

Ensuring a VIBRANT CITY



The Economic Impact of the Early Care and Education Industry
in the District of Columbia



Ensuring a Vibrant City:

The Economic Impact of the Early Care and Education Industry in the District of Columbia

PREPARED BY THE

NATIONAL ECONOMIC DEVELOPMENT AND LAW CENTER



TABLE OF CONTENTS

Section One: Introduction.....	1
Section Two: Economic Profile of the ECE Industry.....	6
Section Three: Linking ECE, Business and the Current Economy	17
Section Four: Cultivating Washington DC’s Future Workforce	29
Section Five: Conclusion and Recommendations	38
Appendix A: DC’s ECE Industry	41
Appendix B: The Self-Sufficiency Standard, Washington DC 2005.....	42
Appendix C: Methodology for Estimating the Size of the ECE Industry.....	43
Bibliography	49

BACKGROUND

To document the early care and education industry's contributions to DC's economy, the University of the District of Columbia's Center for Applied Research and Urban Policy and CityBridge Foundation commissioned *Ensuring a Vibrant City: The Economic Impact of the Early Care and Education Industry in the District of Columbia*, an economic impact study conducted by the National Economic Development and Law Center (NEDLC).

UNIVERSITY OF THE DISTRICT OF COLUMBIA, CENTER FOR APPLIED RESEARCH AND URBAN POLICY

The Center for Applied Research and Urban Policy (CARUP) was established at the University of the District of Columbia in 1964. The Center conducts research on problems that affect the social, economic, physical, and biological health of urban areas, with a special focus on the District of Columbia. It provides technical assistance to urban managers and policy-makers. Special emphasis is placed on interdisciplinary approaches to problem-solving. The mission of the Center is to serve as a bridge between the basic research of the academic community and the practical needs of the District's institutions and residents. The Center seeks to produce knowledge that addresses critical social and urban issues, particularly in the District of Columbia.

CITYBRIDGE FOUNDATION

CityBridge Foundation is a family foundation based in the District of Columbia committed to closing the city's educational achievement gap through strategic investments in early childhood care and education.

NATIONAL ECONOMIC DEVELOPMENT AND LAW CENTER

The National Economic Development and Law Center (NEDLC) is a national research and consulting organization dedicated to building economic health and opportunity in vulnerable communities. NEDLC partners with a diverse range of colleagues to develop innovative strategies and programs that result in systemic change and help people become—and remain—economically secure. For more information, visit: www.nedlc.org.

DISTRICT OF COLUMBIA EARLY CARE AND EDUCATION RESEARCH CONSORTIUM

The District of Columbia Early Care and Education Research Consortium is composed of voluntary members that include academics from various area universities, researchers, early care and education (ECE) providers, advocates, and other individuals who share the consortium's mission. Consortium members believe all key stakeholders in the ECE community have an obligation to work together to enhance the delivery of high-quality ECE to all of the District's children. The mission of the consortium is to foster the development of collaborative relationships among key stakeholders in the ECE community and to conceptualize important research questions related to early care and education. The consortium seeks to do research that will have a direct impact on the delivery of excellent ECE in the District of Columbia and help to develop a seamless world-class system.

ACKNOWLEDGEMENTS

This publication was written by NEDLC staff Brentt Brown, Melissa Ramos and Saskia Traill, Ph.D.. Other report contributors include members of the District of Columbia Early Care and Education Research Consortium, who formed the DC Economic Impact Study Technical Advisory Panel:

- Michael Ahn, Center for Applied Research and Urban Policy, University of the District of Columbia
- Jesse Bailey, Pre-K for All DC
- Jeff Cappizzano, Teaching Strategies, Inc.
- Duncan Chaplin, Ph.D., Mathematica Policy Research
- Richard Gonzales, American Institutes for Research
- Robert Gundling, Ph.D., Office of Education, DC Department of Parks and Recreation
- Barbara Ferguson-Kamara, Early Care and Education Administration, DC Department of Human Services
- Gregory A. Johnson, DC Office of the Deputy Mayor for Planning and Economic Development
- Joan Lombardi, Ph.D., The Children's Project
- Deborah Lyons, Ph.D., Center for Applied Research and Urban Policy, University of the District of Columbia
- Doris McNeely Johnson, Ph.D., Center for Applied Research and Urban Policy, University of the District of Columbia
- Arthur McKee, Ph.D., CityBridge Foundation
- Peggy Minnis, DC Public Schools
- Sharon Ramey, Ph.D., Center on Health and Education, Georgetown University
- Cheryl Roberts, Ph.D., DC Public Schools
- Maurice Sykes, Early Childhood Leadership Institute, University of the District of Columbia
- Shanese Watts, Center for Applied Research and Urban Policy, University of the District of Columbia

Ensuring a Vibrant City:
*The Economic Impact of the
Early Care and Education Industry in the
District of Columbia*

Principal Authors

Brentt Brown

Melissa Ramos

Saskia Traill, Ph.D.

All Rights Reserved. Copyright © 2007 National Economic Development and Law Center



Section One

Introduction

This report is a tool to begin bridging the gap between economic development planning and the needs of working families with children in Washington DC. Policymakers, business leaders, urban planners and a host of other community leaders are already discussing ways to improve the economic vitality and quality of life for families in the District. This report illustrates that high-quality early care and education (ECE) is a key component for a comprehensive local plan for sustained economic development, and shows that businesses, in particular, have a vested interest in ensuring that there is a high-quality and affordable ECE system in Washington DC.

The ECE industry encompasses a range of programs outside the traditional kindergarten through twelfth grade (K-12) education that care for and educate children ages birth through age 13. The District's ECE programs can be broken down into three main facility categories: licensed family child care programs, licensed child development centers and license-exempt programs and providers. Programs within these facility types serve infants, toddlers, preschoolers and school-age children. These programs vary widely in content, organization, sponsorship, source of funding, and relationship to public school and government regulations (see Appendix A for a diagram depicting these programs).

This report uses the term “early care and education” or ECE, throughout this report to reflect the variety of programs parents typically access. These programs are also referred to as “child care,” “early childhood programs,” “after-school programs,” and “out-of-school time programs.” All are designed to nurture, support, enrich and educate children from birth through age 13.

The ECE industry serves the following two main purposes:

- Provides stimulating, age-appropriate learning opportunities that support healthy development so that children are ready to succeed in K-12 classrooms
- Enables parents to maintain employment and/or obtain education and training

This study highlights the benefits and functions of the ECE industry in economic terms. The industry has two main functions that link the industry to the economy.

1. High-quality ECE provides safe, stimulating, age-appropriate learning opportunities that support the healthy development of children so that they are ready to succeed in school and life. For children from birth through age five, quality programs help them develop core skills and competencies that prepare them for future success in traditional K-12 classrooms.¹ For children ages five

¹ Shonkoff, J.P. and Phillips, D.A., Editors. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*.

through 13, before- and after-school programs ensure children's safety while providing enriching educational activities that support the traditional school curriculum.²

2. High-quality ECE also enables parents to maintain employment and/or access education and training that lead to employment advancement. Today, the majority of children in the District live in families in which all parents work. Together, these working families with children ages birth through 13 earn \$1.7 billion annually.³

As a result of the demand for ECE services, the industry has become a significant component of the economic infrastructure of the District and is a driver of the economy, providing financial benefits in three main ways:

1. **Quality ECE programs ensure a strong future workforce.** Recent research on early brain development supports the conclusion that high-quality ECE for children from birth through age five is a vital service, improving children's health, school readiness and eventual economic contribution to society.⁴ The quality of early education opportunities is linked to positive outcomes in school for children in all income brackets. Some studies have shown particularly striking findings in children from low-income families.⁵ Three separate longitudinal studies of targeted, intensive intervention programs for low-income children have indicated significant and positive long-term outcomes in areas such as grade repetition, special education needs, higher educational attainment and home ownership in adulthood. Many of these outcomes reduce future public spending, in such areas as K-12 education, criminal justice and welfare assistance, which results in a 12 percent rate of public return on investment.⁶ A recent report by economist Clive Belfield analyzed national findings and District data to estimate savings from high-quality preschool in Washington DC. According to Belfield, "for every dollar invested in preschool, the District would recoup \$1.39."⁷
2. **ECE is a critical support for the current workforce.** The ECE industry plays a significant role in enabling employers to attract and retain employees and to increase productivity by reducing employee turnover and absenteeism. Similar to transportation and housing, without accessible and affordable ECE, employees may experience barriers to working, and their employers and the economy as a whole suffer.⁸

² National Institute on Out-of-School Time. (2005). *Making the Case: A Fact Sheet on Children and Youth in Out-of-School Time*. Retrieved on March 7, 2007 from: <http://www.niost.org>

³ U.S. Census Bureau. (2002). *Census 2000*. Retrieved on March 7, 2007 from: <http://www.census.gov/>

⁴ Shonkoff, J.P. and Phillips, D.A., Editors. (2000).

⁵ Coley, R.J. (2002).

⁶ Rolnick, A. and Grunewald, R. (2003). Analysis was based on the High/Scope Perry Preschool Project in Michigan.

⁷ Belfield, C.R. (2006). *Investing in the Economic Vitality of the District of Columbia through Pre-K for All, Technical Report*.

⁸ Chase, R. et al. (2001). *Child Care Use in Minnesota: Report of the 1999 Statewide Household Child Care Survey*.

3. **ECE is a major industry in the District in its own right.** Research presented in this report demonstrates that ECE programs generate an estimated \$221 million in gross receipts annually. This compares to other significant industries in the District including advertising agencies and residential building construction. It is also a job-creating industry, employing over 6,300 full-time equivalent jobs, almost as many people as DC public relations agencies or museums.

“We envision a city where every child starts school ready to learn, where all three- and four-year olds will have access to high-quality early childhood education programs so they can develop necessary cognitive and linguistic skills.”⁹

The Honorable Adrian M. Fenty, Mayor, District of Columbia

THE DISTRICT’S ECE UNIVERSE

The economic analyses in this report (e.g., gross receipts and direct employment) focus on the District’s formal ECE industry as defined below. All of the licensed programs in the District’s formal ECE industry meet minimum standards established by the DC Department of Health. License-exempt programs also meet minimum standards developed by the various government agencies that oversee them (e.g., DC State Education Office, Department of Defense, etc.). All of these programs also have data that are tracked and updated regularly (see Appendix A). The following programs are included in this report:

- Licensed child development centers
- Licensed family child care homes
- Relatives and in-home care providers who provide care with government funding
- Military child development centers
- License-exempt public Pre-K/Preschool programs
- License-exempt before- and after-school programs

Licensed Child Development Centers

A variety of center-based ECE programs are licensed by the DC Department of Health, including:

- Private for-profit and non-profit licensed child development centers
- Head Start and Early Head Start programs
- Most DC Department of Parks and Recreation Programs serving children under 14 (some summer programs are license-exempt)
- Before- and after-school programs run by private providers in public school facilities

⁹ Fenty, A. M. (2007). *100 Days and Beyond: 2007 Action Plan for the District of Columbia*. Retrieved on March 7, 2007 from: http://dc.gov/mayor/pdf/100_Days_and_Beyond.shtm

- Faith-based programs
- Programs in parochial and private secular schools
- Employer-sponsored centers and back-up care
- Some early intervention programs (known as “Part C” and “Part B”)
- On-campus (college and high school) child development centers

Licensed Family Child Care Homes

Family child care homes are independent small businesses that provide care for no more than five children at one time. Family child care homes are licensed by the DC Department of Health. These include military family child care homes who are licensed by the DC Department of Health and also regulated by the Department of Defense.

License-Exempt Public Pre- K/Preschool Programs in Public Schools and Public Charter Schools

Public preschool programs that are operated by public schools and public charter schools are not licensed by the DC Department of Health. However, they have oversight from the DC State Education Office.

Subsidized Relative and In-Home Care Providers Receiving Public Contracts

Relative and in-home care providers are those providers who care for either one unrelated child or multiple related children. These providers are not required to be licensed, but have been authorized to receive government contracts and meet basic safety standards (e.g., criminal background check).

Military Child Development Centers

Military child care programs that operate on federal lands are not required to be licensed by the District of Columbia Department of Health. However, they must meet standards set by the U.S. Department of Defense.¹⁰

License-Exempt Before- and After-School Programs

The following license-exempt before- and after-school programs are included in this report:

- DC Public School’s After Care for All programs
- DC Department of Parks and Recreation license-exempt summer programs
- Children Youth Investment Trust Corporation’s programs for children ages 5 through 13

¹⁰ The military child development center located at the national headquarters of the U.S. Coast Guard is licensed by the DC Department of Health because it is not located on a military base.

ECE Providers and Programs Not Included in this Report

Care provided by friends, neighbors and relatives who do not have a government contract are not regulated in Washington DC. Although these care and education arrangements are widely used and add much to the economy, it is difficult to ascertain their impact because there is no data. Nationwide, it is estimated that 46 percent of children from birth through age two spend time in the care of family, friend and neighbors. Furthermore, 27 percent of children ages three to five spend time in this type of care.¹¹

DC Public School's After Care for All programs, DC Department of Parks and Recreation programs and Children Youth Investment Trust Corporation programs serving children ages 5 through 13 make up the majority of license-exempt before- and after-school programs. However, a few license-exempt before- and after-school programs operate without financial assistance from these programs. Because they are license-exempt and not regulated by other agency, data for these programs are not available. Therefore, they have not been included in the analysis of this report.

By excluding these two types of ECE programs, this report's findings are conservative estimates of the total impact that ECE has on the economy.

OUTLINE OF THE REPORT

Following this introduction, section two highlights the direct economic effects of the industry, including revenue, direct employment and government investment. This section also analyzes barriers to maximizing the benefits of the industry. Section three explores the economic effects that ECE has on the current economy by enabling parents to work and update their skills. Section four analyzes the long-term economic benefits that high-quality ECE programs create. Lastly, section five highlights recommendations and considers future implications for Washington DC's economy.

¹¹ Brandon, R. (2005). *Enhancing Family Friend and Neighbor Caregiving Quality: The Research Care for Public Engagement*. Retrieved on March 9, 2007 from: <http://hspsc.org/publications/pdf/APHSApaper05.RRF.pdf>

Section Two

Economic Profile of the ECE Industry

To assess the economic characteristics of the early care and education (ECE) industry in Washington DC, this section quantifies:

- The size of the industry, as reflected in output or gross receipts
- The total direct employment of the industry
- The capture of public monies designated for ECE
- The size and characteristics of the market

This analysis does not include ECE arrangements for which accurate data is unavailable, such as care by friends, family members, or neighbors which is not reimbursed by the District (see *Section One* for a detailed description of the ECE arrangements covered and not covered in this report). Thus, the findings in this section are underestimates of the total economic impact of the industry.

THE SIZE OF THE EARLY CARE AND EDUCATION INDUSTRY

Measuring Industry Output or Gross Receipts

Output, also known as gross receipts, measures the size of an industry in terms of the overall value of the goods and services produced by that industry over the course of a given year. For the ECE industry, gross receipts are equal to the total amount of dollars flowing into the sector, including private fees and private funds.

In total, the District's ECE industry generates \$221 million in gross receipts annually.

District and national surveys do include “child day care services” as an industry classification, but it excludes many types of programs or providers that are part of the ECE industry.¹² This study uses a more accurate and comprehensive method of measuring the size of the industry. It relies primarily on data from District agencies charged with administering part of the complex system that makes up the formal ECE industry (see Appendix C for a detailed methodology).

Using the more comprehensive methodology, the total gross receipts of the industry in the District are \$221 million. Please see Table 2 for a breakout of gross receipts across

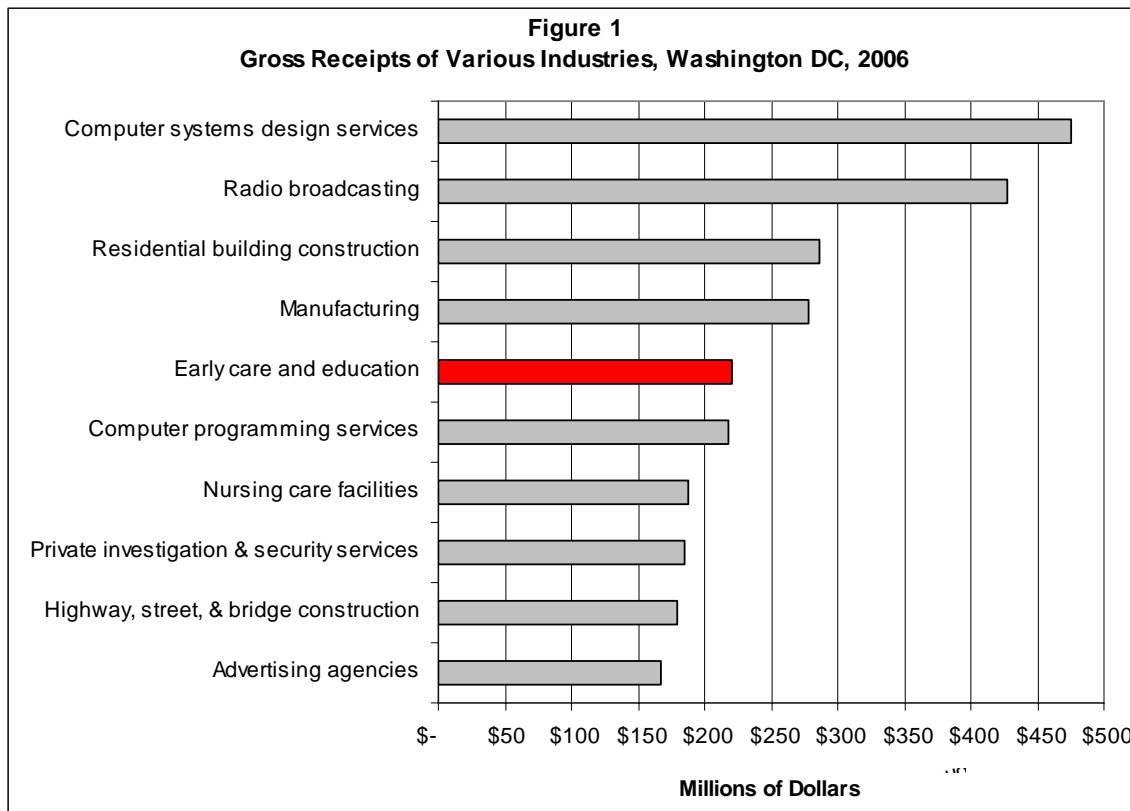
¹² The diversity of establishments, which include self-employed individuals, programs run by religious or social organizations, and not-for-profit and for-profit small businesses and chains, causes an underestimate by most economic and business survey methodologies.

all ECE program types. The industry generates roughly \$380 per DC resident.¹³ Parents pay a significant percentage of the gross receipts, roughly 37 percent. However, in order to make programs affordable to low-income families, government assistance programs pay the majority of the costs.

Gross Receipts Compared with Other Industries

Comparing the ECE industry's gross receipts with other industries in the District puts the calculation into context. The ECE industry generates more gross receipts than computer programming (\$218 million), nursing care facilities (\$187 million) or advertising agencies (\$167 million; see Figure 1). The industry is similar in size to other industries in the District recognized as being significant such as residential building construction (\$287 million), and a significant portion of the size of other industries, including radio broadcasting (\$427 million) or computer systems design (\$475 million).¹⁴

The gross receipts for the ECE industry are similar to computer systems design and residential construction.



Gross Receipts for all industries excluding ECE were derived from U.S. Census Bureau's 2002 Economic Census and updated to 2006 using the CPI. Gross receipts estimates for the ECE industry were generated by the National Economic Development and Law Center (see Appendix C for more details).

¹³ U.S. Census Bureau. (2007). *Annual Population Estimates, July 1, 2006*. Retrieved on March 9, 2007 from: <http://www.census.gov/popest/states/tables/NST-EST2006-01.xls>

¹⁴ U.S. Census Bureau. (2006d). *Economic Census 2002*. Dollar values were updated to 2006 using the Bureau of Labor Statistics' Consumer Price Index.

Industry Employment

Full-time equivalent employment was estimated based on detailed information available for each type of program included (for more details see Appendix C). Direct employment for ECE in 2006 in

the District is estimated to be 6,300 full-time equivalent jobs (FTEs). Please see Table 2 for a breakout of employment across all ECE program types.

The ECE industry directly supports approximately 6,300 full-time equivalent jobs. These jobs include teachers and other non-teaching staff (e.g., directors, family workers, janitors and administrative support staff).

The total number of people working in the industry is likely to be higher because many ECE professionals work part-time. For example, in 2002, approximately one third of those working in the industry nationwide worked part-time.¹⁵ In addition, the estimate relies primarily on the minimum staff-to-child ratio required by District law.¹⁶ Some child care operators choose to maintain higher staff-to-child ratios in order to improve program quality, meet funding requirements, achieve accreditation requirements or attain specific quality goals that increase their business' competitiveness. As of November 2006, there were 113 programs accredited by the National Association for the Education of Young Children in Washington DC, which requires higher staff-to-child ratios and lower group sizes for accreditation than the District mandates for licensing.¹⁷

Direct Employment Compared with Other Industries

To put employment findings in context, the number of FTEs in ECE is compared to 2005 employment in other industries. There are five times as many jobs in ECE as there are in investment banking in the District (1,126). Also, the industry employs more people than museums (6,093), public relations agencies (5,883), public transit and ground transportation (5,455), insurance carriers (4,989), grocery stores (3,895), or commercial building construction (3,302; see Figure 2).¹⁸ The ECE industry employs more than half as many jobs as social advocacy organizations (9,488) and DC Public Schools (11,183; see Figure 2).^{19, 20} The ECE industry employs 37 percent as many employees as full-service restaurants in the District.²¹

There are more FTEs in the ECE industry than there are employees in insurance carriers, grocery stores and commercial building construction.

¹⁵ U.S. Department of Labor—Bureau of Labor Statistics. (2005). *Career Guide to Industries: Child Day Care Services*. Retrieved on March 7, 2006: <http://www.bls.gov/oco/cg/cgs032.htm>

¹⁶ See Appendix A for the specific staff-to-child ratios that were used in this estimate.

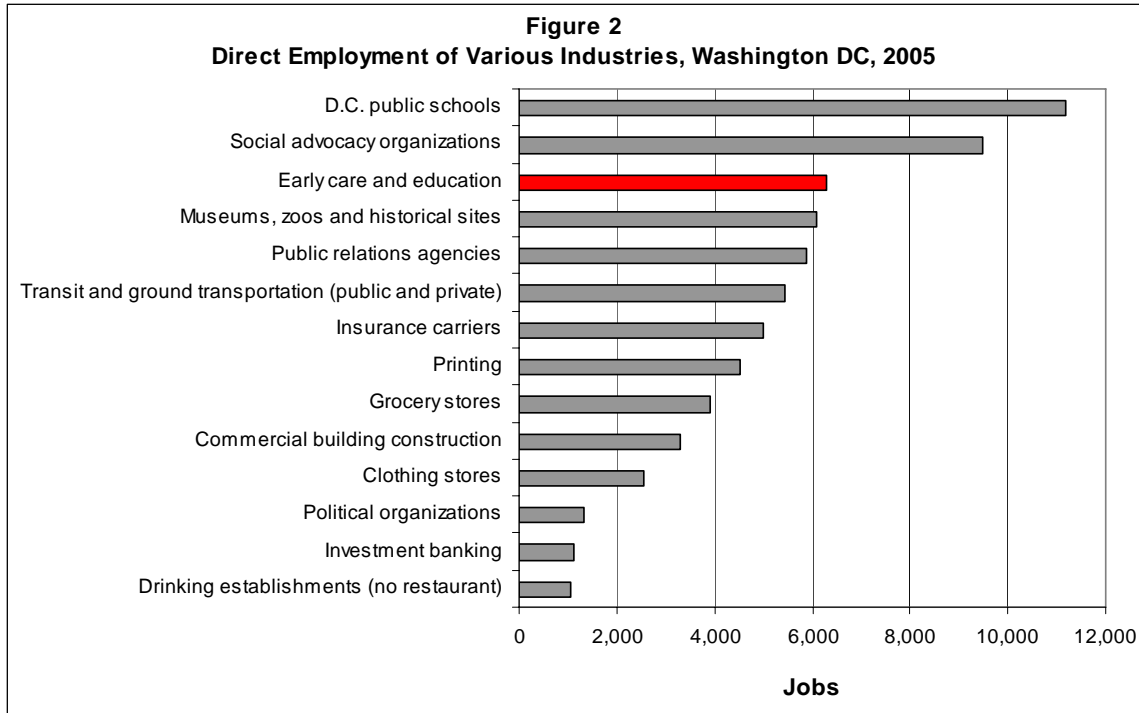
¹⁷ National Association for the Education of Young Children. (2006). *NAEYC Accredited Program Search, Washington DC*. Retrieved on November 6, 2006 from: <http://www.naeyc.org>

¹⁸ U.S. Department of Labor—Bureau of Labor Statistics. (2006a). *2005 District of Columbia Employment and Wages (ES-202) Survey*. Retrieved on November 6, 2006 from: <http://data.bls.gov/>

¹⁹ U.S. Department of Labor—Bureau of Labor Statistics. (2006a).

²⁰ DC Public Schools. (2005). *Budgeted Staffing Levels (in FTE) FY 2005*. Retrieved on March 7, 2007 from: [http://www.cgcs.org/pdfs/DC Finance Report--Final.pdf](http://www.cgcs.org/pdfs/DC%20Finance%20Report--Final.pdf)

²¹ U.S. Department of Labor—Bureau of Labor Statistics. (2006a).



Source: Direct employment estimates for all industries except ECE and DC Public Schools were derived from U.S. Department of Labor, Bureau of Labor Statistics' *2005 Employment and Covered Wages Survey*. The employment estimate for the ECE industry was developed by the National Economic Development and Law Center and is based on 2004 and 2005 data (see Appendix C for more details). The employment estimate for DC Public Schools represents the budgeted staffing (FTE) levels for 2005 as reported by DC Public Schools.

PUBLIC AND PRIVATE INVESTMENTS

The availability of public ECE investments plays an important role in supporting local economic development, sustained employment of low-income families, and development of the District's children for school readiness and future economic success. There are a number of programs that provide direct services in Washington DC.

DC Child Care Subsidy Program

The DC Department of Human Services supports a portion of the cost of ECE services to assist low- and moderate-income parents who are maintaining employment or attending education/training classes that will lead to employment. Parents are able to choose which form of subsidized ECE they prefer from the following options: licensed child development centers, licensed family child care homes and license-exempt government-contracted ECE providers (in-home care providers, relative home care providers and satellite home care providers). In 2006-2007, DHS has \$57.4 million budgeted for these contracts.²²

²² DC Department of Human Services, Early Care and Education Administration. (2006). *Provider Count and Payment FY 03-06*.

The USDA Child Care Food Program

The U.S. Department of Agriculture administers a child care food program, which contributes dollars to the local economy, amounting to \$3.3 million for the District in 2005.²³

Directly Funded Programs

The District and Federal governments fund the following programs directly:

- *Head Start and Early Head Start (includes Head Start programs in public schools):* These child development programs represent another significant area of public funding. The District's Head Start and Early Head Start programs serve 3,403 children from birth to age five, pregnant women and their families in child-focused programs designed to increase school readiness of young children in low-income families.²⁴ In 2005, the District spent approximately \$25.0 million in federal funds allocated for Head Start and Early Head Start.²⁵
- *DC Public School and Public Charter School Pre-K/Preschool:* In 2005, the District invested \$33.0 million in these programs, which exclude Public School Head Start programs. These public pre-k/preschool programs serve 3,860 three and four-year-olds.
- *DC After Care for All:* There are 84 programs that operate during the school year and serve 9,614 children. An additional 51 of these programs were funded during the summer to serve 4,100 children. The combined funding for these programs for 2006 is \$10.8 million.²⁶
- *Before- and After-school Programs Funded by the Children Youth Investment Trust Corporation (CYITC):* CYITC invests \$10.3 annually in these programs. These investments enable approximately 13,000 children ages 5 through 13 to participate in the program.

In total, annual public funding for ECE in Washington DC is an estimated \$140 million.²⁷

Philanthropic and Private Investments

Foundations play a critical role in supporting the quality and accessibility of ECE in the District. These investments contribute significantly to the direct and indirect economic impact of the industry. Because there is no centralized database for philanthropic giving to ECE, it is not possible to quantify these investments comprehensively for this report. However, this analysis does highlight a few of these investments in order to demonstrate

²³ DC Education Office, Nutrition Services Department. (2006). *USDA Child Care Food Program*.

²⁴ U.S. Department of Health and Human Services, Administration for Children, Youth and Families. (2006). *Head Start Programs*. Retrieved November 6, 2006 from: <http://www.acf.hhs.gov/programs/hsb/research/2006.htm>

²⁵ U.S. Department of Health and Human Services, Administration for Children, Youth and Families. (2006)

²⁶ DC After Care for All. (2006). *Fiscal/Children Served Fact Sheet, 2004-2006*.

²⁷ This annual estimate includes programmatic expenditures from multiple years (2005 and 2006).

the importance of private investment for helping sustain the industry and increase quality.

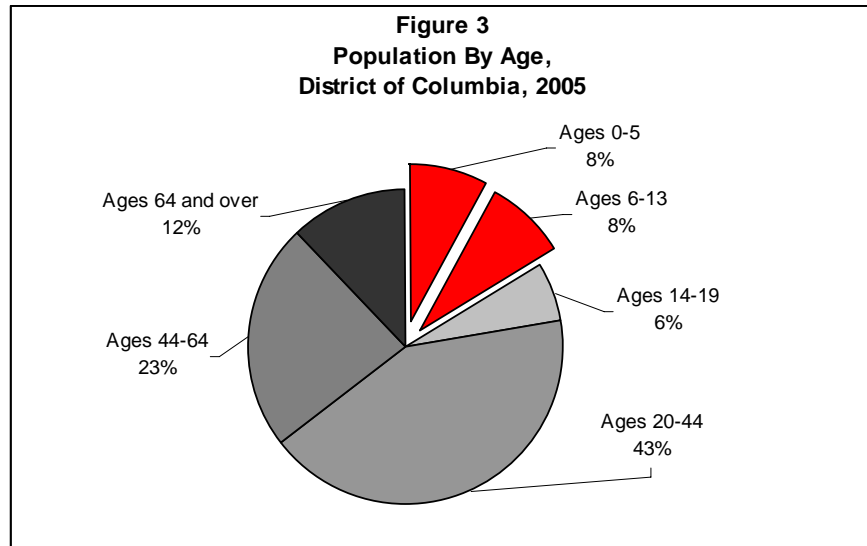
The Washington Area Community Investment Fund (WACIF) is a regional nonprofit focused on empowering underserved communities and individuals by providing them with access to capital and specialized technical expertise. Located in the District, WACIF secures social investments and permanent capital from individuals, churches, banks, foundations, corporations, and other institutions to further its community development efforts. With public funds from the DC Early Care and Education Administration, WACIF manages the CareBuilders' Recoverable Grant Program, which totals \$500,000 for each of the next five years. Grants range from \$5,000 to \$35,000 and are available to DC licensed child development centers seeking to expand/enhance their facilities to increase the capacity of ECE to serve infants and toddlers. In addition, WACIF provides technical assistance to the child development centers under the CareBuilders' Initiative. In 2005, WACIF trained 19 center-based providers to build their financial management skills so that they could obtain additional facility expansion capital."²⁸

THE EARLY CARE AND EDUCATION MARKET

ECE Need

In Washington DC, there are approximately 44,000 children younger than the age of six and 46,100 children ages 6 through 13. That corresponds to 16 percent of the total population (see Figure 3). From 2000 to 2005 the population of children ages birth through five increased by 12 percent, but the population of children ages 6 through 13 decreased by 13 percent, indicating a shifting need in the types of ECE services that are needed.²⁹ Projections indicate that population growth trends over the past five years will continue. The U.S.

Census Bureau projects that the District's population of children ages birth through four (the population that requires ECE the most) will increase 29 percent from 2000 to 2010, while it expects the population of children ages 6 to 14 to decrease by 23 percent.³⁰



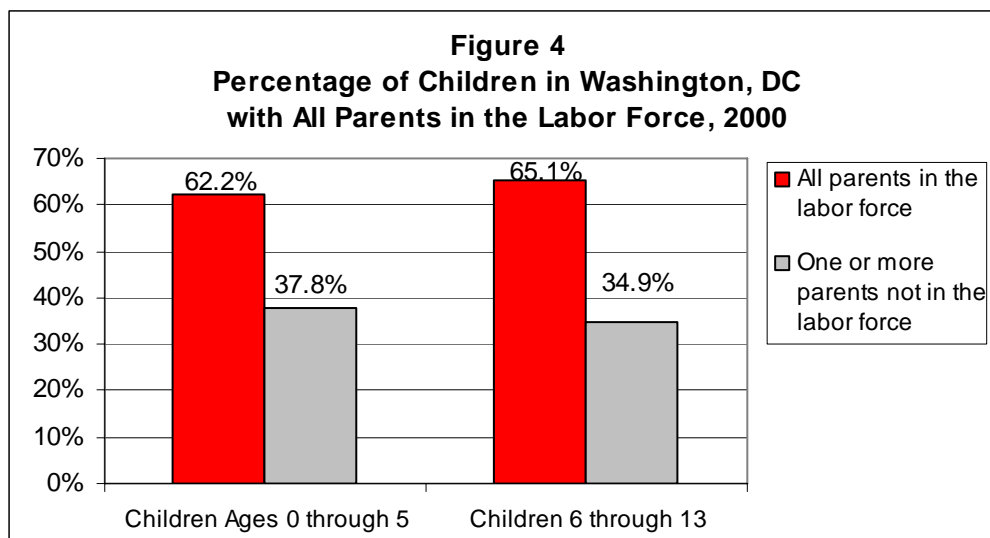
²⁸ Washington Area Community Investment Fund. (2006). *Washington Area Community Loan Fund Fact Sheet*.

²⁹ U.S. Census Bureau. (2006b). *Annual Population Estimates by State, 2005*.

³⁰ U.S. Census Bureau. (2006e). *State Population Projections 2000-2010*.

A new study by the Urban Institute indicates that current projections for a significant population decline in the school age population may be inaccurate. As the author writes, “Demand for city living is clearly on the rise and births are up in some parts of the city, raising the possibility of retaining more families over time.” However, the report highlights two major barriers that impede the District’s ability to retain families with school age children: 1) a shortage of affordable housing that is suited for families; and 2) a poorly performing public school system.³¹ A high-quality ECE system that prepares children for school may improve K-12 education and thus help the District retain families with children.

Most children in Washington DC live in families where all parents work. Specifically, 62 percent of children under age six and 65 percent of children ages 6 through 13 live in families where all parents work (see Figure 4). In total there are 67,508 children ages birth through 13 with all parents in the labor force.³² Female labor force participation in the District is 60 percent, which is significantly higher than the national average of 57 percent. Single-parent families with children are twice as common in the District (50 percent) than nationwide (23 percent), creating a bigger need for ECE options so that single parents can work and/or update their skills.³³



ECE and the Family Budget

ECE is a significant expense for families in most income brackets in the District. The average annual rate for a full-time, licensed, center-based ECE program for an infant is \$12,000 and is \$8,750 for a preschooler.³⁴ For District residents, median household income in 2004 for a family with children under 18 was \$36,238.³⁵ For a family at that income with a preschooler and infant in center-based programs, the costs would make

³¹ The Urban Institute. (2006). *Housing in the Nation’s Capital*.

³² U.S. Census Bureau. (2002).

³³ U.S. Census Bureau. (2002).

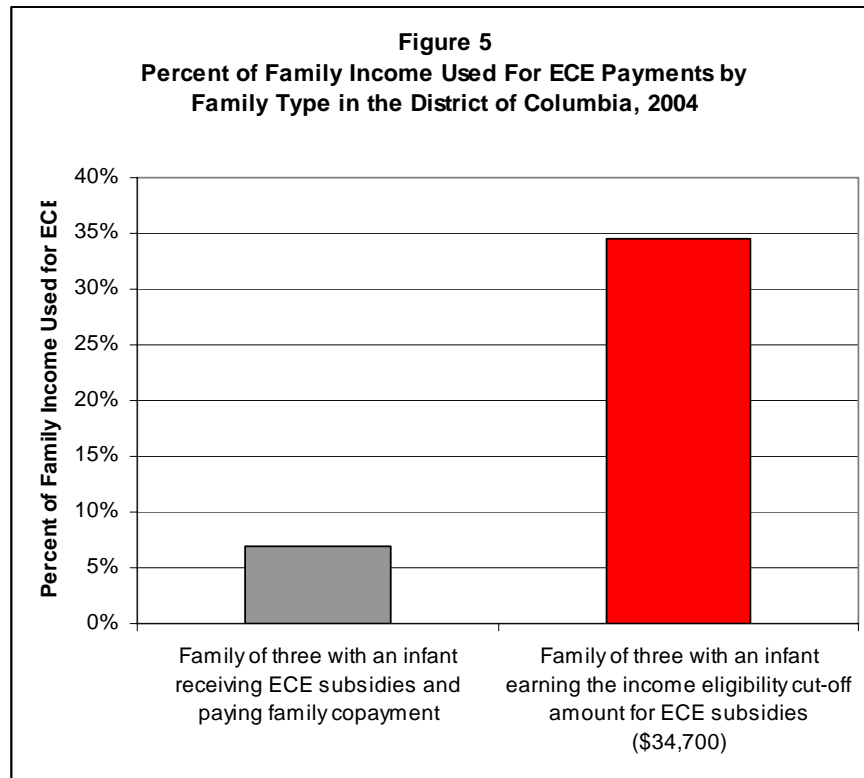
³⁴ DC Department of Human Services, Office of Early Childhood Development. (2004). *Child Care Profiles*. Retrieved on March 12, 2007 from: <http://www.dhs.dc.gov/dhs/cwp/view,a,3,Q,622835.asp>. Average annual rate estimated by multiplying the daily rate by 260 (five days per week for 50 weeks).

³⁵ U.S. Census Bureau. (2006a). *2004 American Community Survey*.

up 57 percent of their income before taxes. For a complete breakdown of costs, see Table 1.³⁶

Table 1 Average Annual Unsubsidized Rate for Early Care and Education, Based on 2004 Market Rate Survey, District of Columbia					
Type of Early Care and Education Arrangement	Infant (up to 12 months)	Toddler I (ages 1)	Toddler II (ages 2)	Preschool (ages 3 and 4)	School Age (ages 5-13)
Licensed Child Development Center	\$12,000	\$11,000	\$10,000	\$8,750	\$8,000
Licensed Family Child Care Home	\$7,500	\$7,500	\$6,250	\$7,250	\$7,500

District families trying to move to economic self-sufficiency must devote a sizable share of their household budgets to ECE services. A family of three earning \$34,699 or less may receive public support to pay just 7 percent of their total income for ECE services. However, a family making one dollar more (\$34,700) receives significantly less public support and must pay 34 percent of their income on ECE services. This steep rise in ECE costs may prohibit families from moving up the economic ladder (see Figure 5).³⁷



³⁶ DC Department of Human Services, Office of Early Childhood Development. (2004).

³⁷ Schuman, K. and Blank, H. (2005). *Child Care Assistance Policies 2005: States Fail To Make Up Lost Ground, Families Continue to Lack Critical Supports*. Retrieved on March 7, 2007 from: http://www.nwlc.org/pdf/ChildCareSubsidyReport_September2005.pdf

ECE Supply

Table 2 diagrams the types of programs, number of children served, funding and employment in the DC's ECE market.

Table 2 The District's Early Care and Education Market				
Type of Program	Number of Programs	Capacity/ Children Served	Gross Receipts	Employment (FTEs)
Licensed Child Development Centers ³⁸	345 centers	21,141 (capacity) 15,312 (enrollment)	\$137.1 million	3,886
Licensed Family Child Care Homes ³⁹	215 homes	1,027 (capacity) 794 (enrollment)	\$4.4 million	215
DC After Care for All	84 school year programs 51 summer programs	9,614 (school year) 4,100 (summer)	\$10.8 million	566
DC Public School and DC Public Charter School preschool/pre-k classrooms	193 classrooms	3,860 children ages 3 and 4	\$33.0 million	386
DC Public School Head Start classrooms	90 classrooms	1,790 children ages 3 and 4	\$9.9 million	318
Children Youth Investment Trust Corporation Funded After-School and Summer Programs	140 grantees	19,500 children ages 5 through 13	\$12.8 million	488
License-exempt DC Dept. of Parks and Recreation Summer Programs	101 programs	3,031 children ages birth through 13	\$6.0 million	184
Department of Defense-Certified Child Development centers (not licensed by the Department of Health)	2 centers	725 children ages birth through 5	\$6.5 million	187
License-exempt home providers with government contracts	70 providers	70 children ages birth through 13	\$0.5 million	70

It is difficult to estimate how many unduplicated children are enrolled in programs in the District because children may be enrolled in more than one program and there is no centralized database containing all ECE programs. However, combining the number of children served from each type of care gives a total of 58,796 children ages birth through 13.

It is also difficult to estimate what the total supply of ECE is due to a lack of data for publicly funded ECE agencies, who are only required to report how many children are enrolled in their programs. There are currently, 21,114 spaces in licensed child

³⁸ DC Department of Human Services, Office of Early Childhood Development. (2004).

³⁹ DC Department of Human Services, Office of Early Childhood Development. (2004).

development centers of which 15,312 are fully utilized (70 percent). However, preliminary findings from a more recent survey in 2006 by Dr. Deborah Lyons of the Center for Applied Research and Urban Policy, University of the District of Columbia, suggests that these slots are now almost entirely utilized (Lyons, D.; personal communication, January 12, 2007). This suggests that there is a very tight market for ECE in the District. Furthermore, a significant percentage of parents who commute to the District for work use ECE programs located in the District. This places further strain on an industry that is already operating at near-maximum capacity. Coordinated data collection across all programs is needed to determine the utilization and need for ECE spaces.

ECE Demand

Demand for the industry relies on these key factors:⁴⁰

- **Parental Need:** Given the high labor force participation rates of parents in the District, the need for some form of ECE to enable parents to work and obtain training and education is strong.
- **Quality:** Parental demand for quality increases as more parents understand its educational importance and how to identify such programs. The District of Columbia is one of the first regions in the country to develop early learning standards for ECE programs. The standards apply to all settings whether children are being cared for in a community-based program, family child care home, public or private pre-kindergarten classroom, or Head Start program.⁴¹ Furthermore, approximately one in three licensed child development centers and family child care homes is accredited by the National Association for the Education of Young Children (NAEYC). In a few short years the percentage of licensed facilities that have become accredited has increased from 5 percent to almost 20 percent.⁴² The reason for this increase was a shift towards a tiered reimbursement rate system that provides incentives to providers who meet NAEYC's higher quality standards.

While these two trends indicate that the District is progressing towards a high-quality system, workforce and other barriers still prevent DC's system from being high quality. A "child care worker" is one of five occupations that cannot afford housing in the District based on their monthly income and average market rates for rent.⁴³ Poor compensation prevents recruitment and retention of high-quality teachers and administrators. A coordinated professional development system is needed to increase the quality of DC's ECE workforce.

- **Affordability:** Demographic and economic trends indicate that as wages rise more slowly than the cost of living in the District, more families will be challenged by affording the ECE programs they desire for their children.

⁴⁰ Smith, E.C. (2004). *Understanding Child Care Supply and Demand in the Community*. Retrieved on March 7, 2007 from: <http://www.practitionerresources.org/cache/documents/197/19705.pdf>

⁴¹ DC Department of Human Services, Office of Early Childhood Development. (2005). *Early Learning Standards for Children Entering Kindergarten in the District of Columbia*.

⁴² National Association for the Education of Young Children. (2006).

⁴³ Metropolitan Washington Council of Governments. (2002). *Metropolitan Washington Regional Housing Report*. Retrieved on March 7, 2007 from: <http://www.mwcog.org>

- **Accessibility:** Location, hours of operation and transitions between part-day programs all affect parents' ability to use programs.

These four factors are interrelated, thus making it difficult to quantify market demand from an economic standpoint. In the book *Child Care Quality*, Deborah Vendell and Barbara Wolfe note that there are two causes for why the child care industry cannot meet the demand for quality child care on its own. One, parents lack accurate information about quality child care. Two, the benefits of quality child care “accrue not just to the parents and to the child but to society in general.” However, the market does not recognize these external benefits, and parents are primarily responsible for the cost.⁴⁴

SECTION SUMMARY

The substantial size of the industry means that it not only supports the economy by allowing parents to work and preparing children for future academic success, but it also contributes to the economy's vitality by employing 6,300 full-time equivalent workers and generating \$221 million in gross receipts. This puts ECE on par with other significant industries in the District. The industry also supports the economy by garnering significant levels of public investments available to provide ECE to low-income families. These families represent a substantial portion of the existing and potential workforce and are vital to the continued growth of the economy.

⁴⁴ Vandell, D and Wolfe, B. (2000). *Child Care Quality: Does it Matter and Does it Need to Be Improved?* As cited in Lombardi, J. (2003). *Time To Care: Redesigning Child Care to Promote Education, Support Families, and Build Communities*.

Section Three

Linking ECE, Business and the Current Economy

This section describes the role that early care and education (ECE) plays in supporting the current workforce and driving labor force productivity.

By creating opportunities for labor force participation and promoting career development, the ECE industry plays a vital role in supporting Washington DC's overall economy. Through its support of the entire workforce, this industry contributes to increased profitability among local businesses. The availability of ECE promotes a healthy bottom line by driving productivity through decreased turnover and absenteeism and increased focus on the job and success in new employee recruitment. There are a variety of cost-effective and easily implemented ECE strategies for employers.

THE DISTRICT'S CURRENT WORKFORCE AT A GLANCE

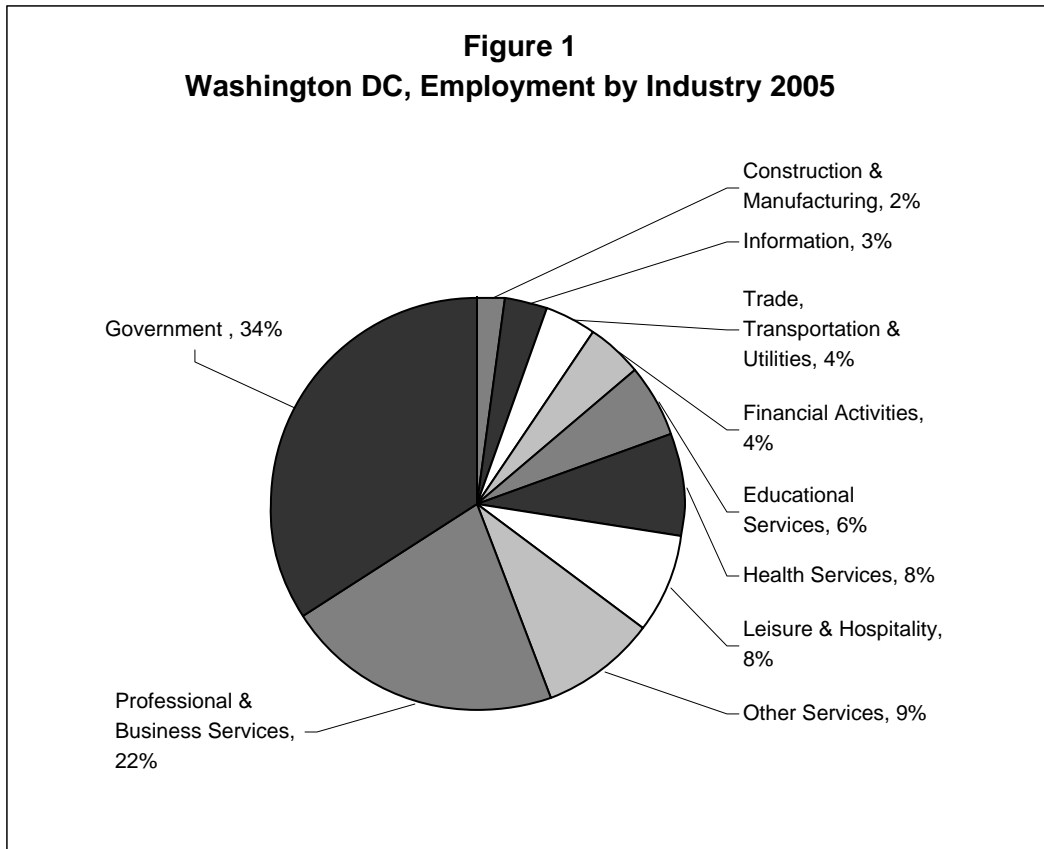
Before exploring the ways in which the industry is linked to the current workforce, understanding the characteristics of the regional workforce is key. The District is the economic and employment center of this region. The District provides jobs for the vast majority of its own working residents (72 percent) and also for the residents of surrounding suburbs in Virginia and Maryland.⁴⁵ This means that many workers commute to the District for employment. While more research is needed on the ECE preferences of commuting parents, it is clear that some prefer options close to where they work, increasing the demand for ECE in the District and near transit hubs over what would be expected from local residents alone. One reason is to be close to their children during the day, especially in the event of an emergency.

Currently, the public sector and professional services dominate employment in the District. Federal and local government employ 34 percent of workers, followed by business and professional services (22 percent) and other services, including political organizations and professional associations, (9 percent total; see Figure 1).⁴⁶ While information services and financial activities have experienced the greatest declines since 2000 (declines of 11 percent and 10 percent respectively), several industries increased significantly such as leisure and hospitality (13 percent increase) and professional services (11 percent increase).⁴⁷

⁴⁵ District of Columbia, Workforce Investment Council. (2003).

⁴⁶ DC Department of Employment Services. (2005b). *District of Columbia Wage and Salary Employment by Industry and Place of Work*. Retrieved August 23, 2006 from: <http://www.does.dc.gov>.

⁴⁷ DC Department of Employment Services. (2005b).



Source: DC Department of Employment Services, 2005.

Employment is concentrated at the high and low ends of the pay scale. While low-skilled and low-paying jobs in the retail and janitorial sectors are on the rise, jobs requiring higher levels of education and experience are particularly in demand. More than half of District jobs are in managerial and professional occupations, compared to 34 percent nationally.⁴⁸⁻⁴⁹ In comparison to approximately 21 percent nationwide, more than 40 percent of District jobs require a bachelor's degree, and nearly 7 percent of District jobs require a professional degree (law degree, PhD or medical degree), compared to 2 percent nationally.⁵⁰

Although the total number of jobs (especially those requiring high levels of skill and education) has been increasing steadily, that does not necessarily mean that residents within the District can access these jobs.⁵¹ Due to factors including low literacy rates and low levels of educational attainment, many District residents do not qualify for jobs that require greater skills and education.⁵² Quality ECE may help to bridge the gap between available jobs and the local labor force. To access increased training and

⁴⁸ DC Department of Employment Services. (2005a). *District of Columbia Employment Projections by Industry and Occupation, 2002-2012*. Retrieved August 23, 2006 from: <http://www.does.dc.gov>

⁴⁹ U.S. Census Bureau. (2005). *Selected Economic Characteristics*. Retrieved September 21, 2006 from: <http://factfinder.census.gov>

⁵⁰ DC Department of Employment Services. (2005a).

⁵¹ DC Kids Count Collaborative. (2005). *Every Kid Counts in the District of Columbia: 12th Annual Factbook 2005*. Retrieved August 25, 2006 from: http://www.urban.org/UploadedPDF/900910_every_kid.pdf

⁵² District of Columbia, Workforce Investment Council. (2003).

education, District parents need access to ECE programs so they can attend necessary courses.

ECE SUPPORTS THE CURRENT WORKFORCE

The ECE industry plays an important role in supporting Washington DC's current labor force. It:

- Sustains labor force participation of parents
- Promotes career development and educational advancement

ECE Sustains Labor Force Participation

Most children in Washington DC live in families where all parents work. These families make up a noticeable share of the total labor force at any one time. Families with children under age six where all parents work account for almost 8 percent of the District's labor force. Approximately 13 percent of labor force participants live in households with children under the age of thirteen where all parents work. In total, these 53,000 families (i.e. families with children under the age of 13, where all parents work) earn over \$1.7 billion annually in the District of Columbia, and working parents with children under the age of six earn more than \$1 billion each year.⁵³

Working families with children ages 0-13 earn over \$1.7 billion annually in the District.

Clearly, parents play a vital role in the economy. If ECE is not affordable, many parents may not be able to work. As a result, the quality of the labor pool suffers.

The Self-Sufficiency Standard measures the amount of income needed for a family to adequately meet its needs without government assistance. In 2005, an adult with two young children in Washington DC needed \$53,634 to meet the family's most basic needs (for more family types, please see Appendix B).⁵⁴ Working full-time at minimum wage (\$6.75 per hour in 2005) offers an annual salary of \$14,040, far below the self-sufficiency wage. Furthermore, the 2004 average annual wage of a teacher with bachelor's degree teaching in a licensed child development center in Washington DC was just \$26,758—far below the self-sufficiency wage.⁵⁵

In a study of long-term employment after welfare, researchers found that two factors determined a working mother's ability to sustain employment after leaving welfare: job quality and the availability of ECE.⁵⁶ Women with access to safe and affordable center-

Women with access to safe and affordable center-based ECE and access to quality jobs are more likely to be stably employed after leaving welfare.

⁵³ Based on Census 2000 income for various family types with and without children. Updated to 2005 population using the 2005 American Community Survey. Updated to 2006 dollars by using the CPI.

⁵⁴ Pearce, D. (2005). *The Self-Sufficiency Standard for the Washington, D.C. Metropolitan Area 2005*. Retrieved August 24, 2006 from: <http://www.sixstrategies.org>.

⁵⁵ DC Department of Human Services, Office of Early Childhood Development. (2004).

⁵⁶ Boushey, H. (2004). *Staying Employed After Welfare: Work Supports and Job Quality Vital to Employment Tenure and Wage Growth*. Retrieved August 30, 2006 from: http://www.epinet.org/content.cfm/briefingpapers_bp128

based child care and with access to quality jobs (positions with higher wages and affordable health insurance) were more likely to be stably employed two years after leaving welfare.⁵⁷

In the 2003 report *Waiting in the Shadow of the Capitol*, researchers found that the majority of families on waitlists for subsidized child care struggled to pay for ECE programs. Of 182 families surveyed, 30 percent reported that they stayed home to care for their child while they waited for subsidized child care, and 13 percent reported taking their child to work.⁵⁸ In 2004, there were 8,921 children on waitlists for subsidized child care.⁵⁹ The negative economic implications are severe. Many parents can no longer work and others are forced to place their children in child care arrangements that do not meet their quality standards.⁶⁰

An evaluation of Early Head Start (EHS), a child development program that serves low-income infants and toddlers and their families, suggests that these programs have a significant impact on improving the self-sufficiency of parents. Of EHS participants, 60 percent participated in education or job training versus 51 percent of non-participants. Additionally, 87 percent of EHS parents were employed at some time during the first 26 months compared to 83 percent of parents not participating in EHS.⁶¹

ECE Promotes Career Development and Educational Advancement

Accessible ECE enables parents seeking additional training and education to attend courses. A more educated workforce benefits:

- Parents through higher incomes
- Government through larger tax revenues, decreased parental reliance on government programs and lower unemployment
- Businesses through a more skilled workforce and increased productivity

Higher educational attainment for parents enables them to earn higher incomes and reduces the likelihood of needing various forms of government support. In a national study investigating higher education opportunities for individuals transitioning from welfare to work, researchers found that 88 percent of welfare recipients who obtained four-year college degrees discontinued participation in welfare after earning their degree.⁶²

⁵⁷ Boushey, H. (2004).

⁵⁸ DC Early Care and Education Research Consortium and the Center for Applied Research and Urban Policy—UDC. (November 2003). *Waiting in the Shadow of the Capitol: Impacts of the Child Care Subsidy Wait List on Families, Providers, and Children in the District of Columbia*.

⁵⁹ DC Department of Human Services, Office of Early Childhood Development. (2004). The District no longer maintains a waitlist for subsidized ECE.

⁶⁰ DC Early Care and Education Research Consortium and the Center for Applied Research and Urban Policy—UDC. (November 2003).

⁶¹ Love, et al. (2004a). *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start*, Volume: Final Technical Report. Washington DC: U.S. Department of Health and Human Services, xvii.

⁶² Karier, T. (2003). *Welfare Graduates: College and Financial Independence*. Levy Economics Institute of Bard College, as cited in *Grassroots to Graduation: Low-income Women Accessing Higher Education*. Boston: Wellesley College for Research on Women and Women's Institute for Housing and Economic Development.

Higher education also decreases the likelihood of unemployment. Washington DC's average annual unemployment rate was approximately 6.5 percent in 2005, compared to 5.1 percent for the nation as a whole.⁶³ On a national level, unemployment rates varied according to level of education: those who did not graduate from high school (7.6 percent); those with high school diplomas (4.7 percent); those with some college or associate's degrees (3.9 percent); and those with bachelor's degrees or higher (2.3 percent).⁶⁴

Subsidized ECE on college and university campuses is important in that it enables parents to update their skills. Policies that enable parents with limited incomes to pursue higher education benefit the economy. Research demonstrates that student-parents who use on-campus ECE:

- Have higher grade point averages
- Are more likely to remain in school and graduate in fewer years
- Have higher graduation rates than their campus counterparts⁶⁵

Similarly, student-parents indicate that the availability of ECE is critical to their decision to enroll in college.⁶⁶ Limited capacity in programs offered during non-traditional hours prevents parents from enrolling in classes or programs that are offered outside of the traditional workday.

Many of the District's higher education institutions offer on-campus ECE. For example, the University of the District of Columbia, the District's only public institution of higher education, offers students the opportunity to obtain associate's, bachelor's or graduate degrees as well as courses designed specifically to update skills. The University views ECE as an essential part of its approach to higher education.⁶⁷ The University's Child Development Center provides ECE to children ages two-and-a half to five years. The Center uses a comprehensive approach that includes education, health, parent involvement and social services. ECE that is conveniently located and available during non-traditional hours is essential to a student-parent's ability to enroll in school.

With nearly 5,800 employees, George Washington University is among the District's largest private employers.⁶⁸ To help faculty and staff find reliable, quality care for their children and elderly or disabled relatives, the University contracts with Family Care

⁶³ U.S. Department of Employment Services and the Bureau of Labor Statistics. (2006c). *Unemployment Rate*. Retrieved August 24, 2006.

⁶⁴ U.S. Department of Labor, Bureau of Labor Statistics. (2006b). *Household Data Annual Averages*. Retrieved July 2006 from: <http://www.bls.gov>

⁶⁵ *Impact of Campus-based Child Care on Academic Success, Student-parents at SUNY Community Colleges, 1989 and Child Development Center Participant Analyses, Bronx (New York City) Community College, 1994*. As cited by The National Coalition for Campus Children's Centers in their policy brief: *Campus Child Care Bill: Child Care Means Parents in School Act, S1151 and H.R. 3936, 1999*.

⁶⁶ National Coalition for Campus Children's Center. (1999). Policy Brief entitled *Campus Child Care Bill: Child Care Access Means Parents in School Act, S1151 and H.R. 3936*.

⁶⁷ University of the District of Columbia. (2006). *Child Development Center*. Retrieved August 30, 2006 from: http://www.udc.edu/academics/college_arts_sciences/dept_education/child_dev_center.htm

⁶⁸ DC Department of Employment Services. (2003). *Top 200 Chief Executive Officers of the Major Employers in the District of Columbia*. Retrieved September 21, 2006 from: http://does.dc.gov/does/frames.asp?doc=/does/lib/does/info/Top_200r.pdf

Resources to provide individual consulting and referral services for child care, elder care or related issues.⁶⁹ The services are available at no charge to employees.⁷⁰

ECE supports efforts to increase self-sufficiency among the District's chronically unemployed and working poor residents. The District is currently investing in the Housing Choice Voucher Family Self Sufficiency Program, which is a joint pilot project of the DC Housing Authority and the Workforce Investment Council. The Project is focusing on moving 400 families who live in subsidized housing towards economic self sufficiency in five years by addressing a host of barriers, including ECE (B. Lang, personal communication, January 3, 2007). As Barbara Lang, President and CEO of the DC Chamber of Commerce and Chair of the DC Workforce Investment Council, notes:

"High-quality ECE is a critical support for families who are trying to become self-sufficient."

*Barbara Lang, President and CEO of the Chamber of Commerce, and
Chair of the Workforce Investment Council*

ECE DRIVES LABOR FORCE PRODUCTIVITY

Like other components of a strong economic infrastructure, the ECE industry supports businesses by increasing employee productivity. The availability of affordable, accessible, quality ECE has positive effects on businesses' bottom lines.

Nationally and locally, businesses realize that they can increase their profitability by working to ensure that high-quality ECE options exist for their employees. For individual businesses, these options:

- Increase employee retention
- Reduce absenteeism
- Enhance recruitment of the most skilled workers
- Increase on-the-job productivity

ECE Increases Employee Retention

Particularly for companies that rely on highly skilled workers, retaining existing staff is a priority. Employees with young children may consider discontinuing work or moving to a more family-friendly company if they are not able to find suitable ECE solutions. Those who feel supported in their new family roles or who feel that their workplaces offer a balance between work and home obligations are less likely to leave their jobs.⁷¹ When employees do leave because of ECE problems or transfer to a company with better ECE options, companies lose human capital and incur high turnover costs.

⁶⁹ George Washington University. (2006). *Family Care Consultation and Resource & Referral Service*. Retrieved September 2006 from: <http://www.gwu.edu/~hrs/benefits/other/familycare.html>

⁷⁰ George Washington University. (2006).

⁷¹ Blue Cross Blue Shield of Massachusetts. (2003). *Blue Cross Blue Shield of Massachusetts Names One of the 100 Best Companies for Working Mothers Nationwide*. Retrieved from: <http://bcbsma.com>.

A national study of companies that offer child care centers to their employees found that turnover was nearly 50 percent lower for those who used the center when compared to other workers.⁷² The survey also found that more than half of the center's users had been with their company for more than five years, and nearly half had been with their company for more than ten years.⁷³ Another national survey found that 19 percent of employees at companies with ECE programs indicated that they have turned down other job opportunities rather than lose work-site ECE.⁷⁴

While the number of employers offering ECE benefits as a means to attract and retain quality employees grows, many employers continue to miss out on this opportunity. In a survey of businesses by the U.S. Chamber of Commerce, only 32 percent reported actively assisting "their employees in addressing challenges such as child or dependent care, transportation or housing."⁷⁵ Another survey of employees confirmed this disconnect between employers and employees. While caring for dependents was one of the top six benefits *employees* desire, *employers* in a similar survey did not find it essential.⁷⁶

A meta-analysis of 15 different turnover cost studies found that the average turnover costs for a full-time employee earning \$8 per hour are over \$9,000, 56 percent of the annual wages for that employee.⁷⁷ For salaried employees, costs are at least 150 percent of the base salary, and costs increase for higher-paid and more valued staff.⁷⁸

ECE Reduces Absenteeism

Nationally, unscheduled absenteeism in 2005 cost businesses an average of \$660 per employee, costing large employers up to \$1 million per year.⁷⁹ More than one-fifth of all unscheduled absences are due to family issues, which include ECE breakdowns (see Figure 2). On-site ECE and emergency back-up ECE are among the most effective work-life programs that reduce unscheduled absenteeism.⁸⁰

⁷² Bright Horizons Family Solutions. (2003). *The Real Savings from Employer-sponsored Child Care: Investment Impact Study Results*. Boston, MA: Bright Horizons.

⁷³ Bright Horizons Family Solutions. (2003).

⁷⁴ Simmons College. (1997). *Benefits of Work-Site Child Care*. As cited by Bright Horizons Family Solutions.

⁷⁵ U.S. Chamber of Commerce, Center for Workforce Preparation. (2001). *Keeping Competitive: Hiring, Training, and Retaining Qualified Workers*.

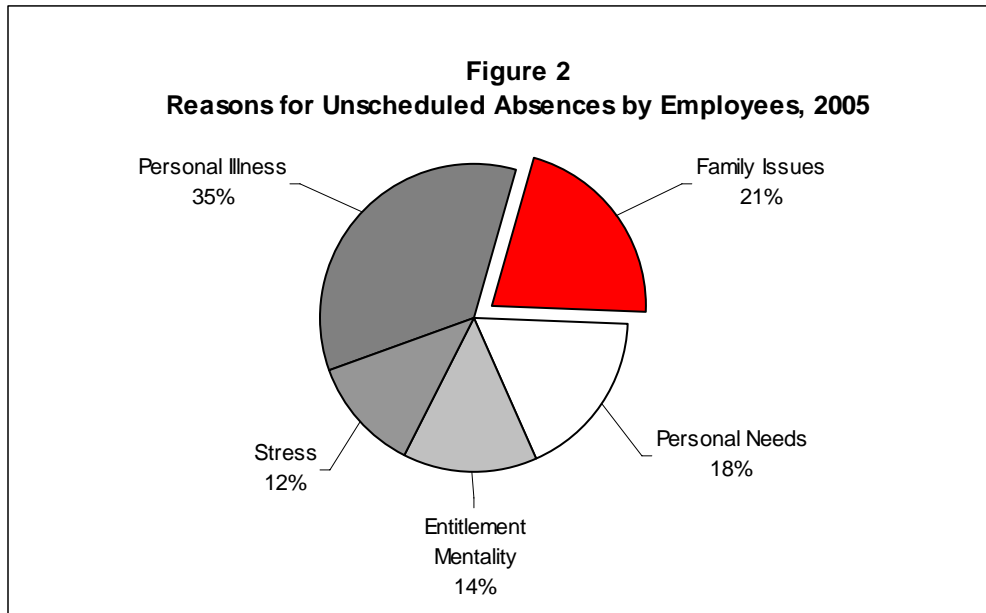
⁷⁶ Merk. (1999). *Using Benefits to Attract and Retain Employees*. Retrieved from: <http://www.probenefits.com>.

⁷⁷ Sasha Corporation. (2003). *Turnover Costs in 15 Different Studies*. Retrieved from: <http://www.sashacorp.com>.

⁷⁸ Bliss, W. (1999). *The Business Cost and Impact of Employee Turnover*. Retrieved from: <http://blissassociates.com>.

⁷⁹ CCH Incorporated. (2005). *2005 CCH Unscheduled Absence Survey*. Retrieved July 2006 from: <http://www.cch.com/press/news/2005/200510121h.asp>

⁸⁰ CCH Incorporated. (2005).



Source: CCH Incorporated, 2005.

Nationwide, approximately 16 percent of major employers offer sick or emergency back-up child care to reduce employee absenteeism.⁸¹ Fannie Mae, a leading financial services company, is headquartered in Washington DC. To prevent unscheduled absenteeism among working parents, Fannie Mae offers a generous back-up child care program. Fannie Mae offers employees up to \$40 per day (maximum of thirty days per year) to help cover costs when their usual child care falls through. Employees in the DC area can use these funds in the firm's Emergency Child Care Center.⁸²

ECE Enhances Recruitment

The accessibility of quality, affordable ECE, on-site or in the community, is a strong recruitment tool for businesses. A knowledge-based economy depends almost exclusively on skilled workers who have numerous choices for where they want to live. Family-friendly policies indicate a company's commitment to the well-being of potential new employees and their personal lives, and make the company more attractive in a competitive workforce market. Particularly for highly specialized workers, company values are critical to attracting the best of the labor pool, with or without young children.

Arnold & Porter LLP, a Washington DC-based law firm, attracts and retains employees with its generous ECE options. The firm offers an on-site Children's Center as well as compressed and flextime work schedules to accommodate the needs of working parents.⁸³ As Elizabeth Resspass, Director of Human Resources, notes:

⁸¹ Hewitt Associates. (2001). *Hewitt Study Shows Work/Life Benefits Continue to Grow Despite Slowing Economy*. Retrieved from: <http://www.was.hewitt.com>

⁸² Working Mother Magazine. (2005). *100 Best Companies for Working Mothers*. Retrieved September 21, 2006 from: <http://www.workingmother.com/fanniema.html>

⁸³ Working Mother Magazine. (2005).

"Arnold & Porter was the first U.S. law firm to have a full-time, on-site day care facility, which provides a preschool program and free back-up care for the children of attorneys and staff. Since its inception in the mid 1980s, the Children's Center has served as a great resource for attorneys and ultimately all employees at the firm. We believe it has been and continues to be a critical component in our recruitment of talented lawyers and professional staff, who increasingly look to balance the demands of a career with a fulfilling family life. The Children's Center also allows us to retain outstanding employees and lawyers, and ultimately we can provide a high level of service to our clients by doing so" (E. Recess, personal communication, December 12, 2006).

Elizabeth Recess, Director of Human Resources, Arnold & Porter LLP

The World Bank, which is headquartered in the District of Columbia, also offers a range of ECE benefits to their employees. They offer an on-site child care center serving children ages three through five, which currently experiences waitlists. The World Bank provides an on-site, expert advisor to assist staff and their families to:

- Become familiar with child care in the Washington DC metro area
- Evaluate and select quality child care centers, preschools, nursery schools, and summer day camps
- Choose appropriate infant care
- Hire nannies, *au pairs*, and other caregivers
- Find in-home child care
- Locate various community resources for parents, children and nannies⁸⁴

Bank of America also address the ECE needs of their employees by offering all employees flexible spending accounts for ECE and resource and referral. Additionally, Bank of America subsidizes income-eligible employees up to \$175 per month per child for ECE expenses.⁸⁵

ECE Increases Productivity

Working parents who know their children are in high-quality ECE settings are better able to focus on their jobs. Employees with inadequate ECE are more likely to be late for work, absent or distracted than parents who are confident about their children's ECE arrangements.⁸⁶ Working parents often worry about their school-age children during the time period between the end of the school day and when parents get home. This effect has been named Parental After-School Stress (PASS). Parents with high levels of PASS are more likely to experience negative productivity-related patterns than parents with low PASS, including job distractions, missed work, making errors and missing

⁸⁴ World Bank. (2007). Retrieved on November 9, 2006 from: <http://web.worldbank.org/WBSITE/EXTERNAL/EXTSTAFF/EXTTHR/0,,contentMDK:20344534~menuPK:64231680~pagePK:64233720~piPK:444052~theSitePK:444049,00.html>

⁸⁵ Bank of America. (2006). Retrieved on November 10, 2006 from: http://www.bankofamerica.com/careers/index.cfm?template=bw_w_programs

⁸⁶ Brown, J. (2002). *How Does High-quality Child Care Benefit Business and the Local Economy?*

meetings and deadlines. Parents are more at risk for PASS when their children spend more time unsupervised after school and their jobs are less flexible.⁸⁷

In the District of Columbia, the vast majority of firms (88 percent) employ fewer than 100 people.⁸⁸ These small firms employ nearly 30 percent of the local workforce.⁸⁹ While many companies are challenged by the rising costs of fringe benefits, small firms in particular struggle to provide benefits such as health care and ECE. While most employee benefits provide an economy of scale for larger companies, they are less economically efficient for smaller companies. However, smaller businesses have access to a number of innovative strategies that rely on their ability to be flexible and help employees solve these issues individually.⁹⁰ In a 2005 survey of employers, small employers (those with fewer than 100 employees), were significantly more likely to offer a range of benefits related to improved work flexibility than employers with more than 100 employees. For example, 66 percent of small employers allow employees to return to work gradually after childbirth, in comparison to just 49 percent of large employers.⁹¹

There is a range of options that businesses of all sizes can use to support the needs of their employees:

- On- or near-site ECE
- Company-purchased slots in local child development centers
- Back-up child care
- Employer-contracted child care for mildly ill children
- Dependent care financial assistance
- Flextime, flexi-place, compressed work weeks, and job sharing
- Sick/personal leave to meet dependent care needs
- Dependent care resource and referral agency partnerships
- Cafeteria-style benefit plan or a dependent care pre-tax account
- Educational events for employees around ECE and other work-life issues⁹²

These benefits do not just help employees with children. Based on data compiled from more than 140,000 employees at various companies nationwide, 78 percent of workers

⁸⁷ The Community, Families & Work Program. (2004). *Parental After-School Stress Project*. Retrieved on March 7, 2007 from: <http://www.nsba.org/site/docs/37600/37588.pdf>

⁸⁸ U.S. Census Bureau. (2006c). *District of Columbia-All Industries By Employment Size of Enterprise*. Retrieved August 28, 2006 from: <http://www.census.gov/epcd/susb/2001/dc/DC--.HTM>

⁸⁹ U.S. Census Bureau. (2006c).

⁹⁰ Hendrickson, S.S. (2006, May 4). *Helping employees with child care isn't hopelessly expensive*. San Francisco Business Times.

⁹¹ Bond, et al. (2005). *National Study of Employers*. Families and Work Institute, pp 3-5.

⁹² Based on examples provided in United Way of the Bay Area and One Small Step. (2002). *Choosing Care: An Employers Guide to Child Care Options*.

feel their work environment would improve if their co-workers' ECE needs were addressed.⁹³

Local government accounts for 17 percent of all government sector jobs in the District of Columbia.⁹⁴ To meet the needs of its workers, the District offers Flexible Spending Accounts, which enable employees to use up to \$5,000 in pre-tax dollars for federally approved necessities such as medical expenses and ECE costs. Employees do not pay Federal or Social Security taxes on the money set aside or used through the Flexible Spending Accounts, so using the plan decreases an employee's taxable income and increases the amount available for child care expenses. The Flexible Spending Accounts allow employees greater access to ECE without increasing the District's salary expenses.

Federal government agencies also reap benefits from quality ECE options. The U.S. Department of Justice (DOJ) offers back-up ECE for its employees. DOJ reserves a limited number of spaces at a child development center near its offices, and if unforeseen situations prevent employees from using their normal care providers, employees can pay a minimal fee and use the back-up child care services.⁹⁵ Offering back-up child care reduces the likelihood of unscheduled absences and enhances worker productivity.

Being a Champion for Children

Businesses can be powerful advocates for ECE by investing in the industry. A good example is PNC Bank, which is a leader in the area of early childhood education. Through *PNC Grow Up Great*, the company's 10-year, \$100 million investment in school readiness – and one of the most comprehensive corporate-based school readiness programs in the country – PNC not only makes grants, but also works to raise awareness, advocates for change, and engages its employees in volunteerism. PNC is raising awareness about the importance of school readiness via a multimedia campaign featuring toddlers who are “ready” for success as well as by making education materials available for free to the public in all of its area branches.

PNC supports employees who engage in volunteering. With a company-wide goal of 100,000 hours per year, PNC employees volunteer in non-profit centers and early childhood education programs. Their activities range from tutoring children to leading financial literacy seminars for parents to technology consulting. PNC offers its employees 40 hours of paid time off each year to volunteer for *PNC Grow Up Great*.

Financial support is also a key component. Since arriving in the Washington metropolitan area in May 2005, PNC has made nearly \$1 million in grants to the ECE industry. Among them are \$50,000 grants each to a local Head Start center, a preschool library and Teach for America. The latter gift is a collaborative effort with the CityBridge Foundation to attract high-quality teachers to preschool programs in the District of Columbia. President Michael N. Harreld, Regional President of PNC Bank, notes:

⁹³ Barud, S. (2002). As cited by the United Way of the Bay Area and One Small Step in *Choosing Care: An Employers's Guide to Child Care Options*.

⁹⁴ DC Department of Employment Services. (2005b).

⁹⁵ U.S. Department of Justice (2007). Retrieved on March 12, 2007 from: <http://www.usdoj.gov/jmd/ps/DOJccc.pdf>

“The economic research is clear: high-quality early care and education programs provide significant public and private returns on investment. At PNC Bank we recognize the importance of investing today in our future workforce. To do this we actively support the early care and education industry by investing in high-quality programs, volunteering in non-profit child development centers, and championing policies that support the industry” (M. Harreld, personal communication, January 3, 2007).

Michael N. Harreld, Regional President, PNC Bank

SECTION SUMMARY

Innovative ECE solutions not only meet the needs of working families, but they also support productivity and profitability. Throughout the District of Columbia and the nation, employers of all sizes are implementing creative and cost-effective solutions for the ECE needs of their employees. Their efforts are rewarded with a quality workforce and a healthier bottom line. The next section explores how the industry shapes the future workforce.

Section Four

Cultivating Washington DC's Future Workforce

In addition to strengthening the current workforce, early care and education (ECE) is an essential component of the education system that cultivates the future workforce and offers a significant public financial return.

Quality ECE lays the foundation for strong academic performance, social skills, and discipline—key elements for continued success. Recent research points to significant gains to the District's K-12 system by better preparing children to start school. Advocacy efforts have focused around the critical importance of preschool in this effort.

Research by James Heckman, Nobel Laureate in Economics, confirms that a child's early years provide the foundation for a full range of human competencies including cognitive, linguistic, social and emotional.⁹⁶ According to Heckman, "Both the mastery of skills that are essential for economic success and the development of their neural pathways follow hierarchical roles...such that later attainments build on foundations that are laid down earlier," or in other words, as he puts it, "skill begets skill."⁹⁷ Heckman's findings are further supported by Harry T. Chugani, Chief of Pediatric Neurology and Developmental Pediatrics at Children's Hospital of Michigan. Chugani found that at birth, only 25 percent of neural connections responsible for seeing, hearing, speech production and receptive language are formed, but by the age of three, 90 percent of these connections are developed.⁹⁸ These findings indicate that high-quality ECE is a critical step in developing skills for successful adult outcomes.⁹⁹

ECE PREPARES CHILDREN FOR SCHOOL AND BEYOND

In a survey of Washington DC public school stakeholders, only one-third of school principals felt that students arrive at kindergarten with the learning skills they need.¹⁰⁰ While no ECE program can guarantee lifelong success for its participants, quality programs can increase children's ability to enter traditional K-12 schooling ready to continue learning, which better

Only one-third of school principals in DC public schools feel that students arrive at kindergarten with the learning skills they need.

⁹⁶ Heckman, James. (2006). *The Technology and Neuroscience of Skill Formation*. PowerPoint presentation for the Invest in Kids Working Group.

⁹⁷ Heckman, James. (2006).

⁹⁸ Madrid, Ofelia. (2006, September 7). *Brain Network Forms Early, Research Says*. The Arizona Republic.

⁹⁹ Heckman, James. (2006).

¹⁰⁰ The District of Columbia Workforce Investment Council. (2003).

prepares them for future opportunities.¹⁰¹ Decades of research have sought to understand the effects of ECE on young children. A number of large surveys and long-term studies have consistently found that high-quality programs are beneficial to young children's growth and development, and contribute to their success later in life. These studies have also found that ECE offers financial returns, surpassing the effects of traditional economic development investments.

A national survey found that in comparison to peers in lower-quality care settings, young children who attend higher-quality and more stable programs had the following characteristics through elementary school:

- Improved math and language ability
- Enhanced cognitive and social skills
- Fewer behavioral issues¹⁰²

In a recent rigorous evaluation of Arkansas Better Chance Program (ABC), a state-funded preschool program, researchers found that ABC has increased school readiness indicators, including early language, literacy and mathematical development.¹⁰³ These findings are consistent with findings from rigorous evaluations of other state-funded preschool programs for four-year-olds (e.g., New Jersey, Oklahoma and Louisiana).^{104, 105, 106} In a recent evaluation of two state-funded preschool programs for four-year-olds in Louisiana (LA 4 and Starting Points), participants in both programs were significantly less likely to require special education or repeat kindergarten than non-participants. Furthermore, participants demonstrated significantly higher reading, math and language arts skills through third grade than non-participants.¹⁰⁷

In a study exploring the effectiveness of Early Head Start (EHS) in meeting the needs of low-income families, researchers at the U.S. Department of Health and Human Services found that EHS "dramatically increased the percentage of children who were in good quality care," and evidence suggests that quality center-based care is associated with

¹⁰¹ Brooks-Gunn, J. (2003). Do You Believe in Magic? What We Can Expect from Early Childhood Intervention Programs. *Social Policy Report*. 17 (1).

¹⁰² Peisner-Feinberg, E. S. et al. "The Relation of Preschool Child-Care Quality to Children's Cognitive and Social Development Trajectories through Second Grade." *Child Development*. September/October 2001. 72 (5): 1534-1553. Quality was assessed in this study using the following criteria: classroom quality measures using the Early Childhood Environment Rating Scale (ECERS), teacher sensitivity using the Caregiver Interaction Scale (CIS), child-centered teaching style using Early Childhood Observation Form (ECOF), teacher responsiveness using Adult Involvement Scale (AIS). In addition, teacher-child relationship and child assessment measures were used.

¹⁰³ Hustedt, J.T. et al. (2007). *The Effects of the Arkansas Better Chance Program on Young Children's School Readiness*. Retrieved on February 15th, 2007 from: <http://nieer.org/resources/research/ArkansasYear1.pdf>.

¹⁰⁴ Lamy, C.E. et al. (2005). *Giant Steps for the Littlest Children: Progress in the Sixth Year of the Abbott Preschool Program. Year Three Initial Update, 2004-2005*. Retrieved on July 29, 2005 from: <http://www.nj.gov/njded/ece/abbott/giantsteps/>

¹⁰⁵ Barnett, W.S. et al. (2005). *The Effects of State Prekindergarten Programs on Young Children's School Readiness in Five States*. Retrieved on February 20, 2007 from: <http://nieer.org/resources/research/multistate/fullreport.pdf>

¹⁰⁶ Ramey, C.T. et al. (2006). *LA 4 Evaluation and Research Results*. PowerPoint presentation on December 6, 2006. Retrieved on March 7, 2007 from: <http://ccd-web.louisiana.edu/>

¹⁰⁷ Ramey, C.T. et al. (2006).

positive developmental outcomes.¹⁰⁸ Furthermore, a rigorous evaluation of EHS by the U.S. Department of Health and Human Services indicates that EHS affected positive outcomes in infant and toddlers by:

- Increasing cognitive development and reducing the number of children at-risk for developmental delays
- Improving language development
- Strengthening parenting skills of participants¹⁰⁹

There are significant long-term cost-savings associated with the outcomes achieved by EHS programs; however, long-term research is needed to quantify the exact cost-benefit ratio from investing in EHS.

The National Academy of Sciences brought together a committee of experts to synthesize research on early childhood development. They agreed that “the effects of child care derive not from its use or nonuse but from the quality of the experiences it provides to young children.”¹¹⁰

The benefits of high quality ECE are not entirely limited to the children who attend these programs. As Terry Golden, Chairman of the Federal City Council, notes:

“Children who are prepared for school not only benefit themselves but also help students around them to learn more effectively. Children who aren’t prepared for school educationally, socially, and emotionally can disrupt classrooms and make it harder for all of our children to succeed” (T. Golden, personal communication, November 11, 2006).

Terry Golden, Chairman of the Federal City Council

Local business, government and economic and workforce development leaders have openly discussed the need for a skilled workforce prepared for the economic demands of tomorrow. More recently, they have begun to recognize that ECE is a critical part of an educational system that creates a skilled future workforce. A highly skilled workforce is better able to meet the needs of the region’s growing number of knowledge-based occupations. The District has the highest rate of jobs that require a bachelor’s degree of the top 50 metro areas in the nation. However, the majority of DC’s residents are not prepared to fill these jobs.¹¹¹ Only 28 percent of DC jobs are filled by DC residents, and since 2000 this proportion has been on the decline. The DC Chamber of Commerce estimates that these missed job opportunities represents a theoretical loss of \$1.68 billion in personal earnings, \$403 million in lost market potential to the District, and \$107 million in lost tax revenue.¹¹² DC’s reliance on a commuter workforce puts a burden on local businesses and residents who must pay higher taxes to pay for the services that commuters use but don’t pay for.

¹⁰⁸ Love, et al. (2004b). *The Role of Early Head Start in Addressing the Child Care Needs of Low-Income Families with Infants and Toddlers: Influences on Child Care Use and Quality*. Washington DC: U.S. Department of Health and Human Services, xvii.

¹⁰⁹ Love, et al. (2004a).

¹¹⁰ Shonkoff, J. and Phillips, D.A., Editors. (2000). 307.

¹¹¹ Corporation for a Skilled Workforce. (2003). *The District’s State of the Workforce Report*. The Washington D.C. Workforce Investment Council: Washington, D.C.

¹¹² Fuller, S. and Knudson, C. (2006). *The State of Business Report: The District of Columbia Economy Achievements and Challenges*. The District of Columbia Chamber of Commerce: Washington, D.C.

Barbara Lang, the President and CEO of the DC Chamber of Commerce and Chair of the Workforce Investment Council, recognizes that high-quality ECE plays a critical role in reversing this trend by preparing children for success in school and in life. As she notes:

“Clearly the biggest barrier to ensuring that more DC residents are able to capitalize on local economic growth is improving our education system, which only graduates roughly half of its students. We realize that the way to make the biggest impact in turning around the education system is to focus on our youngest students—children under six years old. Early care and education is no longer a social service problem, it’s a business problem” (B. Lang, personal communication, January 3, 2007).

Barbara Lang, CEO and President of the DC Chamber of Commerce & Chair of the DC Workforce Investment Council

Schools and universities receive public and private investments because their role in educating and better preparing children for the future labor market is clear. While more research will enable a better understanding of the long-term effects of high-quality ECE for all children, current findings indicate that investments in early education have greater returns than educational investments in later life because younger people have more time to generate returns on investments and because “skill begets skill.”¹¹³

The Committee for Economic Development (CED), a national nonpartisan research and policy organization made up of CEOs and university presidents, highlights the need for an inclusive education system. They urged the nation:

“...to view education as an investment, not an expense, and to develop a comprehensive and coordinated strategy of human investment. Such a strategy should redefine education as a process that begins at birth and encompasses all aspects of children’s early development, including their physical, social, emotional, and cognitive growth.”¹¹⁴

The Committee for Economic Development

HIGH-QUALITY ECE’S SIGNIFICANT PUBLIC RETURN

While no long-term studies of ECE have included the children of Washington DC, there are three long-term studies from other parts of the country that provide evidence of the long-term benefits of quality ECE.

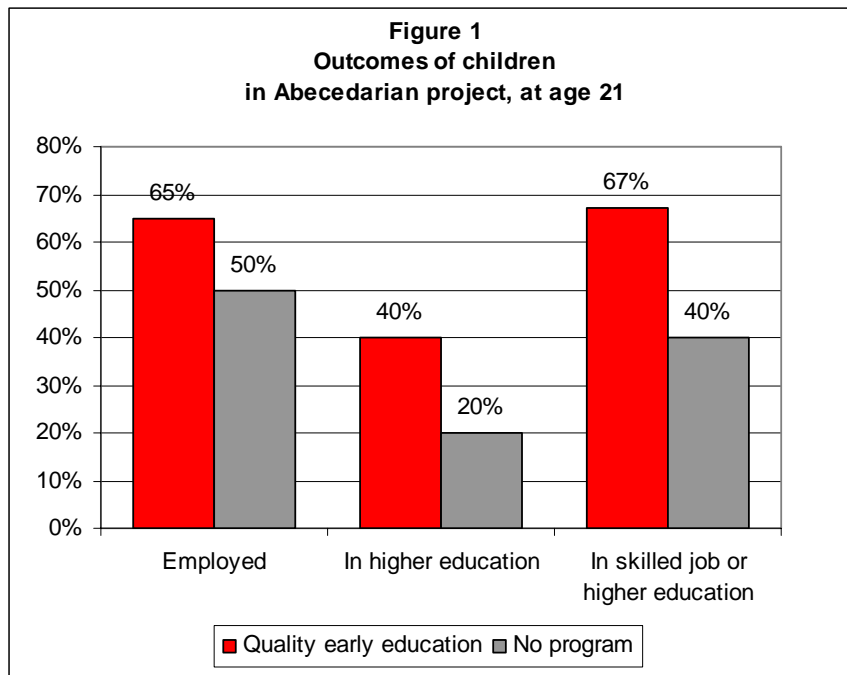
Cost-benefit analyses of three long-term, high-quality early education intervention programs indicate that there are significant future public savings when money is invested in high-quality ECE, particularly for low-income children. In the three studies discussed below, common quality elements include qualified staff comprised of teachers with

¹¹³ Heckman, J.J. and Wildavsky, A.W. (1999). *Policies to Foster Human Capital*. Joint Center for Poverty Research working paper. Chicago: Northwestern University/University of Chicago, 39.

¹¹⁴ Committee for Economic Development. (2004). As cited from *Exceptional Returns* by the Economic Policy Institute.

specific training in early education, low teacher turnover rates, and classrooms with low child-to-teacher ratios.¹¹⁵

In the Abecedarian Study, a group of low-income children was randomly assigned to an early intervention program and a second group of participants was not offered the program. The investigators found that children who participated in the early intervention program were, at age 21, significantly more likely to be in a high-skilled job or in higher education (see Figure 1).¹¹⁶



Source: The Frank Porter Graham Child Development Institute

In the Chicago CPC Study, low-income children in a high-quality, child-focused intervention program were less likely than their peers to drop out of high school, be in special education, repeat a grade, or be arrested as juveniles.¹¹⁷

The High/Scope Perry Preschool Project compared adults at age 40 who received high-quality ECE as young children with peers who did not. The study found that the group who received this instruction earned more money, were more likely to have a savings account, and were less likely to be repeat criminal offenders than their peers who were not randomly assigned to the program as children. Cost-benefit analyses of these

¹¹⁵ While experts differ on the precise definition of what constitutes “high-quality” early care and education programs, there is general agreement that programs with these three elements qualify.

¹¹⁶ See The Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill, *Early Learning, Later Success: The Abecedarian Study*. Available online at <http://www.fpg.unc.edu/~abc/>

¹¹⁷ Reynolds, A.J. et al. (2001, May 19). “Long-term effects of an early childhood intervention on educational achievement and juvenile arrest—A 15-year follow-up of low-income children in public schools.” *Journal of American Medical Association*. 285 (18): 2239-2346.

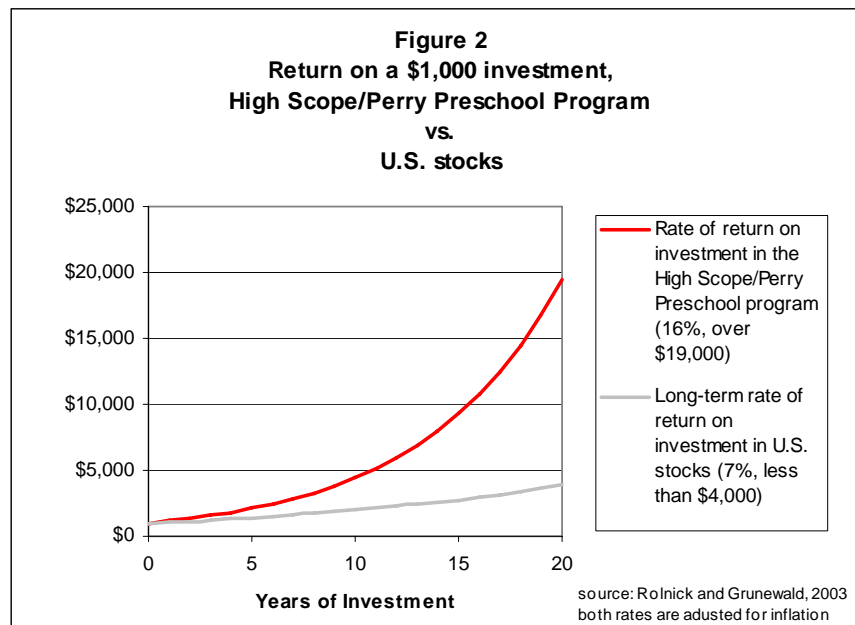
differences reveal that the high-quality programs returned as much as \$17 for every \$1 spent in early childhood.¹¹⁸

Economists have analyzed the overall costs and benefits of these three ECE programs, revealing significant returns on investment in each program (see Table 1 for summary).¹¹⁹

	Number of Years Child is in Program	Average Annual Cost Per Child	Total Cost of Program Per Child*	Lifetime Benefit to Society Per Child
Chicago CPC Study	2	\$4,856	\$7,384	\$74,981
Perry Preschool Project	2	\$9,759	\$15,844	\$138,486
Abecedarian Project	5	\$13,900	\$35,864	\$135,546

Source: Reynolds, A.J. and Temple, J.A. (2006). "Economic Returns of Investments in Preschool Education." *A Vision for Universal Preschool Education*; pp 37-68. * Because children frequently do not attend the program for the total number of intended years, total cost of program per child does not equal the number of years in the program multiplied by the average annual cost of the program per child.

A study by economists at the Federal Reserve Bank in Minneapolis, using the results from the High Scope/Perry Preschool Program, found that the return on investment from high quality early education and child care programs yielded an annual return on investment of 16 percent, significantly higher than the long-term return on U.S. stocks, 7 percent, or many traditional economic development investments (see Figure 2).¹²⁰



¹¹⁸ Schweinwart, L.J. et al. (1993). *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27*. Monographs of the High/Scope Educational Research Foundation. Ypsilanti, MI: High/Scope Press, 10.

¹¹⁹ Reynolds, A.J. et al. (2006). Reynolds, A.J. and Temple, J.A. (2006). "Economic Returns of Investments in Preschool Education." *A Vision for Universal Preschool Education*; pp 37-68. The Chicago CPC and the Perry Preschool Project were both half-day programs. The Abecedarian was a full-day project.

¹²⁰ Rolnick, A. and Grunewald, R. (2003).

These findings demonstrate the economic value of investing in quality ECE for low-income children. However, children in middle- and high-income families also experience academic problems, including significant grade retention and high school dropout rates. Nationally, 12 percent of middle-income children are held back at some point during school, and 11 percent drop out before graduating high school.¹²¹ A third of middle-income children and a fourth of upper-middle-income children lack “key pre-literacy skills” when they enter kindergarten.¹²² These findings provide evidence that high-quality programs may be cost-effective for children across most income brackets. As economist W.S. Barnett noted, “If you were to get one-tenth the public savings from high-quality preschool for middle-income children (as you do for low-income children), high-quality preschool programs would still be cost effective.”¹²³

As the Committee for Economic Development states, “Money invested today in high-quality, early education will help children develop the social, emotional, and academic foundations that will serve them throughout life.”¹²⁴

Economist Clive Belfield analyzed these national findings for the District to estimate savings from high-quality preschool. This recent study examines the economic consequences of expanding preschool programs in Washington DC, specifically in terms of high-quality preschool’s potential to generate a return on investment (ROI). Even though expanding preschool programs to all of the District’s three- and four-year-old children (especially those who receive no publicly-funded preschool or are in programs that are not adequately funded) would require substantial initial investments, Belfield found that high-quality preschool would generate a significant public return. According to Belfield, “for every dollar invested in [universal] preschool, the District would recoup \$1.39.” These gains would be realized in terms of efficiency in the school system, increased tax revenues, and lower government expenditures on crime, health and welfare.¹²⁵

In addition, Clive Belfield’s study found that tax revenues increased in conjunction with high-quality early childhood education programs. ECE enables parents to more easily enter the labor market, and children will eventually enter the labor market as more productive workers.¹²⁶ These outcomes for parents and children increase incomes and tax payments proportionately.¹²⁷

Research demonstrates that cost-benefit gains are not just limited to investments in preschool. For example, after-school programs for school-age children save public sector dollars. At least 50 percent of youth crime occurs in the hours after school.¹²⁸ A review of multiple research studies to evaluate the effects of after-school programs showed significant gains to school engagement, school attendance, academic performance and positive youth development. A cost-benefit analysis found that financial

¹²¹ Coley, R. J. (2002).

¹²² Coley, R.J. (2002).

¹²³ Barnett, W.S. (2004, August 4). Preschool-for-all Hearing, Sacramento, CA.

¹²⁴ Committee for Economic Development. (2006). *The Economic Promise of Investing in High-quality Preschool*. Retrieved August 2006 from: http://www.ced.org/docs/report/report_prek_econpromise.pdf

¹²⁵ Belfield, C.R. (2006).

¹²⁶ Belfield, C.R. (2006).

¹²⁷ Belfield, C.R. (2006).

¹²⁸ U.S. Department of Justice. (1997). As cited by the Massachusetts Executive Office of Public Safety. (2000). *Cops & Kids Fact Sheet*.

benefits from improved school performance, increased compensation, reduced juvenile and adult criminal activity, and reduced welfare costs outweighed the costs of increased attendance at school and the cost of programs.¹²⁹ Despite the evidence that after-school programs are cost effective, research on school-age children reveals that nationwide, only 13 to 15 percent of children in grades K-5 participate in after-school programs, and 1 percent of kindergartners and 7 percent of children in grades 1-5 regularly spend time unsupervised care.¹³⁰ Furthermore, a recent evaluation of a Building Educated Leaders for Life (BELL) summer program for low-performing elementary school children showed significantly increased reading skills of participants versus a control group.¹³¹

The District spends significant resources in areas in which high-quality ECE programs can reduce future use and spending, including adult incarceration and juvenile justice. In 2001, the annual cost of incarcerating someone in the District was \$26,660, almost more than twice the cost of high-quality center-based ECE.¹³² In a George Mason University study, 91 percent of police chiefs surveyed nationwide agreed that "If America does not make greater investments in after-school and educational child care programs to help children and youth now, we will pay more later in crime, welfare and other costs."¹³³ Washington DC Chief of Police Lanier also recognizes the link between high-quality ECE and reduced crime:

"Lack of cognitive skills developed early in life through social interaction can be unnecessarily prohibitive in the growth process and can carry over to the primary learning years...where concepts and fundamentals are usually cemented in the developing minds of young children. A firm foundation established at this critical stage can help avert young people from negatively encountering the Juvenile Justice System." (C. Lanier, personal communication, March 14, 2007).

Washington DC, Chief of Police Lanier

SECTION SUMMARY

ECE and the District's future economic success are critically linked in many ways. Investments in building and maintaining a high-quality ECE system reduces future public expenditures and helps the District develop a skilled, productive and competitive workforce. In the same way that local government and the private sector collaborate to increase the availability of affordable housing and quality transportation systems, they mutually benefit from investing together in an ECE system as it too is vital to the District's economic development. Investing in quality ECE becomes a catalyst for the District's economic success:

¹²⁹ Brown, W.O. et al. (2002). *The Costs and Benefits of After-school Programs: The Estimated Effects of the After School Education and Safety Program Act of 2002*. Claremont, CA: The Rose Institute.

¹³⁰ After School Alliance. *After 3 P.M.: A Survey of Afterschool in America*. Retrieved from: http://www.afterschoolalliance.org/press_archives/america_3pm/Executive_Summary.pdf

¹³¹ Duncan, C. and Capizzano, J. (2006). *Impacts of a Summer Learning Program: A Random Assignment Study of Building Educated Leaders for Life (BELL)*.

¹³² Bureau of Justice (2004). *State Prison Expenditures, 2001*.

¹³³ Fight Crime, Invest in Kids. (1999). *Poll of Police Chiefs conducted by George Mason University Professors Stephen D. Mastrofski and Scott Keeter* Washington, D.C., November 1, 1999.

- Taxpayers benefit when costs for criminal justice, remedial education, unemployment and welfare decline as a result of high-quality ECE
- Communities benefit when high-quality ECE enhances quality of life by improving outcomes for youth
- Children benefit because they enter the K-12 school system socially, emotionally and academically prepared to continue learning
- Businesses benefit from the cultivation of the District's future workforce. Quality ECE improves the skills and well-being of young children, so they are better prepared for employment

Section Five

Conclusion and Recommendations

The findings in this report are clear: high-quality ECE programs in the District play a pivotal role in supporting current and future economic growth by:

- Generating significant jobs and revenue directly
- Enabling parents to work and/or update their skills
- Increasing school readiness and improving K-12 outcomes

The ECE industry in the District plays an important role in the current economy by enabling parents to work and update their skills. ECE also increases on-the-job productivity and reduces absenteeism. Furthermore, the ECE industry drives the current economy by generating \$221 million in gross receipts annually and providing more than 6,300 full-time equivalent jobs. This puts it on par with other significant District industries such as computer systems design, residential building construction, public relations agencies and insurance carriers.

The District of Columbia's economy benefits when children participate in high-quality ECE because children in high-quality programs are better prepared for kindergarten and more likely to become life-long learners who are ready to meet the demands of the future economy. Children participating in high-quality programs also have a reduced likelihood of negative outcomes, which saves the government money and increases the quality of life for all District residents and workers.

Demographic and economic trends indicate that the District struggles to retain working families with children. Housing and poor-performing public schools are two major barriers to retaining working families. A high-quality ECE system that prepares children for school may improve K-12 education and thus help the District retain families with children. The District has the highest rate of jobs that require a bachelor's degree of the top 50 metro areas in the nation. However, the majority of DC's residents are not prepared to fill these jobs. DC's reliance on a commuter workforce puts a burden on local businesses and residents who must pay higher taxes to pay for the services that commuters use but don't pay for. As Barbara Lang, the President and CEO of the DC Chamber of Commerce and Chair of the Workforce Investment Council, notes: "Clearly the biggest barrier to ensuring that more DC residents are able to capitalize on local economic growth is improving our education system, which only graduates roughly half of its students. We realize that the way to make the biggest impact in turning around the education system is to focus on our youngest students—children under six years old."

While the industry provides benefits for all District stakeholders, increased public and private investment is necessary to realize the industry's current and future economic contribution the District. Certain challenges constrain the ECE industry from growing and maximizing the impact of current investments. All stakeholders must work together to address these challenges.

RECOMMENDATIONS

Mayor Fenty's Transition Workgroup on Early Care and Education developed three overarching recommendations for how the District can strengthen the industry to maximize benefits for children, families and businesses and the overall city:

- Employ strong accountability measures to drive continuous quality improvements across all programs serving young children.
- Expand access to pre-kindergarten to all three- and four-year olds and work toward eventual expansion to infants and toddlers.
- Build an efficient, well-coordinated early childhood infrastructure capable of sustaining quality programs for all children ages birth through five.

Accountability

- Measure current program quality and school readiness, establish benchmarks for programs and children, and assess progress towards benchmarks.
- Identify strategies and mechanisms to support programs' continuous quality improvement.
- Ensure all children receive comprehensive services in ECE programs.
- Use the Mayor's Advisory Committee on Early Childhood Development (MACECD) to convene top-level policy and community stakeholders, guide systems-building efforts and inform policy.

Expanding Access

- By 2010, provide two years of voluntary, quality pre-kindergarten to all three- and four-year olds in a variety of settings with eventual expansion to infants and toddlers. Expand access at a rate of 26-28 new pre-K programs a year starting in 2007-2008.
- Ensure that programs are culturally and linguistically accessible, that children with disabilities have access to appropriate settings, and children unserved by ECE have the opportunity to participate in preschool education.

Building Capacity

- Strengthen the human resources and technological infrastructure of the Early Care and Education Administration to support the expansion of the Mayor's School Readiness Initiative.
- Provide necessary financial support for the Mayor's School Readiness Initiative.
- Build an integrated professional development system to ensure that all early childhood teachers, assistant teachers and staff members are well trained and ensure an on-going pipeline of qualified practitioners to meet the demands of program expansion.

To maximize the benefits of public and private investments, the **DC Economic Impact Study Technical Advisory Panel** developed additional recommendations and strategies for the public and private sectors and the ECE industry:

Private Sector Strategies

- Implement cost-effective family-friendly benefit policies.
- Increase the availability of low-interest loans and grants to support ECE facility development.
- Promote the Earned Income Tax Credit as a family support policy.
- Fund a business liaison to work with businesses to increase private investment in the ECE industry.
- Contribute funds to support ECE providers in attaining national accreditation and promote higher educational opportunities for the ECE workforce.

Public Sector Strategies

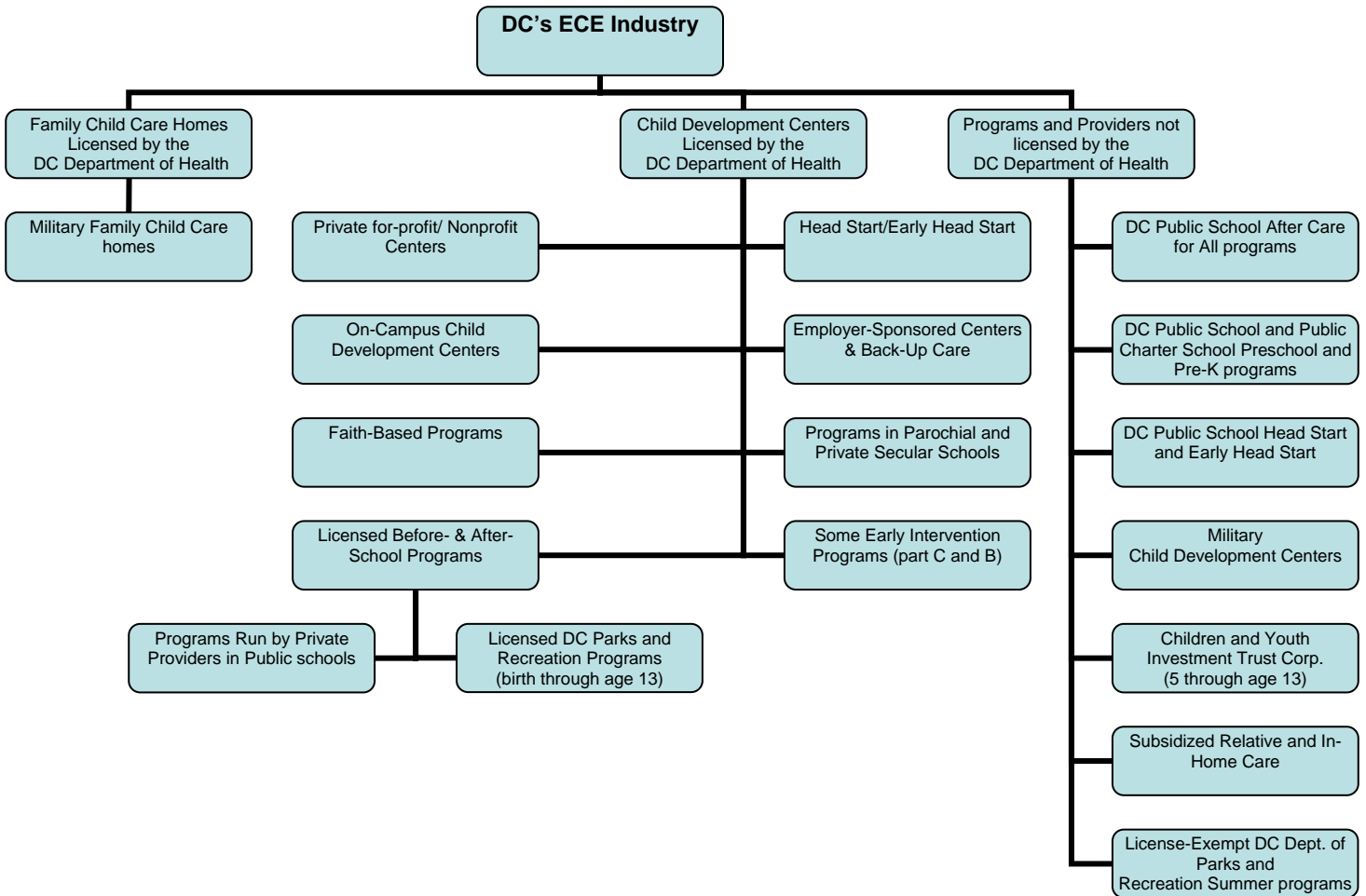
- Ensure that public funding of ECE programs remains comparable with private-sector ECE market rates.
- Provide the funds necessary to sustain true quality programs and services, including accreditation of all ECE facilities.
- Create incentives so developers can provide appropriate space, at below-market rates, to ECE providers.
- Make provisions in the School District's master facilities plan for private, public, and non-profit ECE programs.
- Prioritize the ECE industry for Small Business Development Center (SBDC) trainings to increase the business skills of the industry and access to and utilization of private finance for ECE facility development.
- Develop equitable compensation and benefit packages for the ECE workforce.

The ECE Industry Strategies

- Form a consortium or trade association of ECE providers to realize economies of scale for purchases of goods and services.
- Form a benefits pool to reduce cost of providing health insurance and retirement benefits to teachers and staff.
- Build public awareness of the industry's economic contribution to the District, particularly among leaders of other important industries.

Appendix A

DC's ECE Industry



Appendix B

The Self-Sufficiency Standard, Washington DC, 2005

Table 1
The Self-Sufficiency Standard for Washington DC, 2005¹³⁴

Monthly Costs	Adult	Adult + Infant	Adult + Preschooler	Adult + Infant + Preschooler	Adult + Schoolager +Teenager	Adult + Infant + Preschooler +Schoolager	2 Adult + Infant + Preschooler	2 Adults + Preschooler + Schoolager
Housing	\$836	\$949	\$949	\$949	\$949	\$1,229	\$949	\$949
Child Care	\$0	\$744	\$880	\$1,624	\$330	\$1,954	\$1,487	\$1,211
Food	\$225	\$331	\$342	\$425	\$561	\$631	\$672	\$737
Transportation	\$114	\$114	\$114	\$114	\$114	\$114	\$229	\$229
Health Care	\$97	\$249	\$248	\$258	\$297	\$276	\$306	\$315
Miscellaneous	\$127	\$239	\$239	\$337	\$225	\$420	\$378	\$344
Taxes	\$370	\$694	\$694	\$1,029	\$540	\$1,511	\$1,137	\$959
Earned Income Tax Credit (-)	\$0	\$0	\$0	\$0	-\$30	\$0	\$0	\$0
Child Care Tax Credit (-)	\$0	-\$58	-\$53	-\$100	-\$63	-\$100	-\$100	-\$55
Child Care Tax Credit (-)	\$0	-\$83	\$83	-\$167	-\$167	-\$250	-\$167	-\$167
Self- Sufficiency Wage								
Hourly	\$10	\$18	\$19	\$25	\$15	\$32	\$14	\$9
Monthly	\$1,768	\$3,179	\$3,421	\$4,469	\$2,758	\$5,786	\$5,028	\$3,316
Annually	\$21,224	\$38,151	\$41,063	\$53,634	\$33,101	\$69,435	\$60,339	\$39,798
							*Per Adult	*Per Adult

¹³⁴ Pearce, D. (2005).

Appendix C

Methodology for Estimating the Size of the ECE Industry

LICENSED EARLY CARE AND EDUCATION PROGRAMS

Licensed Family Child Care Homes

In order to estimate the gross receipts and direct employment for licensed family child care homes, data from the 2004 market rate survey were used.¹³⁵ In 2004, there were 215 active licensed family child care homes with a total capacity of 1,027.

To estimate employment it was assumed that there was one full-time equivalent job per family child care home. Therefore the estimate for employment is 215.

The basic equation used to estimate gross receipts for family child care homes is:

$$\begin{aligned} & \text{Full-time equivalent enrollment (by age of child)} \times \\ & \text{daily rate for care (by age of child)} \times \\ & \text{total days operating per year} \end{aligned}$$

Of the sample, only 153 homes reported enrollment. These 153 homes reported a licensed capacity of 754. Of those 754 licensed slots, there were 565 full-time equivalent children enrolled, an average of 3.7 children per home, which indicates that homes operate at approximately 75 percent of licensed capacity. The following table breaks out enrollment by age.

Table 1							
Total Full-Time Equivalent (FTE) Enrollment, Family Child Care Homes Washington DC, 2004							
	Infant	Toddler 1	Toddler 2	Pre- school	School- Age	Total FTE Enrollment	Total Capacity
Sample (153 homes)	105	123	154	112	71	565	754
All homes 215	148	172	216	158	100	794	1,027

To estimate gross receipts the daily rate by age reported by each of the 153 homes in the sample was multiplied by the corresponding full-time equivalent enrollment and total days of operation. In some cases a home did not report a rate for a particular age group. In that case, the District-wide average was used. The gross receipts estimate for all homes is based on the gross receipts from the sample. The gross receipts estimate was updated from 2004 to 2006 dollars by using the Consumer Price Index of inflation

¹³⁵ DC Department of Human Services, Office of Early Childhood Development. (2004).

(CPI). Using this methodology, the estimated 2006 gross receipts for all 215 homes total \$4.4 million. The average revenue per home, in 2006 dollars, was \$20,348.

Licensed Child Development Centers

The gross receipts and direct employment estimates for licensed child development centers include revenue and employment estimates for the following programs that operate in licensed child development centers:

- Private for-profit and non-profit licensed child development centers
- Head Start and Early Head Start programs
- DC Department of Parks and Recreation Programs serving children birth through 13 (some summer programs are license-exempt)
- Before- and after-school programs run by private providers in public school facilities
- Faith-based programs
- Programs in parochial and private secular schools
- Employer-sponsored centers and back-up care
- Some early intervention programs (Part B and C of Individuals with Disabilities Education Act, I.D.E.A.)
- On-campus (college and high school) child development centers

In order to estimate the gross receipts and direct employment from licensed child development centers we also used data from the 2004 market rate survey.¹³⁶ In 2004, there were 345 active licensed child development centers. The licensed capacity of all 345 active licensed child development centers was 21,141, including:

- 3,382 slots for infants and toddlers
- 9,725 slots for preschoolers
- 8,034 slots for school-age children

The 2004 survey included responses from 279 child development centers, but only 269 answered questions about enrollment. The 269 centers that had enrollment information had a combined licensed capacity of 17,147 (81 percent of the total capacity of the 345 centers). Full-time equivalent enrollment for these centers was 11,767, which is 72 percent of the total sample capacity. However, by age group utilization rates are: 79 percent for infant and toddlers, 77 percent for preschool programs, and 68 percent for school age centers. Full-time utilization of preschool and school age programs is likely lower due to part-day programs. These proportions were used to estimate enrollment for the entire universe of licensed centers. The following table demonstrates full-time equivalent enrollment for child development centers:

¹³⁶ DC Department of Human Services, Office of Early Childhood Development. (2004).

Table 2 Total Full-Time Equivalent Enrollment, Licensed Child Development Centers, Washington DC, 2004							
	Infant	Toddler 1	Toddler 2 (Preschool Capacity)	Preschool	School-Age	Total FTE Enrollment	Total Capacity
Sample (269 centers; 81 percent of all centers)	905	1,270	1,831	3,955	4,458	12,419	17,147
All active centers (345)	1,116	1,566	2,257	4,876	5,497	15,312	21,141

To estimate gross receipts for child development centers, the following methodology was used:

$$\text{Full-time equivalent enrollment (by age of child)} \times \text{daily rate for care of child (by age of child)} \times \text{total operating days per year}$$

For centers that did not report daily rates, the average rate by age of child and by Ward as reported in the 2004 survey was used. The gross receipts estimate for the sample was used to estimate the gross receipts for all 345 centers based on capacity. The gross receipts estimate was updated from 2004 dollar amounts to 2006 dollar amounts by using the CPI. Based on this methodology, the total gross receipts for licensed child development centers was \$137.1 million.

A direct employment estimate was relatively straightforward since employment (part-time and full-time) was reported by centers in the 2004 survey. The employment numbers from the sample centers were used to estimate employment for all 345 centers based on capacity. To adjust part-time employment to full-time employment it was assumed that each part-time employee equaled a 0.5 FTE job, and that one full-time employee reported equaled 1.0 FTE job. Some centers operated for significantly less than a full year. In these cases, reported FTEs were adjusted to reflect the percentage of the year that the centers were not open. Based on this methodology, the total number of FTE jobs in child development centers was 3,886.

LICENSE-EXEMPT EARLY CARE AND EDUCATION PROGRAMS

DC After Care For All Programs (DCACFA)

Employment and gross receipts numbers for DCACFA programs are based on DCACFA agency reports. Please see Table 3 for more details.

Table 3 Gross Receipts and Direct Employment Estimates for DC After Care for All Programs			
Category	SY 2005-2006	Summer 2006	FY 2006 Total
# of Children Served	9,614	4,100	13,714
# of Sites (Programs)	84	51	135
Total Expenditures			\$10,839,685
Total # of Full-Time Employees			19
Part-Time Employees	1,283	747	2,030
Annual FTEs NEDLC Estimate	361 FTEs This estimate assumes that each part-time job consists of working 15 hours per week for 9 months. In other words, for each part-time job reported by DCACFA it counts as 28 percent of an FTE.	186 FTEs This estimate assumes that each part-time summer job consists of working 40 hours per week for 3 months. In other words summer part-time job accounts for 25 percent of an FTE.	566 FTEs This includes 547 FTEs from part-time employment and 19 FTEs.

DC Public School and Public Charter School Preschool/Pre-K programs

Table 4 represents the verified enrollment data (three and four year-olds) from the 2005-2006 public school and public charter school audit. According to the report there are 5,650 three- and four-year olds enrolled in these programs. However, according to DC Public School Head Start, 1,790 of these children were enrolled in Public School Head Start programs that have different funding and staffing (C. Roberts, DC Public Schools, personal communication, December 18, 2006). Therefore, the total enrollment in DC Public Schools and Public Charter School (less Public School Head Start) is 3,860. According to DC State Education Office (SEO), the per-pupil funding is \$7,307.47 in FY 2006. The weight for children in the Preschool/Pre-K grade levels is 1.17, making the average expenditure per verified enrolled child \$8,549. Using this funding amount to estimate expenditures for these programs in 2006, expenditures equal \$32,990,591.

Employment data are not available for these programs. The methodology for estimating employment is therefore based on staff-to-child ratios in licensed child development centers (1:10 for preschoolers). Using this methodology, there are 386 FTEs in these public Pre-K/Preschool programs.

Table 4 DC Public Schools and Public Charter Schools Public Preschool and Pre-K Programs, Verified Enrollment, 2005-2006			
	PS Enrollment (verified residency)	PK Enrollment (verified residency)	Total (verified residency)
DC Public Schools	1,294	2,925	4,219
DC Public Schools (less Public School Head Start)	2,429		2,429
DC Public Charter Schools (Public Charter School Board and Board of Education)	491	940	1,431
Total (Less Public School Head Start)	3,860		

DC Public School Head Start Programs

DC Public School Head Start Programs are not licensed by the DC Department of Health. They were accounted for separately in our analyses because they can be tracked by the DC Public Schools and the State Office of Education. There are 1,790 children enrolled in DC Public School Head Start programs. These programs expended \$9,912,426 in 2005. There are 318 FTEs in these programs (D. Brunson, DC Public School Head Start, personal communication, November 6, 2006).

Unlicensed Military Child Development Centers

Of three Department of Defense-certified military child development centers, there are two that are not licensed by the DC Department of Health: Bolling Air Force Base Child Development Center and Naval Support Activity Washington Child Development Center.

Gross receipts and employment are estimated from direct reports from the centers and enrollment and cost estimations from the on the market rate survey. Based on this methodology the total gross receipts estimate for these two centers is \$6.5 million with 187 FTEs.

Children Youth Investment Trust Corporation (CYITC; before- and after-school programs for children ages 6 through 13)

Gross receipts and employment estimates for CYITC programs are based on information obtained through a phone interview with Mark Ouellette from CYITC. These programs serve approximately 20,000 children. Of these 20,000 children, 13,000 (65 percent) are ages 5 through 13. They invested an estimated \$15.75 million in 2005, of which \$10.24 million went to serve children ages 5 through 13. CYITC requires a 25 percent match from most grantees (grantees with operating budgets under \$250,000 are not required to match funds). Since the majority of the grantees have budgets over \$250,000 it was assumed that there was an additional 25 percent in funding for these programs, making the total revenue \$12.8 million. The matching funds help serve an additional 5,000 – 8,000 children (M. Ouellette, Children Youth Investment Trust Corporation, personal communication, September 2006).

The employment estimate is based on a 1:15 staff-to-child ratio for a total enrollment of 19,500 (13,000 + 6,500). Using this methodology, there are 1,300 teaching jobs in these programs. Assuming that each job represents .375 of an FTE job, the total number of FTEs for these programs are estimated to be 487.5.

License-Exempt DC Department of Parks & Recreation Programs

Some DC Department of Parks and Recreation programs are license-exempt and operate during the summer. A reported 175 children are served in nine license-exempt Little Explorers Camps (half day programs for children ages three to five years) and 2,856 children are served in license-exempt summer full-day programs. These programs employ a total of 184 full-time equivalent jobs (R. Gundling, DC Department of Parks and Recreation, personal communication, January, 2007).

The Little Explorers programs are open roughly 60 half days (5 days per week for 12 weeks in the summer). To estimate gross receipts, the daily rate of \$17.05 (equal to one half the daily rate for a preschooler) was multiplied by the total number of days (60) for a gross receipts estimate of \$183,802. For the other summer programs (full day), a daily rate of \$34.10 was multiplied by the number of days (60), equaling \$5,843,376. The combined gross receipts estimate for these programs is \$6,027,178 (R. Gundling, personal communication January, 2007).

Subsidized Relative and In-Home Care Providers (License-Exempt) With Government Contracts

Gross receipts for these providers equals the total dollar amount of government contracts in one fiscal year for these providers—\$534,000. Direct employment (FTE jobs) equals the number of these providers with contracts—70 FTEs.

Bibliography

- After School Alliance. *After 3 P.M.: A Survey of Afterschool in America*. Retrieved on March 7, 2007 from: <http://www.afterschoolalliance.org/>
- Bank of America. (2006). Retrieved on November 10, 2006 from: http://www.bankofamerica.com/careers/index.cfm?template=bw_w_programs
- Barnett, W.S., Lamy, C., Jung, K. (2005). *The Effects of State Prekindergarten Programs on Young Children's School Readiness in Five States*. Retrieved on February 20, 2007 from: <http://nieer.org/resources/research/multistate/fullreport.pdf>
- Barnett, W.S. (2004, August 4). Preschool-for-all Hearing, Sacramento, CA.
- Barud, S. (2002). As cited by the United Way of the Bay Area and One Small Step in *Choosing Care: An Employers's Guide to Child Care Options*.
- Belfield, C.R. (2006). *Investing in the Economic Vitality of the District of Columbia through Pre-K for All, Technical Report*.
- Bliss, W. (1999). *The Business Cost and Impact of Employee Turnover*. Retrieved from <http://blissassociates.com>.
- Blue Cross Blue Shield of Massachusetts. (2003). *Blue Cross Blue Shield of Massachusetts Names One of the 100 Best Companies for Working Mothers Nationwide*. Retrieved from: <http://bcbsma.com>.
- Bond, et al. (2005). *National Study of Employers*. Families and Work Institute, pp 3-5.
- Boushey, H. (2004). *Staying Employed After Welfare: Work Supports and Job Quality Vital to Employment Tenure and Wage Growth*. Retrieved August 30, 2006 from: http://www.epinet.org/content.cfm/briefingpapers_bp128
- Brandon, R. (2005). *Enhancing Family Friend and Neighbor Caregiving Quality: The Research Care for Public Engagement*. Retrieved on March 9, 2007 from: <http://hspsc.org/publications/pdf/APHSApaper05.RRF.pdf>
- Bright Horizons Family Solutions. (2003). *The Real Savings from Employer-sponsored Child Care: Investment Impact Study Results*. Boston, MA: Bright Horizons.
- Brooks-Gunn, J. (2003). Do You Believe in Magic? What We Can Expect from Early Childhood Intervention Programs. *Social Policy Report*. 17 (1).
- Brown, J. (2002). *How Does High-quality Child Care Benefit Business and the Local Economy?*
- Brown, W.O. et al. (2002). *The Costs and Benefits of After-school Programs: The Estimated Effects of the After School Education and Safety Program Act of 2002*. Claremont, CA: The Rose Institute.

- CCH Incorporated. (2005). *2005 CCH Unscheduled Absence Survey*. Retrieved July 2006 from: <http://www.cch.com/press/news/2005/200510121h.asp>
- Center for Applied Research and Urban Policy, University of District of Columbia. (2004). *Child Care Services in the District of Columbia; Districtwide and by Wards*.
- Chase, R. et al. (2001). *Child Care Use in Minnesota: Report of the 1999 Statewide Household Child Care Survey*.
- Coley, R.J. (2002). *An Uneven Start*. Educational Testing Service, Princeton, N.J. As cited in *Kids Can't Wait to Learn: Achieving Voluntary Preschool for All in California*, Preschool California, 2004.
- Committee for Economic Development. (2004). As cited from *Exceptional Returns* by the Economic Policy Institute.
- Committee for Economic Development. (2006). *The Economic Promise of Investing in High-quality Preschool*. Retrieved August 2006 from: http://www.ced.org/docs/report/report_prek_econpromise.pdf
- The Community, Families & Work Program. (2004). *Parental After-School Stress Project*. Retrieved on March 7, 2007 from: <http://www.nsba.org/site/docs/37600/37588.pdf>
- Corporation for a Skilled Workforce. (2003). *The District's State of the Workforce Report*. The Washington D.C. Workforce Investment Council: Washington, D.C.
- DC After Care for All. (2006). *Fiscal/Children Served Fact Sheet, 2004-2006*.
- DC Department of Employment Services. (2005a). *District of Columbia Employment Projections by Industry and Occupation, 2002-2012*. Retrieved August 23, 2006 from <http://www.does.dc.gov>
- DC Department of Employment Services. (2005b). *District of Columbia Wage and Salary Employment by Industry and Place of Work*. Retrieved August 23, 2006 from: <http://www.does.dc.gov>.
- DC Department of Employment Services. (2003). *Top 200 Chief Executive Officers of the Major Employers in the District of Columbia*. Retrieved September 21, 2006 from: http://does.dc.gov/does/frames.asp?doc=/does/lib/does/info/Top_200r.pdf
- DC Department of Human Services, Office of Early Childhood Development. (2005). *Early Learning Standards for Children Entering Kindergarten in the District of Columbia*.
- DC Department of Human Services, Office of Early Childhood Development. (2004). *Child Care Profiles*. Retrieved on March 12, 2007 from: <http://www.dhs.dc.gov/dhs/cwp/view,a,3,Q,622835.asp>.

DC Department of Human Services, Early Care and Education Administration. (2006). *Provider Count and Payment FY 03-06*.

DC Early Care and Education Research Consortium and the Center for Applied Research and Urban Policy—UDC. (November 2003). *Waiting in the Shadow of the Capitol: Impacts of the Child Care Subsidy Wait List on Families, Providers, and Children in the District of Columbia*.

DC Kids Count Collaborative. (2005). *Every Kid Counts in the District of Columbia: 12th Annual Factbook 2005*. Retrieved August 25, 2006 from:
http://www.urban.org/UploadedPDF/900910_every_kid.pdf

DC Public Schools. (2005). *Budgeted Staffing Levels (in FTE) FY 2005*. Retrieved on March 7, 2007 from: [http://www.cgcs.org/pdfs/DC Finance Report--Final.pdf](http://www.cgcs.org/pdfs/DC%20Finance%20Report--Final.pdf)

DC State Education Office, Nutrition Services Department. (2006). *USDA Child Care Food Program*.

District of Columbia, Workforce Investment Council. (2003). *The District's State of the Workforce Report Overview*. Retrieved August 24, 2006 from:
<http://dcwic.dc.gov/dcwic/site/default.asp>

Duncan, C. and Capizzano, J. (2006). *Impacts of a Summer Learning Program: A Random Assignment Study of Building Educated Leaders for Life (BELL)*.

Fenty, A. M. (2007). *100 Days and Beyond: 2007 Action Plan for the District of Columbia*. Retrieved on March 7, 2007 from:
http://dc.gov/mayor/pdf/100_Days_and_Beyond.shtm

Fight Crime, Invest in Kids. (1999) *Poll of Police Chiefs conducted by George Mason University Professors Stephen D. Mastrofski and Scott Keeter*. Washington, D.C., November 1, 1999.

Fuller, S. and Knudson, C. (2006). *The State of Business Report: The District of Columbia Economy Achievements and Challenges*. The District of Columbia Chamber of Commerce: Washington, D.C.

George Washington University. (2006). *Family Care Consultation and Resource & Referral Service*. Retrieved September 2006 from:
<http://www.gwu.edu/~hrs/benefits/other/familycare.html>

Heckman, James. (2006). *The Technology and Neuroscience of Skill Formation*. PowerPoint presentation for the Invest in Kids Working Group.

Heckman, J.J. and Wildavsky, A.W. (1999). *Policies to Foster Human Capital*. Joint Center for Poverty Research working paper. Chicago: Northwestern University/University of Chicago, 39.

Hendrickson, Susan Smith. (2006, May 4). *Helping employees with child care isn't hopelessly expensive*. *San Francisco Business Times*.

- Hewitt Associates. (2001). *Hewitt Study Shows Work/Life Benefits Continue to Grow Despite Slowing Economy*. Retrieved from: <http://www.was.hewitt.com>
- Hustedt, J.T. et al. (2007). *The Effects of the Arkansas Better Chance Program on Young Children's School Readiness*. Retrieved on February 15th, 2007 from: <http://nieer.org/resources/research/ArkansasYear1.pdf>.
- Impact of Campus-based Child Care on Academic Success, Student-parents at SUNY Community Colleges, 1989 and Child Development Center Participant Analyses, Bronx (New York City) Community College, 1994*. As cited by The National Coalition for Campus Children's Centers in their policy brief: *Campus Child Care Bill: Child Care Means Parents in School Act, S1151 and H.R. 3936, 1999*.
- Karier, T. (2003). *Welfare Graduates: College and Financial Independence*. Levy Economics Institute of Bard College, as cited in *Grassroots to Graduation: Low-income Women Accessing Higher Education*. Boston: Wellesley College for Research on Women and Women's Institute for Housing and Economic Development.
- Lamy, C.E. et al. (2005). *Giant Steps for the Littlest Children: Progress in the Sixth Year of the Abbott Preschool Program. Year Three Initial Update, 2004-2005*. Retrieved on July 29, 2005 from: <http://www.nj.gov/njded/ece/abbott/giantsteps/>
- Love, et al. (2004a). *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start, Volume: Final Technical Report*. Washington DC: U.S. Department of Health and Human Services, xvii.
- Love, et al. (2004b). *The Role of Early Head Start in Addressing the Child Care Needs of Low-Income Families with Infants and Toddlers: Influences on Child Care Use and Quality*. Washington DC: U.S. Department of Health and Human Services, xvii.
- Madrid, Ofelia. (2006, September 7). *Brain Network Forms Early, Research Says*. The Arizona Republic.
- Merk. (1999). Using Benefits to Attract and Retain Employees. As cited on <http://www.probenefits.com>.
- Metropolitan Washington Council of Governments. (2002). *Metropolitan Washington Regional Housing Report*. Retrieved on March 7, 2007 from: <http://www.mwcog.org>
- National Association for the Education of Young Children. (2006). *NAEYC Accredited Program Search, Washington DC*. Retrieved on November 6, 2006 from: <http://www.naeyc.org>
- National Coalition for Campus Children's Center. (1999). Policy Brief entitled *Campus Child Care Bill: Child Care Access Means Parents in School Act, S1151 and H.R. 3936*.
- National Institute on Out-of-School Time. (2005). *Making the Case: A Fact Sheet on Children and Youth in Out-of-School Time*. Retrieved on March 7, 2007 from: http://www.niost.org/publications/Factsheet_2003.PDF

- Pearce, D. (2005) *The Self-Sufficiency Standard for the Washington, D.C. Metropolitan Area 2005*. Retrieved August 24, 2006 from: <http://www.sixstrategies.org>.
- Peisner-Feinberg, E. S. et al. "The Relation of Preschool Child-Care Quality to Children's Cognitive and Social Development Trajectories through Second Grade." *Child Development*. September/October 2001. 72 (5): 1534-1553.
- Ramey, C.T. et al. (2006). *LA 4 Evaluation and Research Results*. PowerPoint presentation on December 6, 2006. Retrieved on March 7, 2007 from: <http://ccd-web.louisiana.edu/>
- Reynolds, A.J. et al. (2006). Reynolds, A.J. and Temple, J.A. (2006). "Economic Returns of Investments in Preschool Education." *A VISION FOR UNIVERSAL PRESCHOOL EDUCATION*. 37-68.
- Reynolds, A.J. et al. (2001, May 19). "Long-term effects of an early childhood intervention on educational achievement and juvenile arrest—A 15-year follow-up of low-income children in public schools." *Journal of American Medical Association*. 285 (18): 2239-2346.
- Rolnick, A. and Grunewald, R. (2003). *Early Childhood Development: Economic Development with a High Public Return*. Analysis was based on the High/Scope Perry Preschool Project in Michigan.
- Sasha Corporation. (2003). *Turnover Costs in 15 Different Studies*. Retrieved from <http://www.sashacorp.com>.
- Schuman, K. and Blank, H. (2005). *Child Care Assistance Policies 2005: States Fail To Make Up Lost Ground, Families Continue to Lack Critical Supports*. Retrieved on March 7, 2007 from: http://www.nwlc.org/pdf/ChildCareSubsidyReport_September2005.pdf
- Shonkoff, J.P. and Phillips, D.A., Editors. (2000). *FROM NEURONS TO NEIGHBORHOODS: THE SCIENCE OF EARLY CHILDHOOD DEVELOPMENT*.
- Schweinwart, L.J. et al. (1993). *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27*. Monographs of the High/Scope Educational Research Foundation. Ypsilanti, MI: High/Scope Press, 10.
- Simmons College. (1997). *Benefits of Work-Site Child Care*.
- Smith, E.C. (2004). *Understanding Child Care Supply and Demand in the Community*. Retrieved on March 7, 2007 from: <http://www.practitionerresources.org/cache/documents/197/19705.pdf>
- United Way of the Bay Area and One Small Step. (2002). *Choosing Care: An Employers Guide to Child Care Options*.

- University of the District of Columbia. (2006). *Child Development Center*. Retrieved August 30, 2006 from: http://www.udc.edu/academics/college_arts_sciences/dept_education/child_dev_center.htm
- The Urban Institute. (2006). *Housing in the Nation's Capital*.
- U.S. Census Bureau (2006a). *2004 American Community Survey*.
- U.S. Census Bureau. (2006b). *Annual Population Estimates by State, 2005*.
- U.S. Census Bureau. (2007). *Annual Population Estimates, July 1, 2006*. Retrieved on March 9, 2007 from: <http://www.census.gov/popest/states/tables/NST-EST2006-01.xls>
- U.S. Census Bureau. (2002). *Census 2000*. Retrieved on March 7, 2007 from: <http://www.census.gov/>
- U.S. Census Bureau. (2006c). *District of Columbia-All Industries By Employment Size of Enterprise*. Retrieved August 28, 2006 from <http://www.census.gov/epcd/susb/2001/dc/DC--.HTM>
- U.S. Census Bureau. (2006d). *Economic Census 2002*.
- U.S. Census Bureau. (2005). *Selected Economic Characteristics*. Retrieved September 21, 2006 from <http://factfinder.census.gov>
- U.S. Census Bureau. (2006e). *State Population Projections 2000-2010*.
- U.S. Chamber of Commerce, Center for Workforce Preparation. (2001). *Keeping Competitive: Hiring, Training, and Retaining Qualified Workers*.
- U.S. Department of Health and Human Services, Administration for Children, Youth and Families. (2006). *Head Start Programs*. Retrieved November 6, 2006 from: <http://www.acf.hhs.gov/programs/hsb/research/2006.htm>
- U.S. Department of Labor, Bureau of Labor Statistics. (2006a). *2005 District of Columbia Employment and Wages (ES-202) Survey*. Retrieved on November 6, 2006 from: <http://data.bls.gov/>
- U.S. Department of Labor, Bureau of Labor Statistics. (2005). *Career Guide to Industries: Child Day Care Services*. Retrieved on March 7, 2007 from: <http://www.bls.gov/oco/cg/cgs032.htm>
- U.S. Department of Labor, Bureau of Labor Statistics. (2006b). *Household Data Annual Averages*. Retrieved July 2006 from: <http://www.bls.gov>
- U.S. Department Labor, Bureau of Labor Statistics. (2006c). *Unemployment Rate*. Retrieved August 24, 2006.

U.S. Department of Justice. (1997). As cited by the Massachusetts Executive Office of Public Safety. (2000). *Cops & Kids Fact Sheet*.

U.S. Department of Justice (2007). Retrieved on March 12, 2007 from:
http://www.usdoj.gov/jmd/ps/DOJ_ccc.pdf

Vandell, D and Wolfe, B. (2000). *CHILD CARE QUALITY: DOES IT MATTER and DOES IT NEED TO BE IMPROVED?* As cited in Lombardi, J. (2003). *Time To Care: Redesigning Child Care to Promote Education, Support Families, and Build Communities*.

Washington Area Community Investment Fund. (2006). *Washington Area Community Loan Fund Fact Sheet*.

Working Mother Magazine. (2005). *100 Best Companies for Working Mothers*. Retrieved September 21, 2006 from: <http://www.workingmother.com/fanniemae.html>

World Bank. (2007). Retrieved on November 9, 2006 from:
[http://web.worldbank.org/WBSITE/EXTERNAL/EXTSTAFF/EXTHR/0,,contentMDK:20344534~menuPK:64231680~pagePK:64233720~piPK:444052~theSitePK:444049,00.html](http://web.worldbank.org/WBSITE/EXTERNAL/EXTSTAFF/EXTTHR/0,,contentMDK:20344534~menuPK:64231680~pagePK:64233720~piPK:444052~theSitePK:444049,00.html)



For a full copy of this report, please visit any of the following websites:

www.nedlc.org

www.prekforalldc.org

<http://dhs.dc.gov>