



AUGENBLICK,
PALAICH AND
ASSOCIATES

WEST LAFAYETTE EARLY CHILDCARE GAP ANALYSIS

PREPARED FOR
CITY OF WEST LAFAYETTE
REDEVELOPMENT COMMISSION



By APA Consulting
Robert Reichardt, Dale DeCesare, Noah Fortson,
Christien Laible, Brianna Sailor, and Michaela Tonking

July 10, 2024

Forward and Acknowledgements

Forward by Mayor Erin R. Easter

As the Mayor of West Lafayette, I am proud to lead an unwavering city dedicated to quality education. From early childhood education to advanced degrees, a steady investment in education is not just an investment in our workforce today but a promise for a brighter, more promising future for our community.

The West Lafayette Early Childhood Education Study was initiated by the Redevelopment Commission and then driven by a team of partners to ensure that we had the correct voices at the table and were asking the right questions for our community. Dr. Shawn Greiner, Superintendent of the West Lafayette Community School Corporation, and Dr. Scott Hanback, Superintendent of the Tippecanoe School Corporation, and their respective teams gave their time generously as we scoped out this project, selected a firm, shared data and stories, and then navigated communication with families across the community. Thank you for your cooperation and partnership on this project.

As the development of this project expanded in scope and understanding, it was prudent to ensure that our wider community members who are already doing work in this space were at the table and that considerations were levied for projects already underway or completed. Previous projects helped shape our understanding and create the narrative for our community's needs. Assessments such as the state's [birth to age five mixed delivery assessment](#) were instrumental in grounding us where we needed to start and give a holistic picture of our state's needs. To put it simply, we are not alone in this.

Additional acknowledgments include Dr. David Purpura, Director of the Center for Early Learning at Purdue University, whose wealth of knowledge was invaluable. To the Early Childhood Education Care and Employer Coalition - wow - thank you for convening a group of invested individuals from corporations, colleges and universities, providers, and community leaders to advance the topic of direct employer contribution to early childhood education. For more information on this coalition, please feel free to reach out. My team and I would be happy to make an introduction to this group.

Lastly, APA Consulting has been a partner throughout this entire process. From countless interviews to tireless research, your outside expertise will help guide us in this next phase. Thank you.

Acknowledgements

Thank you very much to those who supported this study by providing data and information for this project. This includes the parents, community members and providers that participated in our survey, interviews and focus groups as well as West Lafayette and Tippecanoe School Corporations.

Executive Summary

This study is intended to support the City of West Lafayette Redevelopment Commission as it responds to shortages in childcare or early childhood education (ECE) services¹. It examines the West Lafayette Region, which includes the city of West Lafayette and parts of Tippecanoe County identified by school boundaries for Klondike, Burnett Creek, and Battleground elementaries. This study was done before the plans were finalized for the SK Hynix advanced packaging fabrication and research and development (R&D) facility for AI products in the Purdue Research Park.

Existing literature shows **multiple benefits to students and communities from high quality ECE** programs. This includes positive ROI for students as well as for communities. There are two primary barriers to equitable high-quality early learning in Indiana, which match trends in other parts of the U.S.: the cost of ECE and access to high-quality programs. Additionally, incomplete data is an obstacle to accurately understanding the existing inequities and determining potential solutions.

Feedback from community members and existing data indicate that the **current ECE system in the West Lafayette area is vibrant with high quality options**. Stakeholders were very positive about the level of **cooperation between community institutions** as they work together to address challenges within the ECE system.

This area has an **unmet need for childcare services**, particularly for infants. When selecting an ECE center, parents are looking for high quality options. This shortage is felt more acutely to the north and west of the City of West Lafayette, where there are higher numbers of children ages 0 to 5 years old. Conservatively, there is **a shortage of between 75 and 125 ECE slots**. Additionally, this estimate of unmet need does not consider future developments in the West Lafayette regions including the new SK Hynix advanced packaging fabrication and research and development (R&D) facility for AI products in the Purdue Research Park.

¹ In this report the terms childcare and ECE are used interchangeably.

ECE providers described a **challenging business environment**. They reported the largest barrier to expansion is the **lack of ECE workers who are willing to work at the current wage levels**. A key challenge is keeping the cost to families low so that they can afford childcare, while also being able to pay competitive wages to attract and retain more ECE workers. This is a particular challenge for infant care because it requires a smaller child-to-adult ratio, which increases costs. Additional subsidies may be required to support growth in the ECE system without pricing families out of the childcare market.

Potential locations for a new ECE facility in the West Lafayette area were considered based on community feedback and evaluated based on where the need was identified within the community.

To support planning, APA created an interactive cost model that allows planners to calculate the costs of building and operating different size ECE centers. The model describes how **operating costs are highly driven by staffing ratios**, which is why providing infant care is challenging. It also describes the added costs associated with providing after-hours and weekend care.

This is both an exciting and challenging time for the West Lafayette Area childcare community. There are clear gaps in meeting the need for childcare, and these challenges will only heighten as the regional economy is set to grow with the new chip fabrication and R&D facility. This new plant will require cultivation of a highly skilled workforce in a nationally tight labor market. As a result, multiple community institutions are working to address these ECE challenges. Each can play an important role in supporting the ECE workforce, providing access to ECE buildings and facilities, and providing ECE tuition support for families. Together, stakeholders from the private, public, and non-profit sectors have the opportunity and capacity to scale ECE capacity in West Lafayette to support the needs of both existing and future residents.

Table of Contents

- Forward and Acknowledgements i
- Executive Summary.....iii
- Table of Contentsv
- Introduction 1
- Chapter 1. Review of Effective Processes 5
 - Introduction..... 5
 - ECE in the United States: National Policies and Best Practices 8
 - Review of ECE systems in Indiana and Tippecanoe County..... 10
 - Paths to Quality..... 11
 - Program Access: On My Way Pre-K 12
 - Tippecanoe County ECE Enrollment..... 12
 - Conclusions..... 13
- Chapter 2: Gap Analysis and Community Assessment 14
 - Unmet Need 14
 - Current ECE System..... 18
 - System Weaknesses and Barriers for Expansion 23
- Chapter 3: Site Analysis..... 26
- Chapter 4. Cost Model 31
 - Why is there a West Lafayette ECE Cost Model..... 31
 - Creation of the Cost Model..... 32

Sample Scenario 33

How to use the Model..... 35

Chapter 5. Conclusions 41

References 42



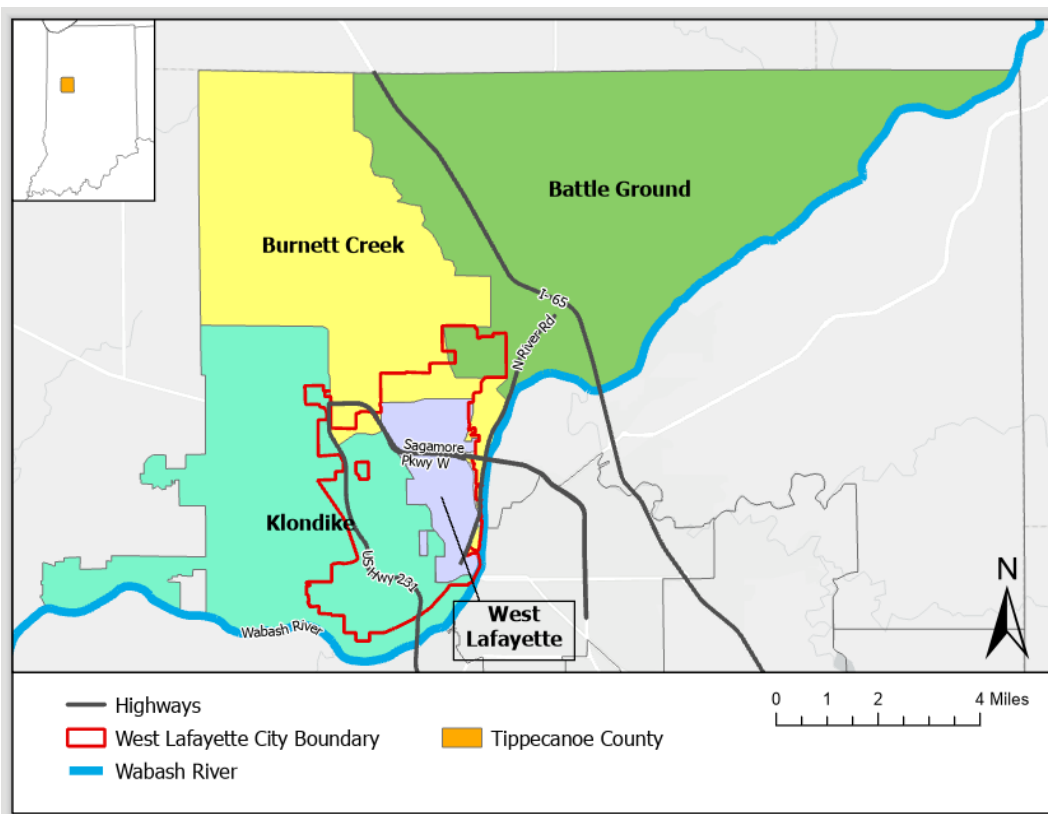
Introduction

In late 2023, the City of West Lafayette Redevelopment Commission contracted with APA Consulting to conduct an early childhood education (ECE) gap analysis. This research project had several sections:

1. A review of the effective policies and practices,
2. Gap analysis and community needs assessment with a description of current slots, unmet slots, and costs to meet that need,
3. Site analysis using GIS, and
4. Cost model.

This study was conducted in cooperation with the West Lafayette School and Tippecanoe County School Corporations. A key support provided by the school corporations was the distribution of a survey to parents of students attending several elementary schools in the greater West Lafayette region. The schools surveyed were West Lafayette, Klondike, Burnette Creek, and Battleground Elementaries. The regions served by these schools encompass the West Lafayette Area, as shown in the map in Figure 1.

Figure 1: Greater West Lafayette Region That Was the Focus of This Study

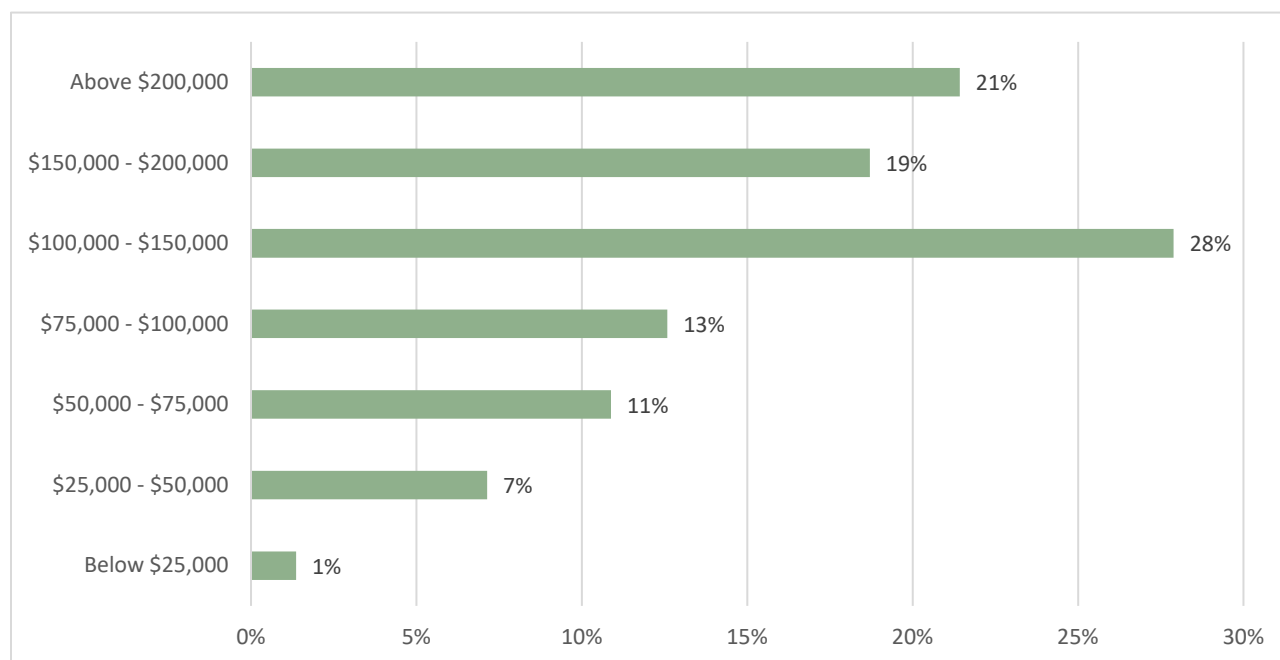


Source: Tippecanoe County Area Planning Commission

The parent survey had just under 500 respondents who provided information for this study. The final sections of the survey had questions about respondent income and demographics. As shown in Figure 2, the income level with the most respondents was between \$100,000 and \$150,000, which is consistent with the Census-reported average for families (\$101,331) and married couple families (\$117,050) living in the City of West Lafayette.²

² Downloaded on June 1, 2024 from:
https://data.census.gov/profile/West_Lafayette_city,_Indiana?g=160XX00US1882862

Figure 2: Annual Household Income of Families that Participated in the Parent Survey



Source: APA Parent Survey

An important part of the project was collecting community input on the status of ECE education in the West Lafayette area. APA staff conducted 22 interviews with 19 community leaders and three childcare providers. Participants reflect a range of perspectives, including non-profit leaders, business community members, school district central office staff, Purdue researchers, civil servants, and elected officials. Seventeen interviews were conducted virtually over Zoom, and five interviews were conducted in person in West Lafayette. Each interview lasted between 30 and 60 minutes. Interviews were conducted using a structured protocol where information was gathered on questions about each person's background, connection to ECE, their understanding of the ECE landscape in West Lafayette and Tippecanoe County, and their perception of strengths and challenges within the ECE realm.

After the study was commissioned, the West Lafayette region received important news with the planned investment of \$4 billion by SK Hynix to build an advanced packaging fabrication and research and development (R&D) facility for AI products in the Purdue Research Park. This plant is expected to begin production in 2028 and to create 800 high-paying jobs by 2030 with the potential for more jobs at the plant. The addition of new high-paying jobs at SK Hynix will

also result in a growth in supporting service jobs as new families move into the region. This study lays the groundwork for the region's response to these important and exciting changes. However, population forecasts are not available to allow inclusion of predicting the demand for childcare after the arrival of the SK Hynix factory and new workers into the region.



Chapter 1. Review of Effective Processes

Introduction

High-quality early childhood education (ECE) has been identified as a tool for closing the opportunity gap for low-income students and leveling the playing field amongst higher-income peers. Furthermore, effective ECE programs have been shown not only to prepare students for Kindergarten, but also to equip students with foundational knowledge and skills for success throughout their K-12 educational journey. In addition to these positive impacts on students, families of young children also seek to benefit from comprehensive ECE programs. Working parents need reliable care for their children before their children are old enough to attend public school, especially as more mothers are entering the workforce. Over 60% of mothers with children under the age of 6 were in the labor force in 2015 compared to roughly one-third in 1975 (Bassok & Engel, 2019). Accessible, affordable, and systematized high-caliber ECE is a promising tool for improving the quality of life for children and adults alike.

One way to measure the positive impact of ECE programs is using a return-on-investment measure or ROI. Figure 3 below synthesizes ROI findings from ECE investments from a sample of research over the past 15 years. ROI takes the predicted improvements in student and

community outcomes from investments in ECE and converts them to financial amounts. It allows stakeholders to evaluate whether investments in ECE are predicted to pay for themselves. The numbers in Figure 3 are all based on \$1 invested and show the return is greater than \$1; in other words investing in ECE provides a net benefit to both children and their communities. Earnings ROI refers to the specific return on investment solely based on participant earnings. Total ROI includes the earnings of participants and broader societal benefits, such as decreased costs related to reduced rates of grade-level retention, special education services, welfare payments, and crime.

Figure 3: ROI from ECE Investments

Name of ECE Study/Location	Earnings ROI	Total ROI	Study Details	Authors & Year
Tulsa Full Day	\$3 - \$4	N/A	ROI is a projection based on test score data from universal Pre-K in Tulsa, OK; Researchers estimate that the total ROI is even higher, 3% discount rate	Bartik, et al. (2012)
Early Childhood Education and Assistance Program (ECEAP)- WA	N/A	\$3.15	ROI is an estimated value based on universal ECE programs; Study also found that there is a 78% chance that benefits will exceed costs (this is higher for low-income specific programs)	WA State Institute for Public Policy (2019)
OK & GA Preschools	\$3 - \$7	N/A	Programs increased preschool enrollment for children across the family income spectrum; utilized 4 th and 8 th grade test scores to predict ROI, 3.4% discount rate	Cascio and Schanzenback (2013)
Abecedarian Project- NC	N/A	\$2.50	Full-day year-round program was limited to 104 random low-income youth; Program included “well-designed curriculum” and high staff salaries, 3% discount rate	Barnett and Masse (2007)
Chicago Child-Parent Center (CPC)	N/A	\$7 - \$10	Multi-site, federally funded initiative targeted to low-income youth; Program included “instructional focus on literacy” and significant emphasis on family involvement, 3% discount rate;	Reynolds, et al. (2011)
Perry Preschool-MI	N/A	\$7 - \$12	Program targeted low-income Black youth in Ypsilanti, MI; Longitudinal study follows participants until age 40, 3% discount rate;	Heckman, et al. (2010)

Source: APA Literature Summary. Earnings ROI refers to the specific return on investment solely based on participant earnings. Total ROI includes the earnings of participants and broader societal benefits, such as decreased costs related to reduced rates of grade-level retention, special education services, welfare payments, and crime. ROI is based on \$1 invested.

These studies all find sizeable returns on investment in ECE for communities, families, or both, depending on the design of the study. Figure 4 summarizes results from literature reviews and meta-analysis that provide information on benefits and guidance for ECE programs.

Figure 4: Summary of Literature Reviews on ECE Benefits

Study/Report Name	Total ROI	Context & Findings	Authors
Impacts of ECE on Medium- and Long-Term Educational Outcomes	N/A	Participants were less likely to be placed in Special Ed, less likely to be retained, and more likely to graduate high school. Meta-Analysis of 22 HQ ECE studies from 1960-2016;	McCoy, et al. (2017)
ECE to Promote Health Equity: A Community Guide Economic Review	\$4.19	Participants were more likely to graduate high school, had higher future earnings, and were less likely to rely on social services	Ramon, et al. (2018)
Early Childhood Interventions: Proven Results, Future Promise	N/A	The report included both “parent education” and ECE programs; includes a table showing which outcomes were measured for each study; finds that the largest benefit-cost ratios from programs with long-term follow-up and those that serve disadvantaged youth.	Karoly, Kilburn, & Cannon (2005)

Source: APA Literature Summary Total ROI includes the earnings of participants and broader societal benefits, such as decreased costs related to reduced rates of grade-level retention, special education services, welfare payments, and crime. ROI is based on \$1 invested.

The remainder of this chapter synthesizes the results and important takeaways in ECE research literature.

ECE in the United States: National Policies and Best Practices

There is a tremendous variation in ECE type, cost, quality, and access (Bassok & Engel, 2019; Cascio, 2021; Gray-Lobe et. al, 2023). Before the onset of the COVID-19 pandemic, approximately one-third of all children ages 0-6, who were not in Kindergarten, were enrolled in some form of ECE (Snyder et. al, 2018). In 2019, Bassok and Engel reported that 43 out of 50 states offered at least some state-funded early childhood educational programming for kids aged 3 to 4.

State-funded ECE programs vary by funding amounts, staffing ratio requirements, and the families and students targeted for support. The primary modes of delivering public ECE include public school Pre-K and Pre-K housed in community-based organizations (CBOs). This combination is commonly referred to as a "mixed-delivery" approach (Weiland et. al, 2022). A clear challenge within the system is ensuring that children from low-income families are able to access quality childcare (Weiland et. al, 2022).

In addition to access and quality, another major concern in ECE systems is affordability. Families in the lowest income bracket that spend money on childcare contribute almost 30% of their total household income to childcare (Hotz & Wiswall, 2019). This is a stark contrast to high-income households that spend closer to 7% on childcare (Hotz & Wiswall, 2019). Currently, the largest federal source of support for childcare in low-income families is the Child Care Development Fund (CCDF) which goes directly to eligible families and can be used to finance the cost of childcare in the form of vouchers that are administered by states (Hotz & Wiswall, 2019). Two existing tax benefits are aimed at supporting all families, but typically favor middle and high-income earners: the Child and Dependent Care Tax Credit (CDCTC) and dependent care flexible spending accounts (FSAs). Two vital factors of the effectiveness of childcare subsidies are whether families can access and use the subsidies and the quality of care being subsidized. As Hotz and Wiswall point out, just because a government subsidy is offered doesn't mean it will be accepted by all ECE providers and does not inherently mean that it will lead to better quality care on its own (2019).

Developing and implementing solutions to increase the quality of early childhood education requires collaboration with key stakeholders, namely educators, leaders, and families. Bassok and Engel focus on three different aspects of ECE programming that can improve quality: professional development, curriculum, and family engagement. The first concern is the lack of high-quality professional development that many ECE educators currently receive. This can be rectified by regulating the quality of ECE professional development providers and "providing more support to ECE program leaders to help them facilitate staff development" (Bassok & Engel, 2019). Weiland and colleagues contend that training staff on implementing high-quality curricula with fidelity would lead to better ECE instruction (2018).

Head Start is an important part of the ECE equation, especially when it comes to access and affordability. Head Start, which is a federal program that provides ECE and wraparound services including health and family well-being, now serves over 800,000 children, primarily 3–4-year-olds from low-income households (Hotz & Wiswall, 2019). Head Start has been widely studied

and found to have varying effects on student outcomes depending on the context and research design. Notably, Head Start has been shown to have impact on the overall childcare system leading to positive changes for both families that participate in Head Start and families that do not participate in Head Start (Mooris et al, 2018). The researchers also conclude that “Head Start provides the strongest benefits for [Dual Language Learner]s and children with low levels of baseline English proficiency, which is in line with its mission of cultural and linguistic sensitivity and may reflect Head Start’s strengths in helping dual language learner children to build their English language skills over the Head Start year” (2018).

Lastly, another potential policy avenue to improve ECE quality is state regulations, though these can have unintended effects without other simultaneous policy supports. In a 2011 study, Hotz and Xiao conclude that increased regulations will decrease the quantity of ECE centers but simultaneously increase the quality of services provided, most notably in higher-income areas. Hotz and Wiswall recommend “expand[ing] and sustain[ing] support for the development of state and local Quality Rating and Improvement Systems (QRIS) such as Indiana’s Paths To Quality to provide better information to parents on the quality of childcare options and to better educate parents on its importance” (2019). The addition and improvement of measures of program quality, such as multiple “process qualities” to the QRIS would be beneficial to Indiana’s QRIS system (Schmidt et al, n.d.). Process qualities are a measure of processes and interactions, such as student-teacher interactions and overall classroom environment. Sabol et al. found that “process quality” is a better indicator of overall program quality than “structural quality”, or measuring the features and characteristics of a program such as space, routines and other policy regulated indicators which are what is typically measured in QRIS system (2013). Currently, most states with QRIS, measure structural factors such as teacher-student ratios and staff certification/education (Hotz & Wiswall, 2019). The primary challenge to assessing and collecting data on process quality is the labor-intensive nature and human capital required for site visits and observations.

Review of ECE systems in Indiana and Tippecanoe County

The second body of research that this literature review utilizes is primarily from Indiana’s Family & Social Services Administration (FSSA)’s “Preparing for the Future: Indiana’s Preschool Development Grant – Indiana’s Birth to Age Five Mixed Delivery System Needs Assessment” report (hereafter referred to as “Preparing for the Future”). This study, which was conducted by researchers from Purdue University in partnership with public and non-profit organizations, highlighted the existing state of Indiana’s early childhood education landscape.

The study presented gaps as well as solutions and grouped findings into two major categories:

1. ECE program quality and access
2. ECE data quality and information

Most data in this study was presented at the county level, however, it is worth contextualizing this with several statistics on state-wide data. In 2019, only 1 in 4 Hoosier children under age five were enrolled in some form of childcare or early education (pg. 4). This is noticeably lower than the national average of one-third discussed above. Furthermore, 1 in 4 children in Indiana ages 0-5 live below 100% of the Federal Poverty Line (pg. 8). Considering family characteristics, such as socioeconomic status, is essential to understanding the challenges that young children and their families face in accessing high-quality ECE.

Paths to Quality

Indiana utilizes the Paths to Quality (PTQ) rating system to measure and track ECE program quality. ECE providers are not required to participate in PTQ; however, participation is encouraged and incentivized. PTQ is a free resource for families and guardians, and it is free for childcare providers to register their business. According to the Preparing for the Future study, approximately 60% of all ECE programs in the state participate in PTQ (pg. 71). Paths to Quality is divided into four different levels or standards of care:

- Level 1: Health & Safety
- Level 2: Learning Environments
- Level 3: Planned Curriculum
- Level 4: National Accreditation ³



³ <https://www.in.gov/fssa/pathstoquality/info-for-families/levels-of-quality/>

ECE programs rated Level 3 or Level 4 are considered “High Quality.” However, only 47% of all Hoosier children enrolled in ECE programs are enrolled in programs considered “high quality” (pg. 4). There is some dissent on the validity of PTQ in terms of measuring student success and it is not clear that higher PTQ levels necessarily lead to improved student outcomes. According to the study, the current evidence is “weak” that accreditation should be the ultimate goal of ECE providers. This matches what Sabol and colleagues found with process quality having a greater relationship to improved student outcomes than structural quality.

Program Access: On My Way Pre-K

Indiana developed the On My Way Preschool (OMW) program to expand access to high-quality preschool for students from low-income households (pg. 4). OMW Pre-Ks must be PTQ level 3 or 4 (pg. 90). The average cost of for year-round Pre-K was \$5,158 for half day and \$9,158 for full day in 2019. However, vouchers for OMW only cover a total of \$2,500 for half day and \$6,800 for full day (pg. 104). This represents a gap of \$2,658 for half day and \$2,358 for full day.

Data Concerns

The Preparing for the Future study revealed several concerns with the content and quality of Indiana state-wide ECE data. First, researchers discovered that there is no way to confirm if enrollment counts include duplicated numbers of children being served at multiple ECE programs since students don’t have unique identifiers. It was believed that some children are serviced by multiple programs, thus leading to an ‘overcount’ of enrolled youth. Second, there is limited/incomplete data on exempt and unregulated ECE providers: there is no centralized source of data for providers that are not registered with the state. Third, there is no reliable data on the total available ECE slots by age. Last, there is no data on which families choose not to participate in the ECE system and how they made this choice. Gaps in this information make it challenging to capture the full scope of ECE services and demands in Indiana.

Tippecanoe County ECE Enrollment

In 2019, Tippecanoe County had the following breakdown of ECCE enrollment in decreasing order (pg. 18): 1,428 students attending Child Care Centers, 912 students attending Ministries, 603 students attending school-based Preschool programs, 541 students attending Family Childcare, and 252 students attending Head Start. In total, this represents 26.93% of 0-5 year-old population enrolled in ECCE programming of all levels and certification statuses in Tippecanoe County (pg. 16). Tippecanoe County had 25.3% of children ages 0-5 living in poverty in 2019 (pg. 40), which closely mirrors the state average, but only 18.46% of these children

received funded care (pg. 41). However, this number jumps to 40.62% of pre-school age children in poverty receiving funded care (pg. 42). One positive takeaway is that Tippecanoe County children in poverty are more likely to be enrolled in high-quality childcare than the general county population: 13.6% of the total 0–5-year-olds in Tippecanoe County were enrolled in high-quality childcare, but 21% of children in poverty received high-quality care (pgs. 80-81). In 2019, Tippecanoe County had 45 high-quality programs (Level 3 or 4) (pg. 75).

Meeting the needs of all learners is essential in forming an early childhood education system. Considering the unique opportunity of serving students with special needs is imperative. In 2019, 7.83% of 3–5-year-old children in Tippecanoe County were enrolled in Special Education (pg. 57). More research is needed to know if these student counts match the true need to ensure the county is fully taking advantage of federal Title I funds.

Conclusions

In short, there are two primary barriers to equitable, high-quality early learning in Indiana, which match trends in other parts of the U.S.: 1) the cost of ECE and 2) access to high-quality programs. Additionally, incomplete data is an obstacle to accurately understanding the existing inequities and determining potential solutions. More work is needed to improve access to existing high-quality programs and to improve the efficacy of early learning centers that are not high quality. Finally, there is a need for a research-backed definition and framework for what constitutes “high quality”.



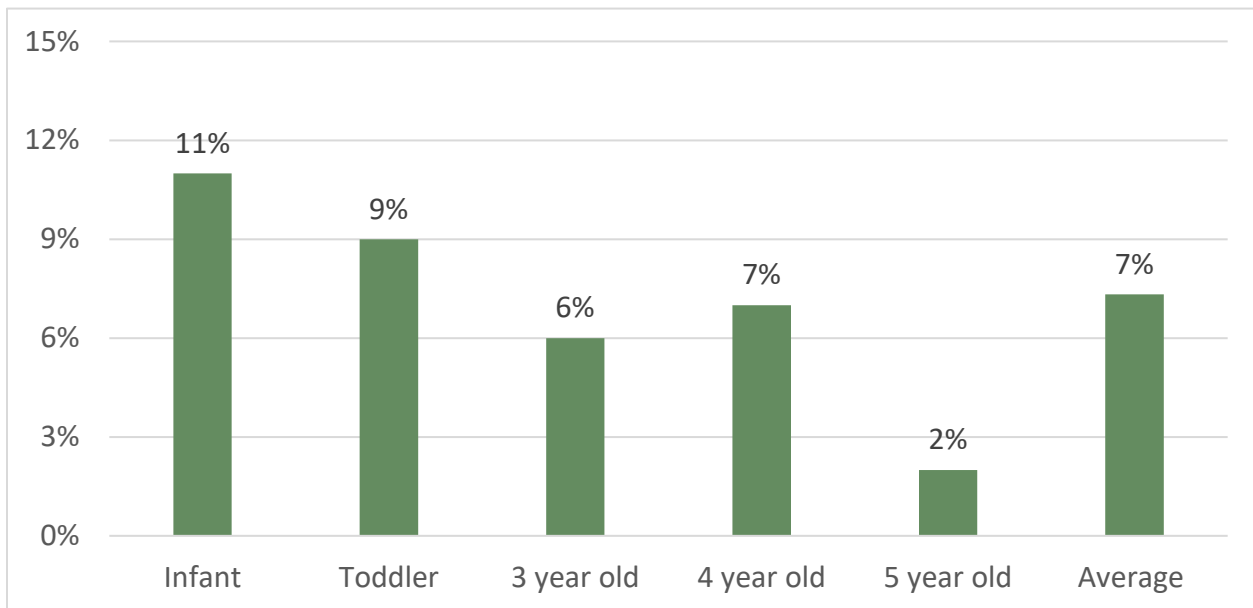
Chapter 2: Gap Analysis and Community Assessment

This section of the report will discuss the unmet demand for childcare and describe the challenges and strengths of the current ECE system in the West Lafayette region.

Unmet Need

The West Lafayette region currently has an unmet need for ECE education. A survey completed by 497 public school parents in the region indicates on average, 7% of families could not access care, as displayed in Figure 5 below. Access to childcare challenges are higher for families with younger children, with infant care being the most challenging for families to access.

Figure 5: Percentage of Parents Reporting being Unable to Access Childcare by Child's Age



Source: APA Parent Survey

Taken together, between 2% and 11% of families in the West Lafayette region that want to access childcare are unable to access childcare services.

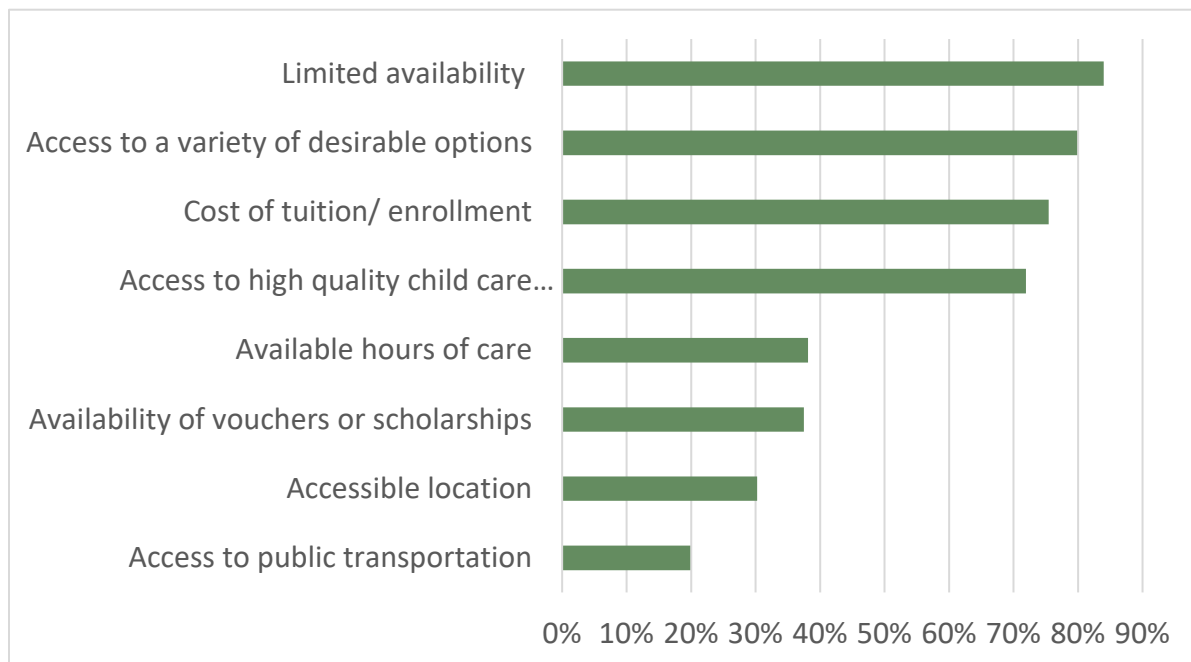
Community leaders also reported that the current demand for childcare outpaces the supply of available seats. Access to childcare is particularly limited at the highest quality levels (centers with a PTQ Level 4), and the gap in supply and demand is larger for families of infants and children with disabilities. Community leaders attribute the steep shortage in infant care openings to higher cost of providing infant care due to smaller child-to-staff ratios and lower caps on the maximum number of children that can be serviced in a single classroom. Access to infant/toddler care is further constrained by the tuition-based funding model of ECE, which incentivizes providers to operate more classrooms for older children to compensate for higher staffing costs in infant/toddler care.

Parents identified four main sources of challenges they face accessing childcare:

- Limited availability of childcare
- Access to a variety of desirable options
- Cost of tuition
- Access to high quality options

These top challenges identified in the survey all revolve around the lack of childcare options and the cost of enrollment. These challenges ranked higher than issues around location, transportation, availability of vouchers, and hours of operation. Figure 6 shows the list of possible challenges and the percentage of respondents who described each as either “challenging” or “Very challenging” when accessing care for an infant. The relative ranking of challenges did not differ significantly for parents accessing care for different-aged children is. There is a clear differentiation between the top four challenges and the remaining four.

Figure 6. Sources of Challenges Accessing Infant Childcare



Source: APA Parent Survey

Community leaders identified several underserved populations in the current ECE system including:

1. Low-income, transient families
2. Rural communities in Tippecanoe County
3. Lower to middle-income families at the cutoff for On My Way Pre-K vouchers
4. Families in which parent(s) work non-traditional hours

One leader also identified “Child Care Deserts” in the counties surrounding Tippecanoe County. These are areas with high commuter populations and insufficient childcare options.

Coordinating drop-off and pick-up times with work hours and travel time can also be a barrier for these families.

Estimating the Number of ECE Slots Needed in the West Lafayette Area

Data on unmet demand was combined with data on the underlying population of children ages 0 to 5 years old to estimate the gap in open slots within the West Lafayette region, as shown in Figure 7 below. The estimated number of slots needed to meet the West Lafayette region’s demand for childcare is between 75 and 125 slots. This gap equates to the addition of one additional childcare center within the region, which would need to include a significant number of infant slots.

Figure 7: Unmet Demand for Childcare in the West Lafayette Region

Estimate Method	Current Demand	High Demand
Kindergarten enrollment	65	95
Birth rates	74	109
Current Capacity	95	140

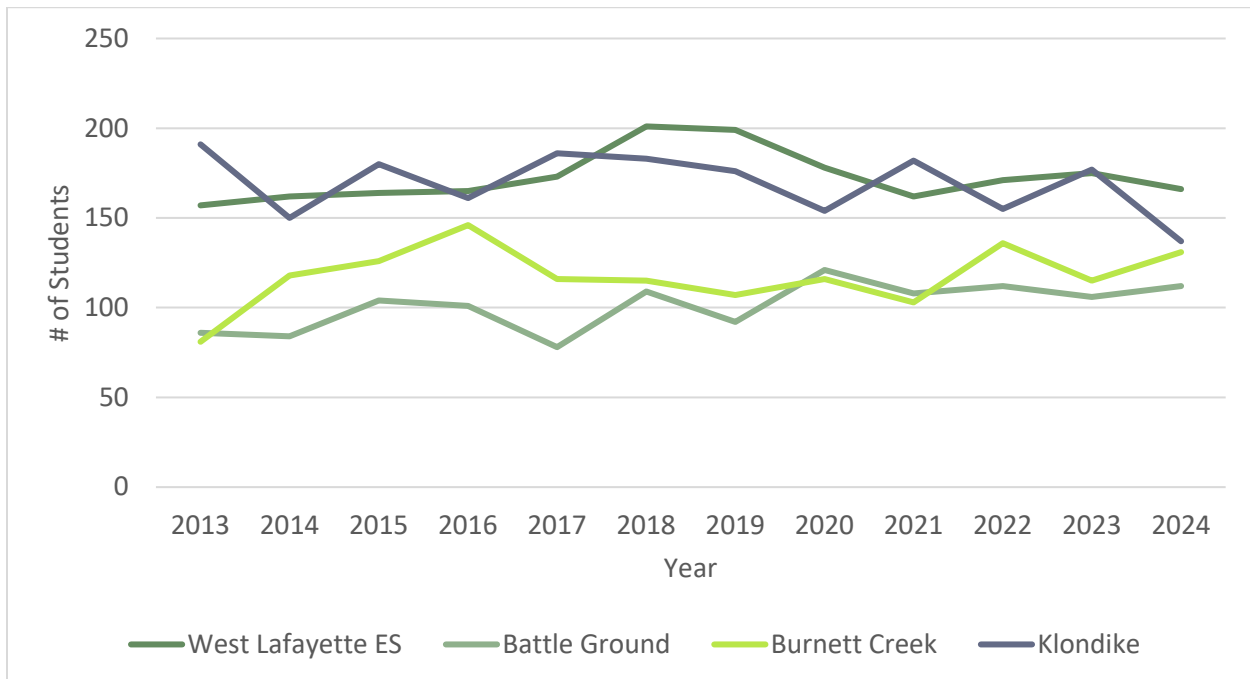
Source: APA ECE Demand Model

Figure 7 is a conservative calculation that only represents the West Lafayette Region currently. It does not reflect future demand as more families move into the area to support the new SK Hynix fabrication and R&D facility for AI products in the Purdue Research Park.

The three different estimate methods used three different sources of base population: kindergarten enrollment, birth rates and current capacity. This base-population number is multiplied by the percentage of families that want access to childcare, which in this study

estimated as between 30% and 40% of families based on the FSSA “Preparing for the Future” report. This estimate of family demand for childcare is conservative and is the primary difference between this estimate and other estimates is the unmet demand component.

It is important to note that kindergarten enrollment data suggests demand for childcare has not increased over the past several years. As can be seen in Figure 8 below, the kindergarten enrollment has been flat in the public schools serving the West Lafayette Region. Other data, such as birth rates and population figures estimated for the 0- to 5-year-old population support the conclusion that demand for childcare has been flat over the past few years.

Figure 8: Recent Kindergarten Enrollment in the West Lafayette Region

Source: West Lafayette and Tippecanoe County School Corporations

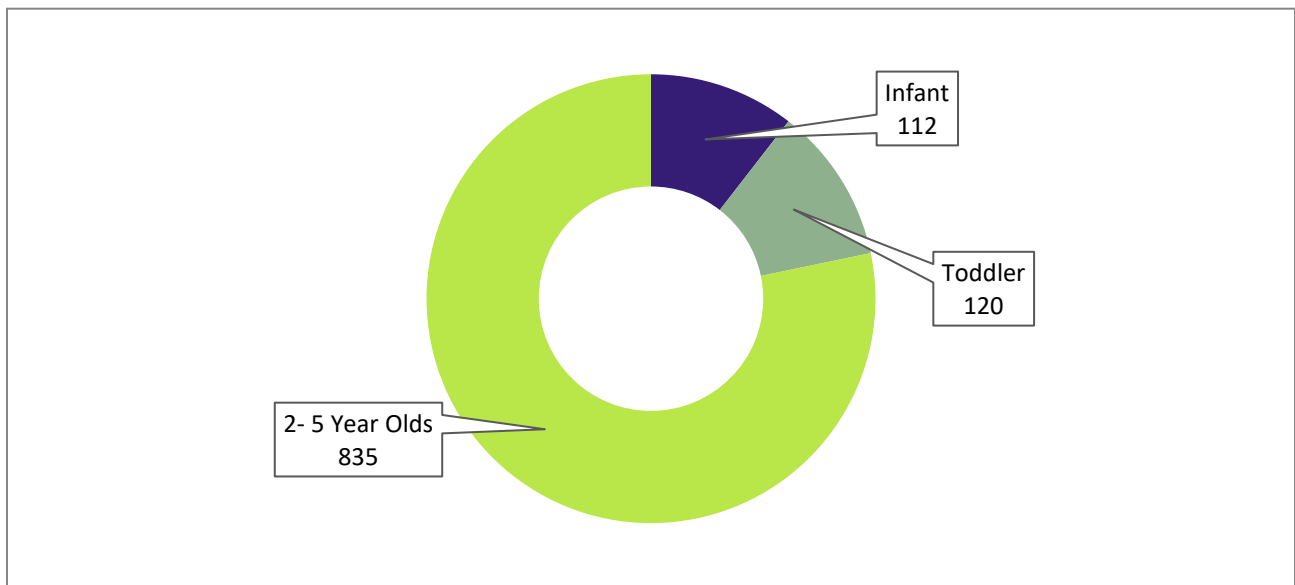
Community leaders anticipate that the demand for childcare will continue to outpace the supply of seats. While birthrates have remained relatively flat over the past few years, ECE leaders believe new economic development will bring more families to the West Lafayette region in the near future. All leaders agree that the current ECE system is ill-equipped to accommodate a potential influx of new families. Leaders project that even a marginal increase in the number of families pursuing childcare, particularly high-quality care, would increase the current shortage. However, some leaders hypothesized that the strain on the system might be minimal if new employers are required (or decide) to provide childcare for their employees, in which case the current shortage would neither improve nor decline. In either case, leaders believe that more action is necessary to scale the current ECE system to meet the needs of families. Respondents from the community believe that the responsibility to reform the current ECE system requires an alignment of vision and resources between local municipalities, business leaders, community organizations, and the state legislature.

Current ECE System

This shortage exists within a vibrant early childhood system that already has many providers. Figure 9 shows the childcare number of licensed or registered slots in the greater West Lafayette region. This figure uses information on Licensed Centers, Licensed Home Providers

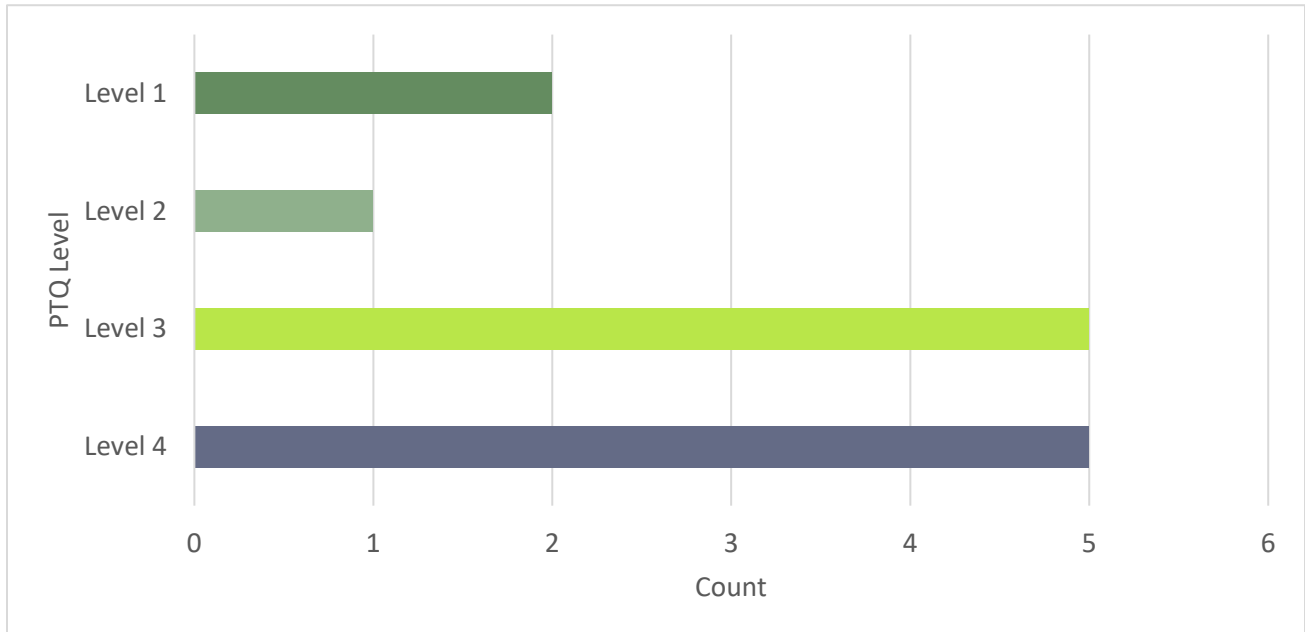
and Unlicensed Registered Ministry providers from the Indiana Family and Social Services Administration (FSSA)- Child Care Finder. Over 1,000 ECE licensed or registered slots are in the West Lafayette region. The majority of these slots are for children between the ages of 2 and 5 years old. However, it is important to note that FSSA does not have information on all providers. Additional unlicensed providers including family, friend, and neighbor (FFN) also provide care in the region.

Figure 9: West Lafayette Region Registered and Licensed Child Care Capacity



Source: Indiana Family and Social Services Administration (FSSA)- Child Care Finder

Community leaders identified three core strengths of the current ECE system. First, ECE centers in West Lafayette rank on the higher tier of quality as measured by PTQ ratings. Leaders attributed this to higher demand for quality care in West Lafayette where family income is relatively high compared to other parts of the state. Figure 10 shows quality ratings for PTQ participating providers.

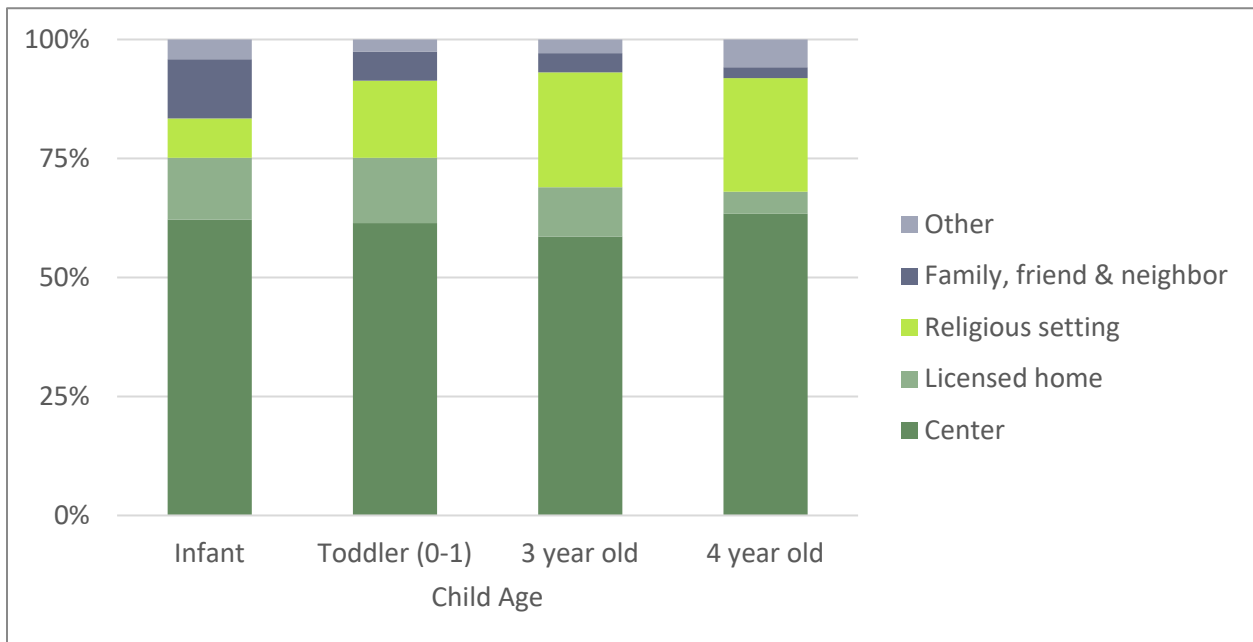
Figure 10 PTQ Ratings for West Lafayette Region providers

Source: Indiana Family and Social Services Administration (FSSA)- Child Care Finder

Community leaders also cited collaboration among various stakeholders as a strength of the current ECE system. Leaders described an enthusiasm around improving access to quality childcare from a wide range of actors. Examples included Indiana Governor Eric Holcomb’s 2024 Next Level Agenda prioritizing the early childhood workforce, ECE research and training at Purdue University’s Center for Early Learning, and funding and advocacy provided by local organizations such as United Way, Right Steps, Lilly Endowment, Child Care Resource and Referral Network, Greater Lafayette Commerce, and Henriott Group.

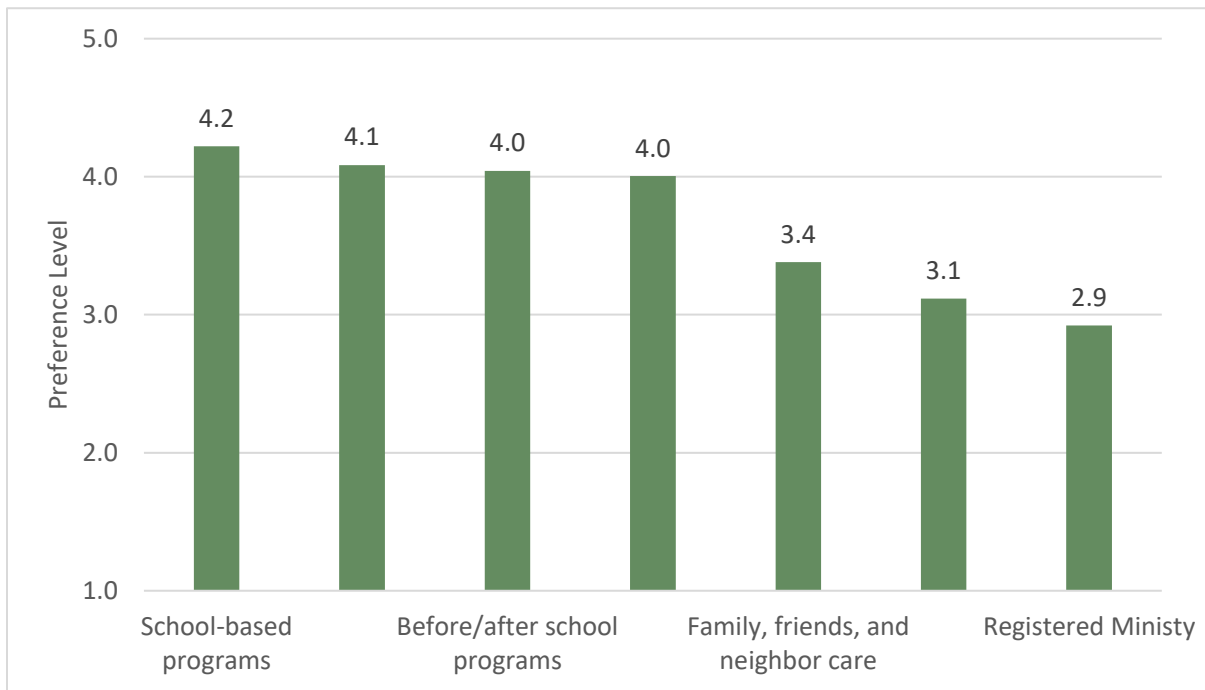
Last, community leaders commonly cited Purdue’s presence and resources as an asset to the region’s ECE system. Leaders discussed Purdue’s influence on the ECE system as an arm for research and investment, a training ground for ECE professionals, and a childcare provider operating three ECE centers for its students and employees.

Figure 11 shows that parents reported using a wide variety of childcare providers. The type of provider a parent selects varies depending on the age of the child. Fifty-nine to sixty-three percent of families use childcare centers. There are differences in usage depending on the age of the child. The proportion of parents using FFN providers is highest with infants at 12% and declines to 2% for parents of 4-year-olds. At the same time the proportion of families using religious settings increases as children age from 8% for infants to 24% for 4-year-olds.

Figure 11: Provider Use by Age

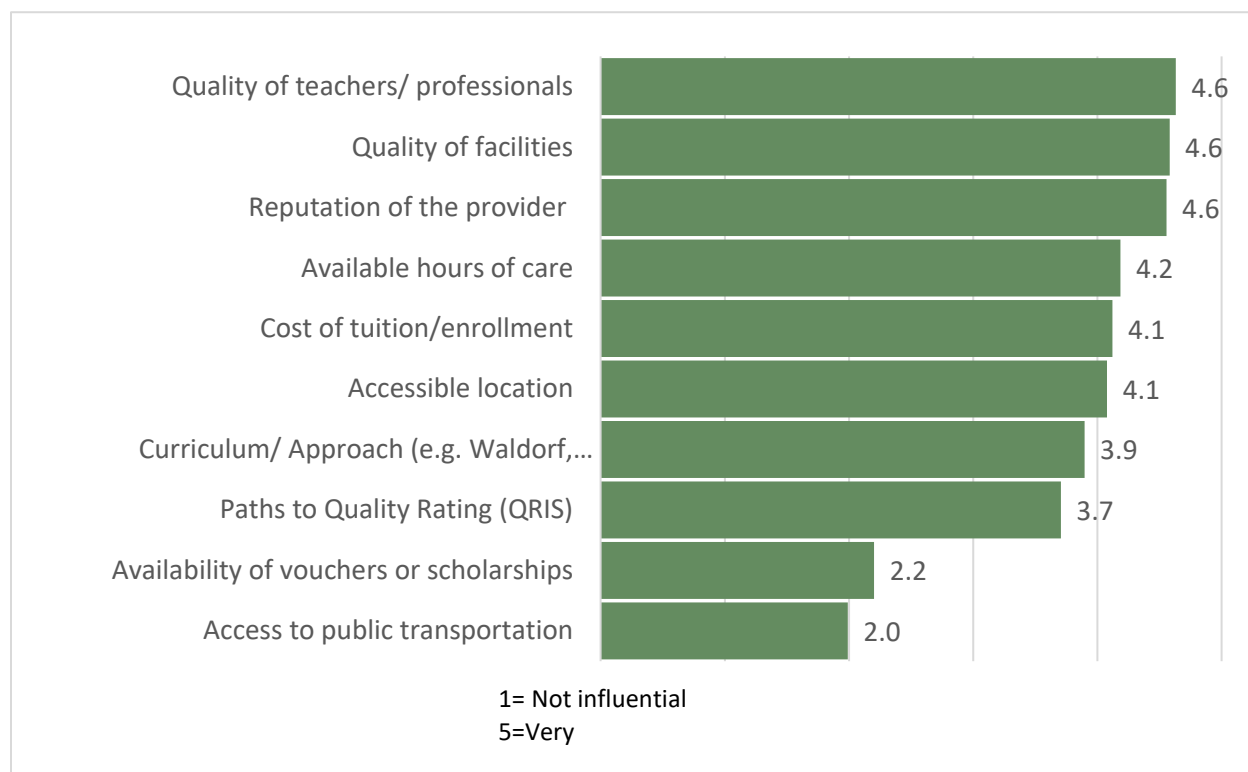
Source: APA Parent Survey

Community leaders also report a greater demand for center-based childcare than other providers. One leader claimed that parents often enroll their children in home-based programs because they are more affordable, but not preferable. This sentiment aligns with parent survey data that shows respondents, on average, prefer their child to attend a licensed center rather than a licensed home. Survey data also shows that home-based providers are used more frequently at younger age levels where the shortage in supply is largest.

Figure 12: Provider Preferences

Source: APA Parent Survey

Usage of providers generally reflects parental preferences for providers, as shown in Figure 12. Parents were asked to rate types of providers on a 1 to 5 scale, with “Strongly Opposed” rated as a 1 and “Strongly Preferred” rated as a 5. The top four preferred providers are school-based programs, center-based programs, before/after school programs, and private or public schools. The less preferred providers are FFN, licensed homes, and registered ministries.

Figure 13: Influential Factors in Provider Selection

Source: APA Parent Survey

Parents also described in our survey the factors they use in selecting childcare providers in Figure 13 above. The top factors are all related to quality: quality of teachers, facilities, and reputation. A second tier of priorities is related to the logistics of getting childcare: hours, cost, and location. Other factors, such as curriculum/approach and PTQ rating, are less influential. It is important to note that access to vouchers and public transportation was a lower priority for survey respondents. This may reflect that many of the participants in this survey had close to average family income or higher, and perspectives of lower-income families may be less represented in this survey.

System Weaknesses and Barriers for Expansion

Community leaders reported that childcare in West Lafayette is expensive for families and in short supply. Many cited their own struggles navigating the childcare system as parents facing long waitlists and a lack of desirable options.

Community leaders believe staffing is the number one challenge for childcare providers. Leaders view operating a childcare center in West Lafayette as a challenging business venture with low ceiling revenue and high fixed costs. ECE providers are limited by a funding model that relies on tuition fees. Subsisting on enrollment tuition as a primary funding source, providers must strike a balance between their ethical obligations of ensuring affordability for families, and their own financial sustainability. This dynamic is further complicated by the required small child-to-adult ratios for younger children, which increases staffing costs and further diminishes revenue.

Community leaders say there is a gap between what parents can afford and the true cost of providing quality care. Many leaders also described On My Way (OMW) Pre-K vouchers as insufficient, explaining that while vouchers help low-income families pay for tuition, they fail to cover the cost of care for providers and do not guarantee equal access to quality care.

Community leaders consistently described a need to “professionalize” the childcare profession, stating that low compensation rates and limited wage growth stymie recruitment and retention of ECE professionals. Leaders did not believe that staffing shortages were due to a lack of labor supply, but rather individuals opting for higher-earning jobs in the gig economy or K-12 sector. Leaders believe that addressing the leaks in the ECE recruitment pipeline requires both an infusion of funding into the system and stronger collaboration among ECE, secondary, and post-secondary leaders.

Leaders expressed support for building new ECE centers in the region but believed a strategy to simultaneously increase staffing would be essential for addressing current and future demand. Leaders shared a fear that expanding facilities without also boosting the number of trained ECE professionals would spread staff thin across the system. They similarly felt that increasing wages for staff would require a coordinated effort to guard against providers competing for the same personnel. Community leaders believe that revising the ECE funding model to support providers’ staffing needs is key to bringing long-term stability to West Lafayette’s ECE system.

Community leaders identified several barriers related to facilities. Existing providers’ ability to expand capacity is limited by the physical space in which they operate. Most ECE providers operate at or near capacity with no room to grow.

For potential new providers, the high start-up cost of purchasing or leasing facilities can be a significant deterrent, especially considering rising property values and the non-lucrative

business model of childcare. This issue is exacerbated if facilities require renovations to comply with state safety regulations for childcare settings.

Another facility concern is the lack of available real estate in the West Lafayette region that could be converted into a new childcare center. Several leaders cited the location of a defunct elementary school, Happy Hollow Elementary School, as a potential site for opening a new center. Others felt there were other commercial properties that could be converted to provide childcare but would require more extensive construction or renovation.

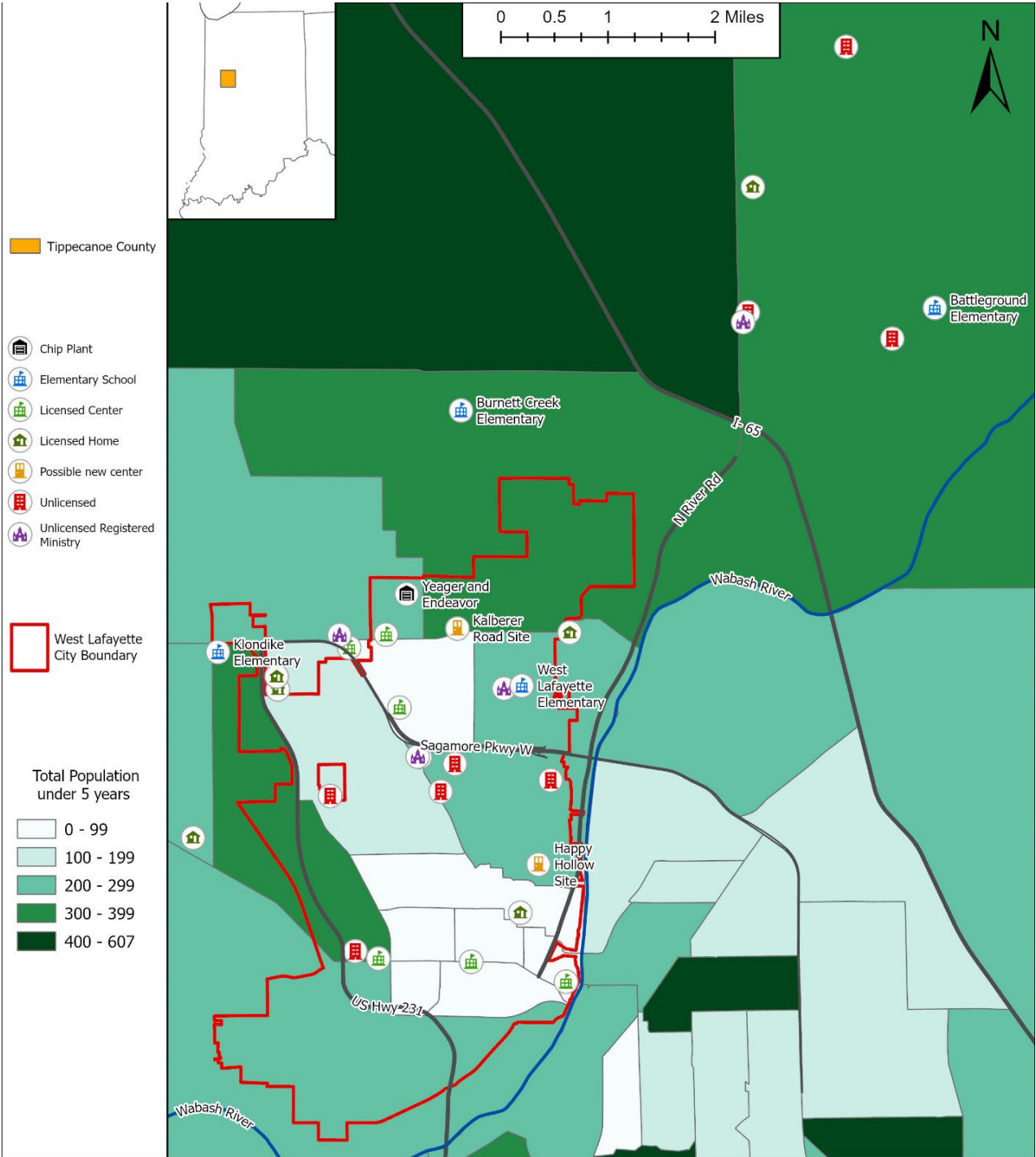
Community leaders reported a lack of incentives for FFN providers to apply for licensure and a lack of transitional support. Leaders characterize the licensure process as bureaucratic, slow, and arduous. Additionally, licensure criteria include certain standards that FFN might not have the capacity to meet, such as requiring staff to work full-time hours. Two leaders discussed a need for supporting FFN providers throughout the licensure process.



Chapter 3: Site Analysis

This section provides some data for the identification of a possible new site for a childcare center. It provides information on the ECE population, demand by school zone, and access to amenities. It does not provide information on development or re-development costs for potential sites. This site analysis focuses on two different locations: the former West Lafayette Happy Hollow Elementary School and a potential new site on Kalberer Road. These two sites are shown using yellow icons in Figure 14 below. The map also shows the planned possible SK Hynix site for an advanced packaging fabrication and research and development (R&D) facility for AI products in the Purdue Research Park. This is shown using a black icon labeled “Yeager and Endeavor” which are the crossroads for the potential plant.

Figure 14: Total Population Under 5 Years Old in Greater West Lafayette

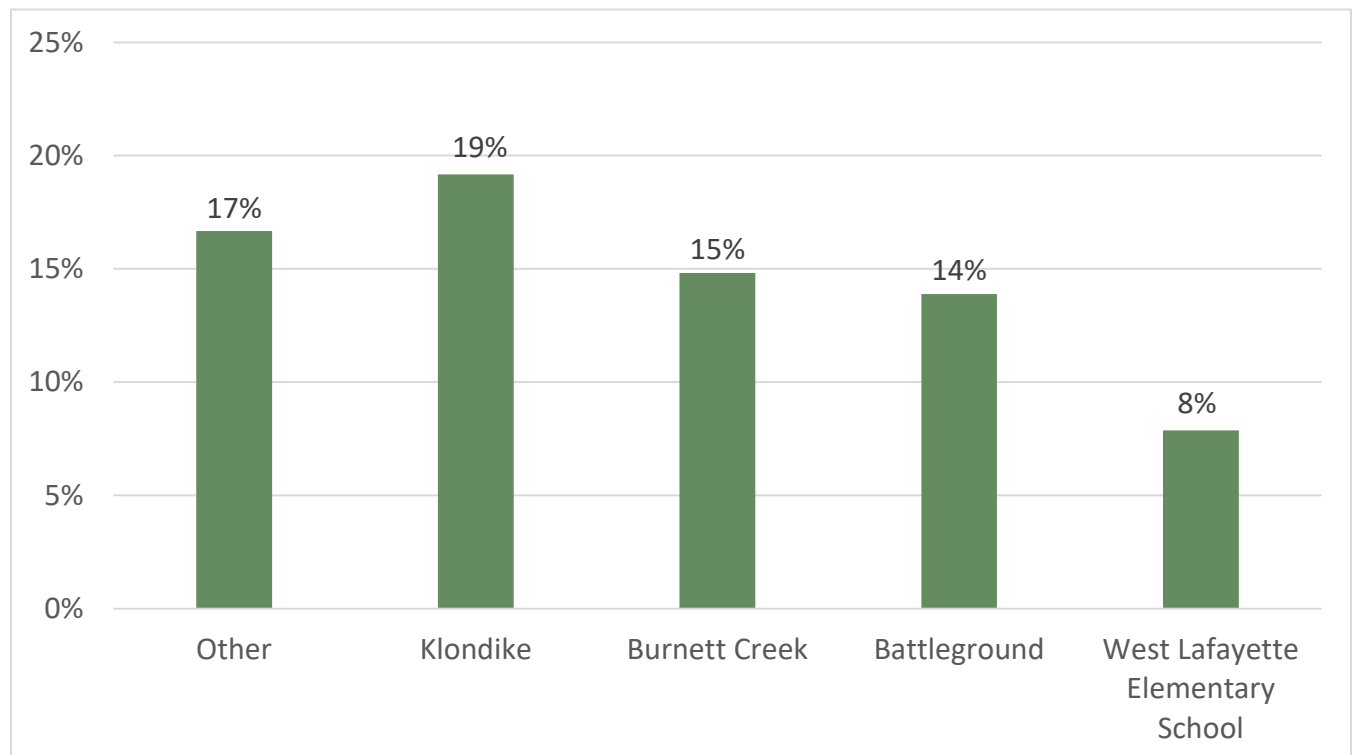


Source: US Census Data Analyzed by APA Project Team

Figure 14 also provides information on the population of ECE-eligible 0-to-5 year-old children in the West Lafayette region using Census data. It shows that the regions north and east of the City of West Lafayette have higher numbers of children ages 0-to-5. The darker regions have more children, with the most children in the area just north of Burnett Creek Elementary. The areas within the City of West Lafayette have fewer children.

The regions with more children also have higher unmet need for childcare services. Based on school attendance zone, as shown in Figure 15. Fewer families in West Lafayette report challenges accessing childcare than families attending other elementary schools in the region. Families attending Klondike Elementary school face the largest challenges accessing childcare. Referring to the map shown in Figure 14, the regions served by Klondike Elementary School are west of West Lafayette, while Burnett Creek Elementary and Battle Ground Elementary are to the North of West Lafayette. The regions outside the City of West Lafayette are closer to the potential Kalberer Road site than the Happy Hollow site.

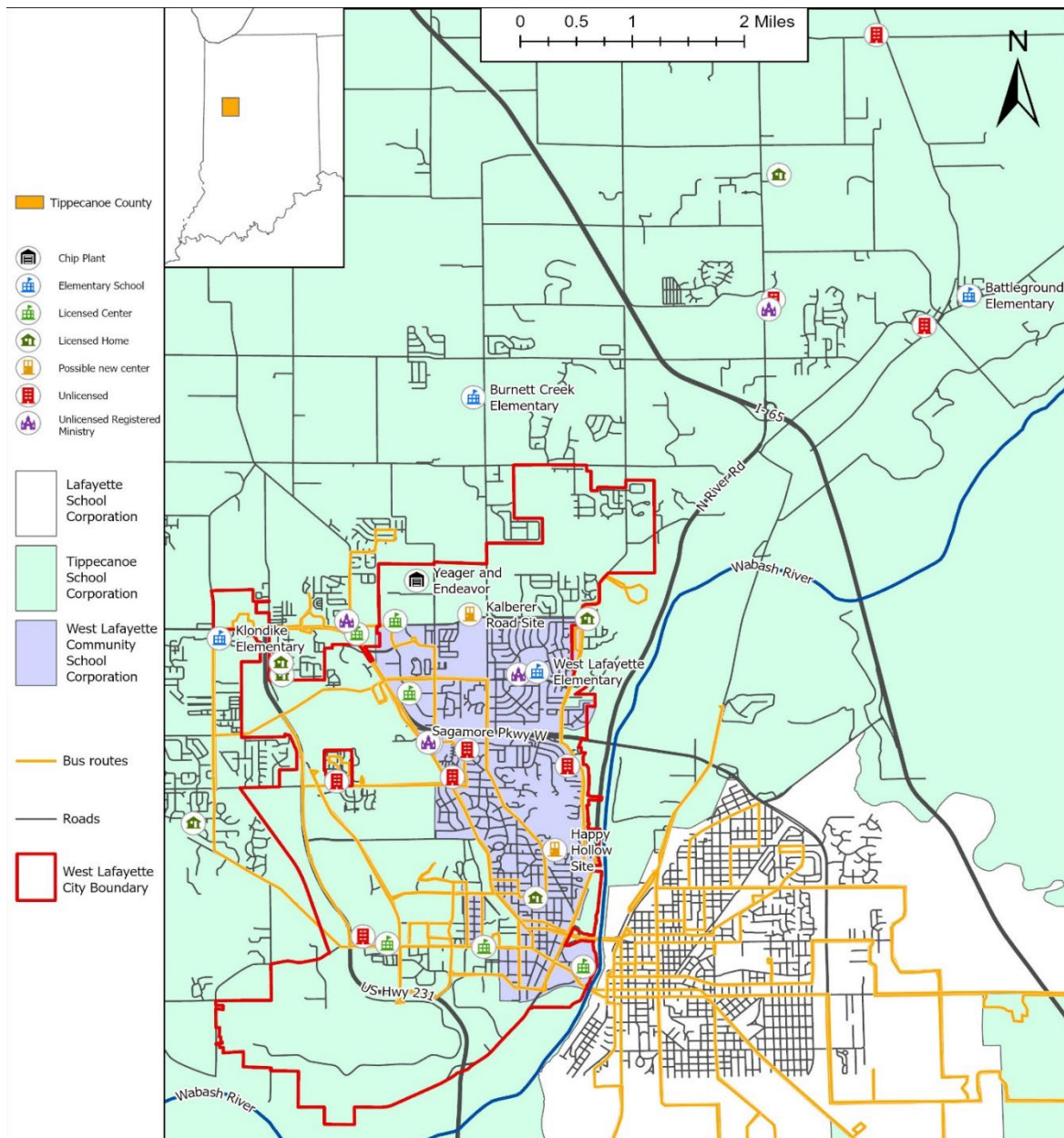
Figure 15: Percentage of Parents Reporting being Unable to Access Childcare by School Attendance Zone



Source: APA Survey of Parents

Another source of information to consider when selecting a site for an ECE center is access to public transportation. Figure 16 below shows the potential locations and their relationship to bus lines (shown in beige). This map illustrates that the current bus systems serve the Happy Hallow site. However, the Kalberer Road site is close to the potential new SK Hynix advanced chip fabrication and research and development (R&D) facility for AI products in the Purdue Research Park which is labeled “Yeager and Endeavor” in Figure 14. The development of this new facility may lead to new public transportation routes being developed.

Figure 16: Proximity of Potential ECE Center Sites to Public Transportation



Source: CityBus Data Analyzed by APA Project Team

Taken together, this limited site analysis suggests that the Kalberer Road site is closer to higher concentrations of ECE-eligible children and families that reported having difficulty finding childcare. However, the Happy Hollow site is closer to current public transportation. Importantly, this analysis does not take into account the cost of site development. Information on building costs is provided in the next cost model section.



Chapter 4. Cost Model

Why is there a West Lafayette ECE Cost Model

The City of West Lafayette Redevelopment Commission issued a request for proposals (RFP) for a study of West Lafayette Early Childhood Education Gap Analysis, Community Needs Assessment, Site Analysis, and Operational/Business Plan Analysis.

As part of the scope to meet the City of West Lafayette Redevelopment Commission's goals, a cost model was created. The cost model created by the study team addressed the following goals:

- The difference between childcare versus high-quality early childhood education and the cost of those different services.
- The cost to fulfill unmet needs and maintain current services that are offered within the community.
- The cost for the additional early childhood education service to meet unmet needs in the community.
- A cost-per-child estimate.
- An estimation of the cost required for initial resources to start an early childhood education center.
- Cost to build the required building and/or renovate an existing identified structure.

Creation of the Cost Model

The development of an operational cost model for an ECE center began with an initial meeting. The primary agenda was to deliberate on the resources that should be included as operational costs for an ECE center. The study team presented the committee with a list of potential resources such as salaries, benefit rates, curriculum, and supplies, which were deemed essential for running the program the commission envisioned.

Once the list of resources was established, the study team worked with the commission to decide which variables could be manipulated and used as decision points for the front page of the model. The committee cited five areas where they would like to see the impact of various decisions:

1. Hours of Programming
2. Quality Rating
3. Cost of space
4. Available Subsidies
5. Staffing Certification

The first main comparison area is hours of programming. Parents work multiple jobs and various hour workdays and may need additional childcare. The model has a base programming that runs from 8 am to 5 pm Monday through Friday with the options of adding a morning program that runs from 6 am to 8 am, an evening program that runs from 5 pm to 8 pm, and/or a Saturday program that runs from 8 am to 5 pm. This allows the users to identify the amount of extra costs associated with offering longer programming.

The second main comparison area concerns costs associated with four levels in the PTQ rating system. The model allows users to select the quality level desired and see the cost variation dependent on that level.

The third area is the cost of space. The commission was interested in the cost associated with renting or constructing an ECE space. Most prices for both construction and rent are based on square footage. The model allows users to enter the number of square feet needed per student and the price per square foot. This will allow the user to understand the financial impacts of either renting or constructing a new space.

The fourth main comparison area is available subsidies. The Commission wanted to know the cost with and without state-provided child-care subsidies for varying percentages of students.

Indiana offers two subsidies for ECE. The first subsidy is On My Way (OMW) Pre-K, which is only available for 4 and 5-year-olds below 150% of the federal poverty level and requires the center to obtain a quality level of 3 or 4. The Child Care Development Fund (CCDF) is the second subsidy families are eligible for. CCDF is available for all children under the age of 13 who are below 150% of the federal poverty level. The model allows users to turn on and off each of these subsidies as well as designate the percentage of families estimated to receive each subsidy.

The final area is staffing certification. Different rates apply to staff depending on their credential level. The model allows the user to enter the percentage of staff who have either no licensure, child development associate (CDA) credential, associate's degree, or bachelor's degree.

Once the resources and decision points were identified, the study team found the costs associated with each of the resources. The study team relied on various data sources in the Provider Cost to Quality Calculator (PCQC). The PCQC has average resource costs based on the location of the center. The study team then held a focus group with ECE center providers to discuss the costs assigned to each of the resources. This allowed the study team to ensure that the allocated costs were correct for the West Lafayette area and reflective of the cost that other local ECE centers are burdened with.

Additionally, the focus group provided insights on some of the obstacles within the ECE space, especially around staffing, the desire to increase quality levels quickly, and the different funding mechanisms for ECE. There is currently a staffing shortage of ECE staff nationwide, which is also affecting West Lafayette. The shortage has required ECE Centers in West Lafayette to pay higher wages and have more robust benefit plans.

Sample Scenario

The model allows users to compare multiple scenarios. Figures 17 and 18 show the cost differential between different scenarios. Figure 17 is a low enrollment center with 75 students in the full-day program and 25 students either in the morning or evening program. Table 18 is a large program with 125 students in the day program and 40 students in either the morning or evening program.

Figure 17: Costs for a Low Enrollment (75 students) and a Before/After School Option

Low (75) (25)			
	Total Cost	FTE	Total Staffing Cost
Day only (QRS=3)	\$1,445,327	13	\$990,999
Day only (QRS=4)	\$1,447,390	13	\$990,999
Day and Morning (QRS=4)	\$1,652,015	20	\$1,143,396
Day and Evening (QRS=4)	\$1,729,153	16	\$1,219,594

Source: APA Cost Model

Figure 17 shows the difference in FTE needs and costs depending on the program's quality rating and if the program offers a morning or afternoon program. There is a \$2,063 cost difference between offering a program with a quality rating of 3 versus a program with a quality rating of 4. If a program wants to offer a program with additional hours, it entails a minimum cost increase of \$191,837, which includes the addition of two FTEs to cover the additional hours. An evening program is \$538,767 more expensive than a morning program.

Figure 18: Costs for a Higher Enrollment (125 students) and Before and After School Option

High (125) (40)			
	Total Cost	Staffing FTE	Total Staffing Cost
Day only (QRS=3)	\$2,176,771	21	\$1,481,613
Day only (QRS=4)	\$2,178,834	21	\$1,481,613
Day and Morning (QRS=4)	\$2,429,647	29	\$1,648,861
Day and Evening (QRS=4)	\$2,514,774	29	\$1,732,485

Source: APA Cost Model

Figure 18 also shows the difference in FTE needs and costs depending on the program's quality rating and whether it offers a morning or afternoon program. There is a \$2,063 cost difference between offering a program with a quality rating of 3 and a program with a quality rating of 4. If a program wants to offer a program with additional hours, it entails a minimum cost increase of \$105,431, including three FTEs to cover the additional hours.

How to use the Model

The model consists of four main tabs within the workbook. The first three tabs are input tabs and allow for scenario planning, they are labeled “Scenario 1”, “Scenario 2”, and “Scenario 3”. The input tabs have six main sections and four subsections that allow the user to enter values as is seen in Figure 19.

Figure 19: ECE Model Scenario Planning Tab 1

Name Scenario		construction day
Program Type		
Morning Program (6am - 8am)	No	
Evening Program (5pm - 8pm)	No	
Saturday Program (8am-5pm)	No	
Paths to Quality Rating		4
Rent or Construction	Construction	
Square Footage per Student		50
Construction per sq ft per month		\$ 15.20
Day Program Enrollment		
Provide Lunch	Yes	
Infants		13
Toddler		12
30 - 36 Months		13
3 Year		12
4 Year		12
5 Year		13
Morning Program Enrollment		
Evening Program Enrollment		
Saturday Program Enrollment		
Subsidy Eligibility		
Participate in Child Care Development Fund (CCDF)	No	
Participate in On My Way	No	
% of Staff Makeup		
No Licensure		30%
Certified		40%
Bachelors		20%
Teacher Licensure		10%

Go to Scenario 2 Go to Scenario 3 Go to Results

Source: APA Cost Model

The main sections and subsections are:

1. Name Scenario
2. Program Type
 - a. Day Program
 - b. Morning Program
 - c. Evening Program
 - d. Saturday Program
3. Path to Quality
4. Space Costs
5. Subsidies
6. % of Staff Make-up

A user will begin on tab one, “Scenario 1”. The user will name the scenario with a name that will be brought to the results tab, which makes it easy to remember how the different scenarios compare and what each scenario entails. The user will then move to the second section, which is labeled “Program Type,” where the user can select from a drop-down list “Yes” or “No” to offer various programs. If the user selects yes to any additional program the respective programs block will no longer be blacked out, and the user can fill in the appropriate enrollment as seen in Figure 20.

Figure 20: ECE Model Scenario Planning: Adding Options

Name Scenario	construction day				
Program Type		Day Program Enrollment	Morning Program Enrollment	Evening Program Enrollment	Saturday Program Enrollment
Morning Program (6am - 8am)	No	Provide Lunch	Yes	Provide Dinner	Yes
Evening Program (5pm - 8pm)	Yes	Infants	13	Infants	7
Saturday Program (8am-5pm)	No	Toddler	12	Toddler	7
		30 - 36 Months	13	30 - 36 Months	6
		3 Year	12	3 Year	6
		4 Year	12	4 Year	7
		5 Year	13	5 Year	7
Paths to Quality Rating	4				
Rent or Construction	Construction				
Square Footage per Student	50				
Construction per sq ft per month	\$ 15.20				
Subsidy Eligibility		% of Staff Makeup			
Participate in Child Care Development Fund (CCDF)	No	No Licensure	30%		
Participate in On My Way	No	Certified	40%		
		Bachelors	20%		
		Teacher Licensure	10%		
Go to Scenario 2		Go to Scenario 3		Go to Results	

Source: APA Cost Model

Once the user has selected all of the additional programs they want to offer, they will fill in the enrollment section for each type of age group the user would like the program to serve. Once enrollment is entered by age group, the user will select the desired quality level of the program utilizing Indiana’s Path to Quality Rating system.

The fourth area the user will fill out is the cost of space. The user will select whether they prefer to rent space or construct their own space. The user is also required to select the square footage needed per student. A note in the model states the PCQC recommends 80 square feet per student; however, the user can enter any number above or below that recommendation. Lastly in this section, the user will enter the assumed cost of construction or rent per square foot. The note in the model recommends a rent rate of \$19 per square foot per month and a construction rate of \$95 per square foot. Again, the user can input any number above or below the recommended rate.

The fifth area the user will fill out is labeled “Subsidy Eligibility”. The user can select whether the program will participate in Child Care Development fund and/or On My Way Pre-K subsidy. The user can select “Yes” or “No” from the drop down. If the user selects “Yes”, the box below will ask the user to enter the percentage of students eligible for the subsidy, as seen in Figure 21.

Figure 21: ECE Model Scenario Planning: Additional Options

Name Scenario		construction day
Program Type		
Morning Program (6am - 8am)	No	
Evening Program (5pm - 8pm)	Yes	
Saturday Program (8am-5pm)	No	
Paths to Quality Rating		
		4
Rent or Construction		
	Construction	
Square Footage per Student		
		50
Construction per sq ft		
	\$	15.20
Day Program Enrollment		
Provide Lunch	Yes	
Infants		13
Toddler		12
30 - 36 Months		13
3 Year		12
4 Year		12
5 Year		13
Morning Program Enrollment		
[Redacted]		
Evening Program Enrollment		
Provide Dinner	Yes	
Infants		7
Toddler		7
30 - 36 Months		6
3 Year		6
4 Year		7
5 Year		7
Saturday Program Enrollment		
[Redacted]		
Subsidy Eligibility		
Participate in Child Care Development Fund (CCDF)	Yes	
% of students CCDF Eligible		25%
Participate in On My Way	Yes	
% of students enrolled in On My Way		25%
% of Staff Makeup		
No Licensure		30%
Certified		40%
Bachelors		20%
Teacher Licensure		10%
<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="background-color: #800080; color: white; border-radius: 50%; padding: 10px; width: 150px; text-align: center;">Go to Scenario 2</div> <div style="background-color: #000080; color: white; border-radius: 50%; padding: 10px; width: 150px; text-align: center;">Go to Scenario 3</div> <div style="background-color: #008080; color: white; border-radius: 50%; padding: 10px; width: 150px; text-align: center;">Go to Results</div> </div>		
<div style="display: flex; justify-content: space-between; margin-top: 10px;"> < > Scenario 1 Scenario 2 Scenario 3 Data Collection Results Scenario 1 Calculations Scenario 2 Cal ... + : </div>		

Source: APA Cost Model

The last area the user needs to fill out is the credentials of their staff. The user can enter the percentage of staff that would fall in each credential category ensuring the total percentages add up to 100%.

The user will then be able to click the desired bubble to “Scenario 2”, “Scenario 3”, or “Results”. If the user wants to create additional Scenarios 2 and 3, the user will utilize the same steps as listed above. Otherwise, the user can go to the results tab.

The results tab compares the various scenarios using various breakdowns, as seen in Figures 22—23.

Figure 22: ECE Model Scenario Example Results: Classrooms and Staffing

	Scenario 1	Scenario 2	Scenario 3
Total Enrollment	75	75	75
Infant	13	13	13
Toddler	12	12	12
30-36 Months	13	13	13
3 Year Olds	12	12	12
4 Year Olds	12	12	12
5 Year Olds	13	13	13
# of Classrooms	8	8	8
Infant	2	2	2
Toddler	2	2	2
30-36 Months	1	1	1
3 Year Olds	1	1	1
4 Year Olds	1	1	1
5 Year Olds	1	1	1
# of Teachers	21	20	20
Infant	6	6	6
Toddler	5	4	4
30-36 Months	3	3	3
3 Year Olds	3	3	3
4 Year Olds	2	2	2
5 Year Olds	2	2	2

Source: APA Cost Model

The first section of the results tab breaks out the impacts of enrollment on the number of classrooms and teachers between the scenarios. The next section (Figure 23) looks at the total program costs and per student costs broken out by program type (morning, afternoon, Saturday, and day).

Figure 23: ECE Model Scenario Example Results: Costs

	Scenario 1	Scenario 2	Scenario 3
5 Year Olds	2	2	2
Total Program Cost	\$2,665,330	\$2,537,379	\$2,587,767
Morning Program	\$0	\$207,989	\$0
Day Program	\$2,329,390	\$2,329,390	\$2,329,390
Afternoon Program	\$335,940	\$0	\$258,377
Saturday Program	\$0	\$0	\$0
Total Program Cost Per Student	\$39,457	\$39,378	\$41,394
Morning Program	\$0	\$8,320	\$0
Day Program	\$31,059	\$31,059	\$31,059
Afternoon Program	\$8,399	\$0	\$10,335
Saturday Program	\$0	\$0	\$0

Source: APA Cost Model

The next section in Figure 24 examines the breakdown of the total cost and per-student costs by operation type, both with and without subsidy grants.

Figure 24: ECE Model Scenario Example Results: Cost Details

	Scenario 1	Scenario 2	Scenario 3
Total Cost with Subsidy	\$2,200,297	\$2,397,696	\$2,251,090
Teacher Salaries	\$975,462	\$904,569	\$958,230
Other Salaries	\$266,409	\$242,190	\$237,978
Total Salaries	\$1,241,871	\$1,146,759	\$1,196,208
Other Variable Cost	\$284,314	\$251,474	\$252,413
Fixed Cost	\$1,139,146	\$1,139,146	\$1,139,146
Total Cost without Subsidy	\$2,665,330	\$2,537,379	\$2,587,767
CCDF Deduction	\$ (325,351)	\$ -	\$ (325,351)
On My Way Deduction	\$ (139,682)	\$ (139,682)	\$ (11,326)
CACFP			
Total Cost with Subsidy Per Student	\$23,793	\$28,052	\$25,730
Teacher Salaries	\$15,085	\$14,923	\$17,069
Other Salaries	\$4,400	\$4,521	\$4,352
Total Salaries	\$19,485	\$19,444	\$21,422
Other Variable Cost	\$4,783	\$4,746	\$4,783
Fixed Cost	\$15,189	\$15,189	\$15,189
Total Cost without Subsidy	\$39,457	\$39,378	\$41,394
CCDF Deduction	\$ (4,338)	\$ -	\$ (4,338)
On My Way Deduction	\$ (11,325.60)	\$ (11,325.60)	\$ (11,325.60)

Source: APA Cost Model



Chapter 5. Conclusions

This is both an exciting and challenging time for the West Lafayette Area childcare community. Several important challenges have been identified through this work. Key is a gap of at least 75 to 125 ECE slots in the region with a particularly higher need for infant care. Meeting this gap will require both growth in the number of childcare providers and maintaining the current support of ECE providers within a connected ECE system. At the same time, the current business environment is challenging for ECE providers. The largest challenge are wage levels that are not high enough to attract and retain lack of ECE staff.

Exciting developments will lead to more families seeking ECE. First is the planned SK Hynix advanced chip packaging fabrication and R&D facility. This will grow the regional economy and require the attraction and development of a highly skilled workforce that will lead to increases in demand for high quality ECE slots. At the same time, many community stakeholders: government agencies, industry employers, the higher education community, and non-profits are working together to address the current and future challenges facing the ECE system. Each of these stakeholders can play an important part in supporting the ECE workforce, providing access to ECE buildings and facilities, and providing ECE tuition support for families.

Throughout this work it is important to remember that ECE providers operate within a system. Impacting one component of the system can impact other components of the system. And, meeting the new and future demand for childcare will require both building capacity while also maintaining the current set of slots and providers. Together, stakeholders from the private, public, and non-profit sectors can scale ECE capacity in West Lafayette to support the needs of both existing and future residents.

References

- Barnett, W. S., & Masse, L. N. (2007). Comparative benefit–cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26(1), 113–125. <https://doi.org/10.1016/j.econedurev.2005.10.007>
- Bartik, T. J., Gormley, W., & Adelstein, S. (2012). Earnings benefits of Tulsa’s pre-K program for different income groups. *Economics of Education Review*, 31(6), 1143–1161. <https://doi.org/10.1016/j.econedurev.2012.07.016>
- Bassok, D., & Engel, M. (2019). Early Childhood Education at Scale: Lessons From Research for Policy and Practice. *AERA Open*, 5(1), 233285841982869. <https://doi.org/10.1177/2332858419828690>
- Cascio, E. U. (2021). Early Childhood Education in the United States: What, When, Where, Who, How, and Why. *NBER*, (28722). <https://doi.org/10.3386/w28722>
- Durkin, K., Lipsey, M. W., Farran, D. C., & Wiesen, S. E. (2022). Effects of a statewide pre-kindergarten program on children’s achievement and behavior through sixth grade. *Developmental Psychology*, 58(3). <https://doi.org/10.1037/dev0001301>
- Gray-Lobe, G., Pathak, P. A., & Walters, C. R. (2022). The Long-Term Effects of Universal Preschool in Boston. *The Quarterly Journal of Economics*, 138(1), 363–411. <https://doi.org/10.1093/qje/qjac036>
- Hall, L. (2021). Indiana: Early Childhood Education. In *The Policy Circle*. Early Learning Indiana. Retrieved from Early Learning Indiana website: <https://www.thepolicycircle.org/wp-content/uploads/2022/02/TPC-Indiana-Early-Childhood-Edu-Brief.pdf>
- Hamre, B. K., Partee, A., & Mulcahy, C. (2017). Enhancing the Impact of Professional Development in the Context of Preschool Expansion. *AERA Open*, 3(4), 233285841773368. <https://doi.org/10.1177/2332858417733686>
- Heckman, J. J., Moon, S. H., Pinto, R., Savelyev, P. A., & Yavitz, A. (2010). The rate of return to the HighScope Perry Preschool Program. *Journal of Public Economics*, 94(1-2), 114–128. <https://doi.org/10.1016/j.jpubeco.2009.11.001>

- Hotz, V. J., & Wiswall, M. (2019). Child Care and Child Care Policy: Existing Policies, Their Effects, and Reforms. *The ANNALS of the American Academy of Political and Social Science*, 686(1), 310–338. <https://doi.org/10.1177/0002716219884078>
- Hotz, V. J., & Xiao, M. (2011). The Impact of Regulations on the Supply and Quality of Care in Child Care Markets. *American Economic Review*, 101(5), 1775–1805. <https://doi.org/10.1257/aer.101.5.1775>
- Karoly, L., Kilborn, R., & Cannon, J. (2005). Early Childhood Interventions: Proven Results, Future Promise (pp. i–148). RAND Corporation. https://www.rand.org/content/dam/rand/pubs/monographs/2005/RAND_MG341.pdf
- McCoy, D. C., Yoshikawa, H., Ziol-Guest, K. M., Duncan, G. J., Schindler, H. S., Magnuson, K., Yang, R., Koepp, A., & Shonkoff, J. P. (2017). Impacts of Early Childhood Education on Medium- and Long-Term Educational Outcomes. *Educational Researcher*, 46(8), 474–487. <https://doi.org/10.3102/0013189x17737739>
- Morris, P. A., Connors, M., Friedman-Krauss, A., McCoy, D. C., Weiland, C., Feller, A., ... Yoshikawa, H. (2018). New Findings on Impact Variation From the Head Start Impact Study: Informing the Scale-Up of Early Childhood Programs. *AERA Open*, 4(2), 233285841876928. <https://doi.org/10.1177/2332858418769287>
- Ramon, I., Chattopadhyay, S. K., Barnett, W. S., & Hahn, R. A. (2018). Early Childhood Education to Promote Health Equity. *Journal of Public Health Management and Practice*, 24(1), e8–e15. <https://doi.org/10.1097/phh.0000000000000557>
- Reynolds, A. J., Temple, J. A., White, B. A. B., Ou, S.-R., & Robertson, D. L. (2011). Age 26 Cost-Benefit Analysis of the Child-Parent Center Early Education Program. *Child Development*, 82(1), 379–404. <https://doi.org/10.1111/j.1467-8624.2010.01563.x>
- Sabol, T. J., Soliday Hong, S. L., Pianta, R. C., & Burchinal, M. R. (2013). Can Rating Pre-K Programs Predict Children’s Learning? *Science*, 341(6148), 845–846. <https://doi.org/10.1126/science.1233517>
- Sabol, T. J., Sommer, T. E., Sanchez, A., & Busby, A. K. (2018). A New Approach to Defining and Measuring Family Engagement in Early Childhood Education Programs. *AERA Open*, 4(3), 233285841878590. <https://doi.org/10.1177/2332858418785904>

Schmitt, S., Litkowski, E., Duncan, R., Elicker, J., Purcell, M., & Purpura, D. (n.d.). *Preparing for the Future: Indiana's Preschool Development Grant- Indiana's Birth to Age Five Mixed Delivery System Needs Assessment*. Purdue University.

Washington State Institute for Public Policy. (2019). Early Childhood Education for Low-Income Students: A Review of the Evidence and Benefit-Cost Analysis UPDATE.

https://www.wsipp.wa.gov/ReportFile/1710/Wsipp_Early-Childhood-Education-for-Low-Income-Students-A-Review-of-the-Evidence-and-Benefit-Cost-Analysis-UPDATE_Report.pdf

Weiland, C., Friedman-Kraus, A., Nores, M., McCormick, M., Pralica, M., Mattera, S., ... Xia, S. (2022). Mixed-Delivery Public Prekindergarten: Differences in Demographics, Quality, and Children's Gains in Community-Based versus Public School Programs across Five Large-Scale Systems. *EdWorkingPaper*, 22(651). Annenberg Institute at Brown University.

<https://doi.org/10.26300/pncz-2233>

Weiland, C., McCormick, M., Mattera, S., Maier, M., & Morris, P. (2018). Preschool Curricula and Professional Development Features for Getting to High-Quality Implementation at Scale: A Comparative Review Across Five Trials. *AERA Open*, 4(1), 233285841875773.

<https://doi.org/10.1177/2332858418757735>

Whitaker, A., Burchinal, M., Jenkins, J., Bailey, D., Watts, T., Duncan, G., ... Peisner-Feinberg, E. (2023). Why are Preschool Programs Becoming Less Effective? *EdWorkingPaper*, 23(885).

Annenberg Institute at Brown University. <https://doi.org/10.26300/smqa-n695>