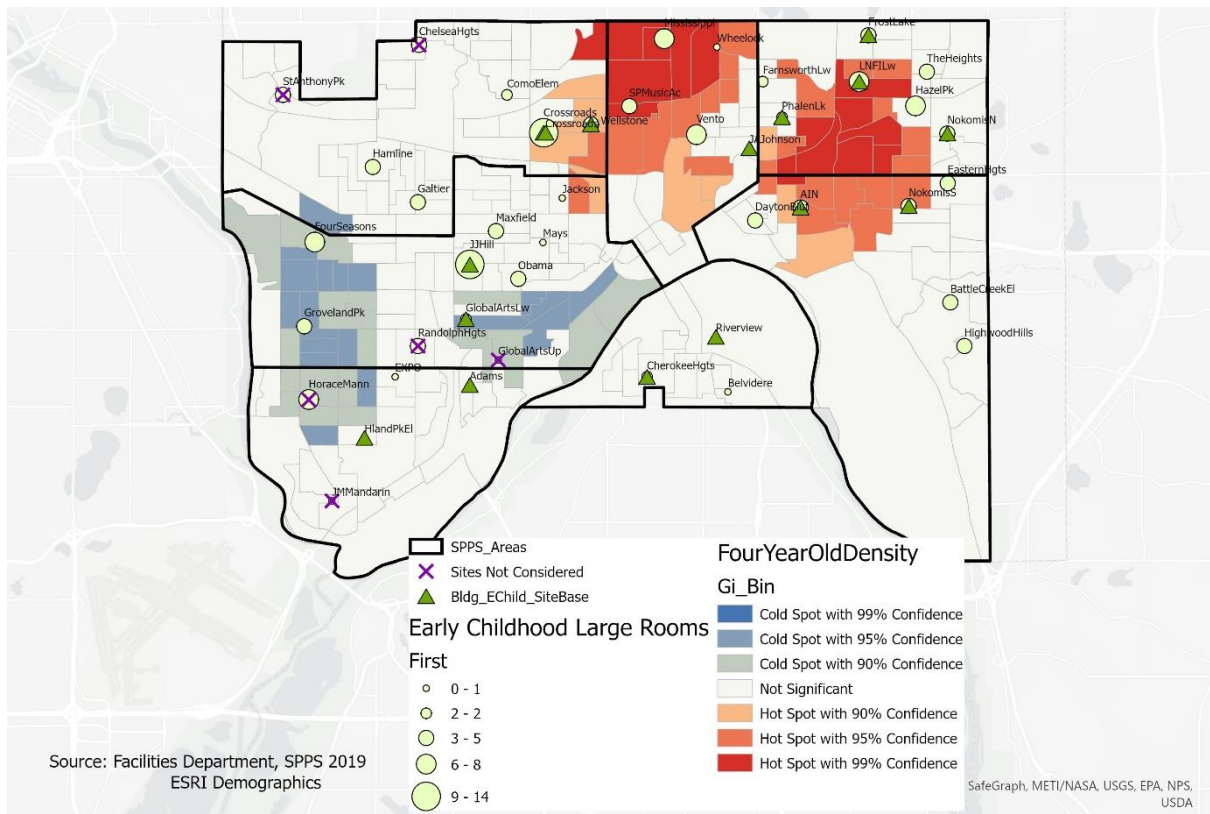
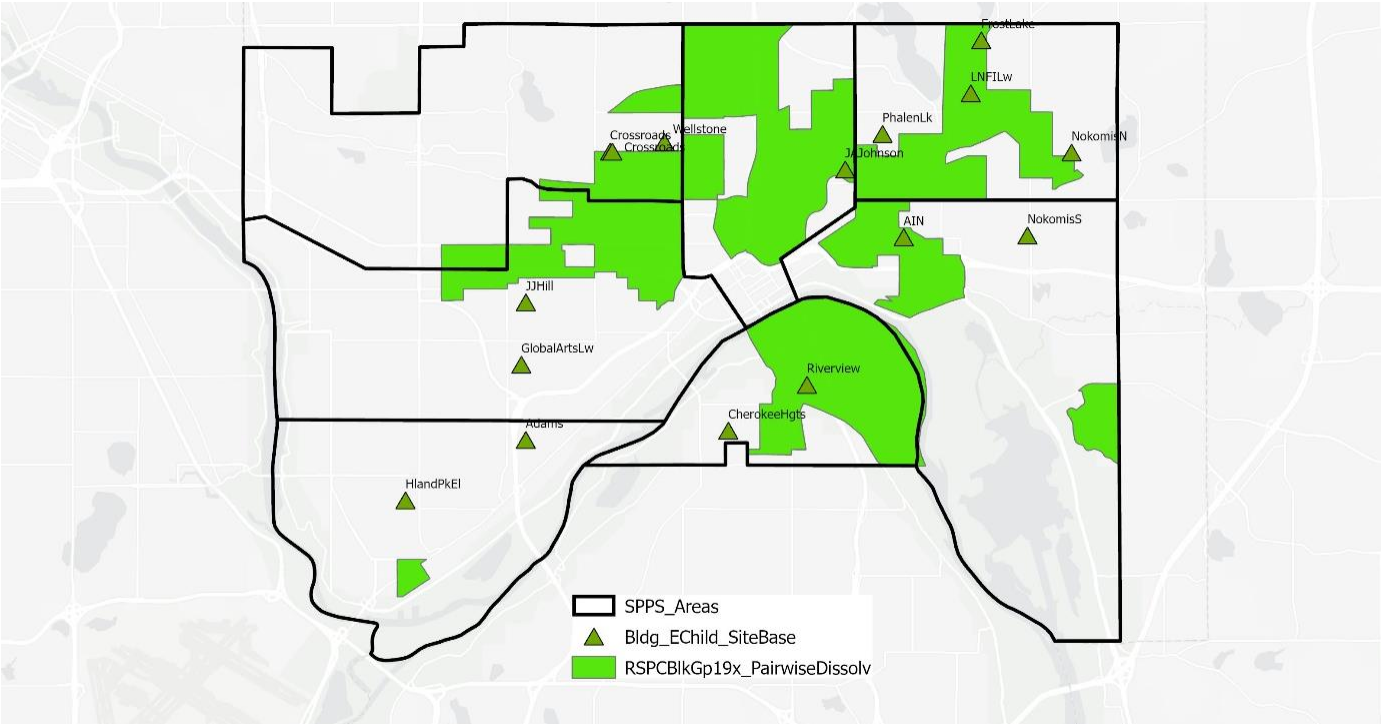


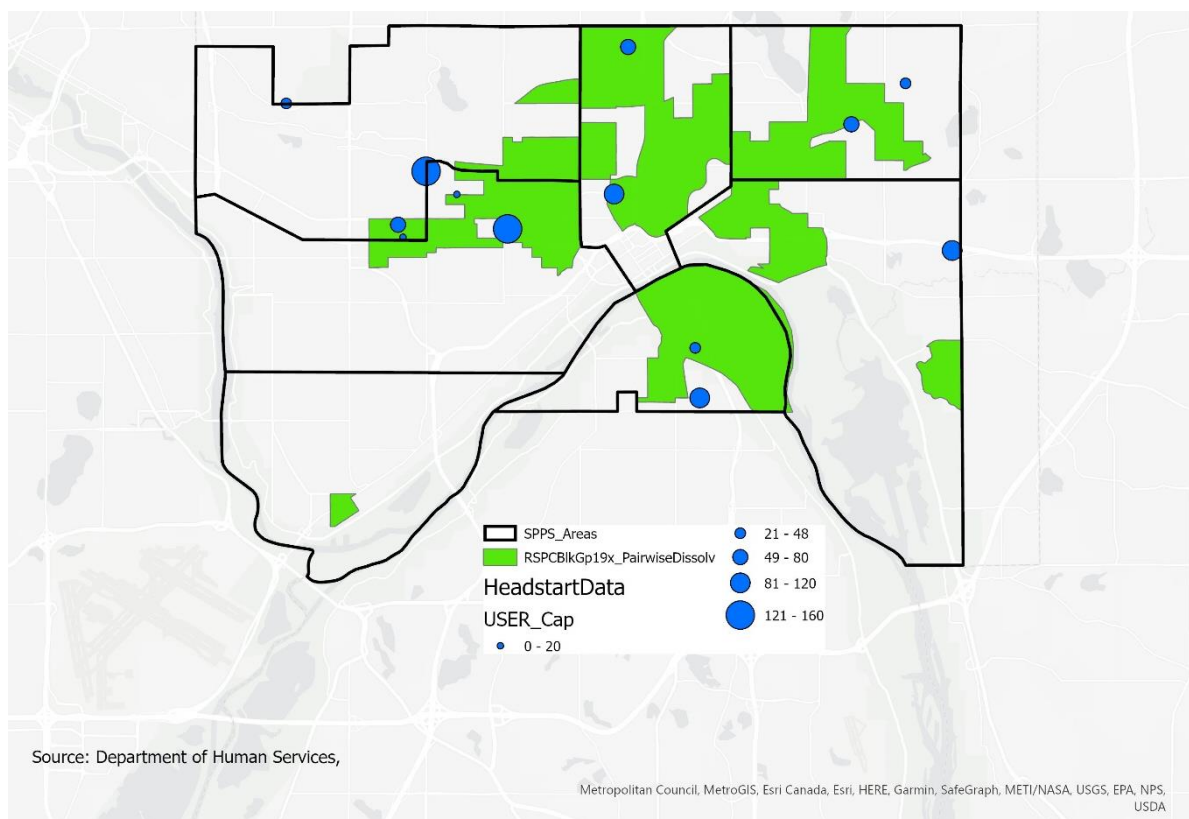
Figure 18: Potential elementary schools that could be site-based feeder learning sites compared to RSP high-poverty areas



A mixed model: Community partnerships/cooperatives potential

Finally, as the SPPS early childhood learning plan is developed and implemented, it should consider the development of the mixed model that focuses on community partnerships and establishing networks of services for the entire birth to 5-year-old child care system. Expanding upon existing partnerships would provide a critical strategy to improved services for early childhood programming. Figure 19 illustrates the locations and capacity of current Head Start* programs which SPPS currently has various levels of partnerships with. Seven of the Head Start centers are in the RSP high-poverty areas and are potential sites for partnerships based on the RSP location criteria.

Figure 19: Head Start locations and capacity compared to RSP high-poverty areas

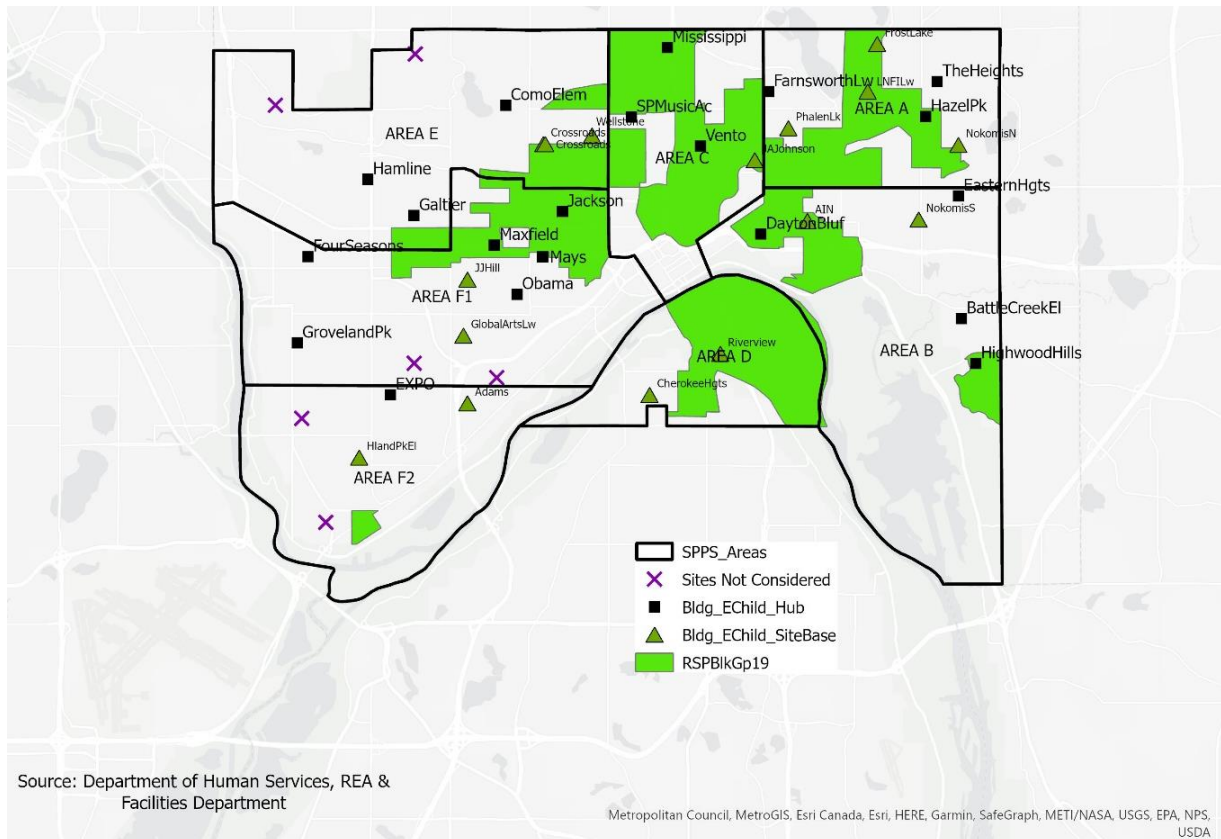


*Head Start locations:

1. Community Action Resource Center - Fraser
2. Mt. Airy Head Start
3. Roosevelt Head Start
4. Skyline Tower Head Start
5. Dunedin Head Start
6. Ruth Benner Head Start Center
7. McDonough Head Start

The following map (Figure 20) displays the work of the Early Childhood Education Workgroup’s site-sorting methodology that collapses all proposed elementary sites of full-service hubs, site-based feeders, and “not considered sites” as layers over the RSP census-block areas. A total of 13* potential sites exist for 4-year-old programming that align with the RSP areas. The “all sites” map (Figure 20) became a base map from which each key variable of location, program needs, highest-need populations, and early learning model implementation could be evaluated and reviewed again.

Figure 20: All potential SPPS early learning sites vs. high-poverty areas



*Potential sites:

1. American Indian Magnet
2. Bruce Vento Elementary
3. Crossroads Elementary
4. Dayton’s Bluff
5. Frost Lake Elementary
6. Hazel Park Prep Academy
7. Highwood Hills Elementary
8. Jackson Prep Elementary
9. John A. Johnson Elementary
10. L'Etoile du Nord – Lower Campus
11. Maxfield Elementary
12. Mississippi Creative Arts Elementary
13. Riverview West Side School of Excellence

Conclusion

The spatial analysis displayed in Figures 12-20 illustrates how five potential site-decision variables—model type; number of large classrooms; location in high-poverty areas; location of Head Start sites; location in high-density of children areas—impact individual school sites. The charge of the Early Childhood Education Workgroup was to understand the relationship of these attributes to each other; it was beyond the scope of the workgroup to make a decision on which sites should be selected to house universal 4-year-old programming. However, the workgroup’s analysis does provide SPPS with a deeper understanding of the spatial factors that need to be considered in selecting the best sites to house early learning programs and related services. District leadership’s next steps is to identify which factors—location, cost, access, existing programs, and other strategic initiatives—are most important to inform the selection and timeline for staging of potential early childhood sites.

Program structure and delivery: How will community partnerships and integration of systems fit into the plan?

Many early learning initiatives are sponsored by MDE and MDHS through preschool development grants providing contracts with community-based partners to create hub models of one-stop-services for low-income families. The expansion of these community partnerships could take many forms: SPPS could provide direct education and special education services, but at a partner’s facility; the district could assign staff at various child care centers to provide services on site; SPPS could also contract with community partners to provide teaching services directly to children at multiple community sites, and if partners’ staff are uncertified, SPPS could provide staff development until the staff attain certification.

In other examples of collaboration, SPPS staff could provide indirect services of coaching, staff development, and instructional materials through a community partner to deliver quality learning programs at the site. An array of support services provided at an early learning hub—ECFE outreach, preschool screening, ECSE assessments—could be accessed as needed by community-based child care and home-based day care sites close to the school, or as part of an informal community network, with the hub school providing centralized and support services.

In addition, professional development, operational resources such as transportation, food and facilities, and a cadre of support services all need to be explored as potential for contracted services from SPPS to support children in community-partner settings. Many opportunities for collaboration would exist as additional resources begin to flow through new collaborative networks with family and child care centers in close proximity to any SPPS site.

District policies, such as those regarding work schedules and facilities management, may create obstacles to partnerships. For example, SPPS union contracts may restrict or limit contracting with outside providers. Similarly, the use of district supplies or in-kind resources in co-located

sites may create barriers to partnering. Contracts and policies would need to be changed to provide a more flexible model.

When considering collaborations, the district may not immediately think to partner with home-based childcare providers. However, such collaborations are possible and can be effective since home-based childcare providers can help early learning programs reach more low-income and working families. In this partnership, children would be transported (with funding from state early learning grants) from the home-based setting to a half-day, school-based early learning program with a certified teacher on set days or alternate days of the week. On non-instructional days, the school-based teacher and assistant teacher would visit the home-based providers to discuss the children's development, share resources and materials, and generally ensure the programs are well aligned. Many other possibilities can be envisioned.

Program structure and delivery: What governance and structural changes are needed to infuse the district's universal early learning programs with county and city child care services in alignment with K-12 learning outcomes?

Of no less importance is to clearly understand how to avoid unintended consequences to child care services and young families as new programs are funded and implemented. A potential "tragedy of the commons" of competing systems may inadvertently hurt an already fragile child care industry that could ultimately leave young, low-income families with fewer services in the short term, even as public-school early childhood programming expands. It is critical to consider how best to create governance and funding structures in a public school environment that are cooperative rather than competitive with the city, county and state across the early childhood spectrum.

As federal and state legislators begin to focus funding streams and establish regulations for the anticipated Build Back Better Framework's focus on universal early-learning, the political forces of interest groups will begin to advocate for systems that will prevent the "tragedy of the commons." The opportunity to shape the structures, funding, and service delivery with SPPS as an equal partner or actual lead is time dependent since regulations are being developed at federal and state levels. SPPS's ability to be part of a pilot program or request a waiver is dependent on selecting and being part of an established, highly-positioned cadre of stakeholders that can create a vision and framework to be implemented in the future.

Funding shifts exploration

Reimbursement and grants need to be crafted so that even though children spend less time in the home-based programs, participating in the collaboration with SPPS programs would not affect the reimbursement rate that home-based providers receive from MDHS. Grants could have categorical streams that only support partnerships/cooperative models as direct subsidies to providers and for efficient management of services. For instance, school districts that choose

a collaborative early learning model can receive priority for limited state start-up grants. Districts would be required to set aside a portion of early learning state funds for collaborative efforts. Multiple regulations can be structured if collaboration is a primary objective.

Structural changes

It is beyond this report to explore how to bridge the structural barrier that are in place as separate systems now need to collaborate with new funding. The following are examples of early attempts to begin this work that SPPS may choose to monitor and request participation for future actions:

- A joint powers agreement between MDE and MDHS establish in March 2021 is an attempt to build collaboration across systems by coordinating early childhood eligibility and services.
- A bill authored by Representative Dave Pinto (DFL, Saint Paul) as part of the Minnesota 2021 legislative session seeks to transition early childhood programs that are currently administered by multiple state agencies to a single, dedicated cabinet-level agency dedicated to early childhood services.

What is needed is a state-level governance structure to support districts, childcare providers, families, and community organization as they approach the dramatic changes on the horizon. The need to manage a currently fragmented and under-resourced early childhood system will be challenging under current structures. Conversations and planning is critical to develop a workable system to direct resources to all providers; establish oversight and governance; collect data; and conduct assessments to evaluate the successful delivery of new services. Without these basic planning parameters in place, the risk is that the overarching goal of improved achievement outcomes for children as they progress through the K-12 education system will fail due to faulty design and implementation. It seems that a new oversight structure is potentially needed to manage the expansion of early childhood learning effectively.

Reimagining current state education structures of cooperation across districts such as intermediate districts could be a solution. Since intermediate districts have accountability and governance structures in place, allow billing for services, and focus on cooperation across districts, early childhood learning networks could be piloted under this structure. Similarly, past joint powers agreements for running integration programs such as East Mero Integration or West Metro Education Program provide frameworks from which to pilot the unique needs of early learning programs with collaboration across human service systems, agencies, educational districts, charters, and private providers. Without a reimagining of services, it is difficult to see how learning outcomes will be improved for children if the infusion of resources in the area continues to be fragmented.

Conclusion

The report's data and analysis provide SPPS decision makers with the tools to plan for adapting and the expansion of early learning services to families and children when new federal and state policies and mandates are delivered.

If the district takes the approach of early childhood program expansion as being “just another grade level” of the existing K-12 system, opportunities to provide enhanced services to families will be lost. The greatest threat is that as universal programs are created, regulated, and implemented, and market forces become increasingly privatized, this will inadvertently reduce access to services for the youngest children, birth to 3 year olds, as systems scale up to serve 4 year olds.

In contrast, through a proactive approach SPPS decision makers can position the district as a primary hub in a network that delivers early childhood services to neighborhoods across the city. This would result in a comprehensive caregiver network that ensures quality, oversight, alignment to K-12 learning outcomes and efficient use of resources that Saint Paul families and children would benefit from for generations to come.



Early Childhood Education: Data Analysis Report

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