The Economic Impact OF THE Child Care and Early Education Industry *in South Hampton Roads, Virginia*

PREPARED BY THE

NATIONAL ECONOMIC DEVELOPMENT AND LAW CENTER

SMART BEGINNINGS
South Hampton Roads
Ready for School — Ready for Life

BACKGROUND

SMART BEGINNINGS SOUTH HAMPTON ROADS COALITION

Smart Beginnings South Hampton Roads Coalition is an alliance representing the five cities of Chesapeake, Norfolk, Portsmouth, Suffolk, and Virginia Beach. In the summer of 2005, the Coalition commissioned two reports, one a study of the South Hampton Roads child care and early education workforce and the second a comprehensive analysis of the economic effects of the child care and early education industry on the region. The Coalition's Technical Advisory Group oversaw the production of this report. They are:

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NATIONAL ECONOMIC DEVELOPMENT AND LAW CENTER

The National Economic Development and Law Center is a national research and consulting organization dedicated to building economic health and opportunity in vulnerable communities. We work in partnership 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. NEDLC is working with regions across the country to produce reports and recommendations that quantify the direct economic effects of the child care and early education industry on the regional economy. The reports help build local partnerships that enable the industry to respond to the shifting child care and early education needs of America's families. For more information, please visit www.nedlc.org.

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EXECUTIVE SUMMARY

The child care and early education industry (CCEE industry) is a significant economic driver in South Hampton Roads. Investment in the care and education of young children ages birth to five results in immediate economic returns in the form of jobs, revenue and increased economic activity. While research shows the importance of quality child care and early education experiences in preparing young children to be active and productive citizens, the economic impact of the child care and early education industry is less well documented. This report reveals that the child care and early education industry in the South Hampton Roads cities of Chesapeake, Norfolk, Portsmouth, Suffolk and Virginia Beach is a significant component of the region's economic infrastructure in the following ways:

1. **The child care and early education industry provides more than 5,400 jobs in South Hampton Roads, making it a significant employer in the region.** The CCEE industry employs nearly as many people as are employed by all the hotels and motels in South Hampton Roads. The CCEE industry employs nearly as many people as the accounting and management consulting industries combined (5,508; Table 1).

Table 1. Number of Individuals Employed in Various South Hampton Roads Industries	
Public Elementary School Teachers	6,034
Tourist Overnight Accommodations	5,525
Child Care and Early Education	5,468
Accounting Services	3,923
Management Consulting	1,585
Source: 2005 Covered Employee and Wages Survey, Virginia Economic Development Partnership for the 2003-04 school year, and the National Economic Development and Law Center	

2. **The South Hampton Roads child care and early education industry annually generates $206.7 million in gross receipts.** This amount exceeds gross receipts from management consulting, and is well over half the total receipts from all hotels and motels—a critical piece of the South Hampton Roads tourist industry (Table 2).

Table 2. Gross Receipts for Various South Hampton Roads Industries, in Millions	
Public Elementary Schools	$645 M
Tourist Overnight Accommodations	$354 M
Accounting Services	$209 M
Child Care and Early Education	$207 M
Management Consulting	$166 M
Source: 2002 Economic Census (adjusted to 2005), Virginia Economic Development Partnership and the National Economic Development and Law Center	

3. **The child care and early education industry purchases goods and services locally, adding to the employment and gross receipts of other local industries.** As such, the ripple effect of the CCEE industry's economic activity brings a total of $272.8 million and 5,960 jobs to this region.

4. **The child care and early education industry supports the South Hampton Roads labor force by enabling parents to work.** More than 84,000 parents with children under age six work—nearly one in every six South Hampton Roads workers. Most are in families where all parents work. The CCEE industry assists employers by allowing parents to participate in an educated and productive workforce. Employers that facilitate access to child care and early education services report that it allows them to hire and retain skilled employees and reduce absenteeism. Moreover, access to child care and early education services allows parents to advance in their careers and pursue further education, thus increasing their earning potential and their spending power for other local industries.

5. **Quality child care and early education programs prepare South Hampton Roads children for kindergarten and save taxpayers' money.** School readiness measures indicate that one of every five students in South Hampton Roads is not ready to succeed when he or she enters kindergarten. Children who attend high-quality child care and early education programs are better prepared for kindergarten, on average, than those who do not. Children whose backgrounds include high-quality care demonstrate improved math and language ability, enhanced cognitive and social skills and fewer behavioral problems. The Federal Reserve Bank in Minneapolis concluded that there is a 12 percent annual adjusted public rate of return based on its study of investment in a model preschool program. This annual return was manifested in lower taxpayer costs for criminal justice, special education, grade repetition and welfare benefits.

It is critically important that the region's child care and early education industry obtain increased investment to ensure that it can offer quality, affordable and accessible programs for all South Hampton Roads families. By working together, those who benefit from quality child care and early education system—businesses, government, parents, and the child care and early education industry—will ultimately ensure that all of South Hampton Roads' youngest citizens are prepared for success. In the end, these efforts will also increase the well-being of South Hampton Roads' families and communities and improve the region's economy.

SECTION ONE
INTRODUCTION

DEFINING THE CHILD CARE AND EARLY EDUCATION INDUSTRY

South Hampton Roads, defined for this study as an area comprising five cities in southeastern Virginia, supports more than 1,000 small and medium-sized child care and early education businesses. The child care and early education industry (CCEE industry) encompasses a range of programs designed to nurture, support, enrich and educate children from birth through age five. For the purposes of this report, child care and early education includes all businesses and individuals who are a part of the formal economy (i.e., subject to taxes and state regulations).[1] Licensed center-based programs, licensed family day care homes, public and private pre-schools, programs at religious institutions and Head Start child development centers are all part of the region's formal CCEE industry.

The child care and early education industry includes:

- Licensed child care centers, which are licensed by the Virginia Department of Social Services if they meet certain standards;
- Licensed Family Day Care Homes, which are licensed with the state, and provide programs in providers' homes;
- License-exempt Religious Institutions, which are not required to have state licenses, but must obtain annual exemptions from Virginia Department of Social Services licensing requirements; and
- Unregulated Family Day Care Providers, which are not required to register with the state or maintain a license to operate.

The CCEE industry also includes informal programs, but because data for them are not available, they are not included in this report. This report, then, underestimates the economic impact of the entire CCEE industry.

Table 3 shows that the maximum capacity of the formal CCEE industry in South Hampton Roads is 44,133 children at any one time**.** While some of these spaces are specifically designated for children under the age of five, others are allocated to children between the ages of five and 14 for

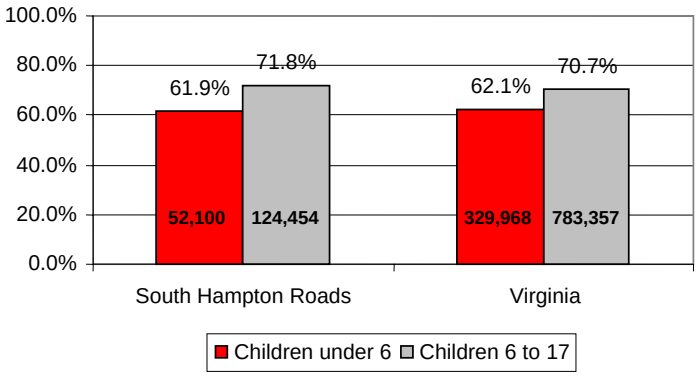
Table 3
Child Care and Early Education Programs in South Hampton Roads

Type of Program	Number of Establishments	Total Capacity
Licensed centers	326	28,109
License-exempt religious institutions	125	11,554
Licensed family day care homes	229	2,262
Unregulated family day care homes	229	2,208
Total	1,049	44,133

Capacity information from licensed programs exclusively designated for school-age children are excluded from the numbers above. Capacity for certain programs cannot be separated by age group, because licenses were awarded for school-age and younger children. In these cases, school-age capacity is included in the numbers above.
Source: Virginia Department of Social Services.

before- and after-school care and education. Census data show that there are more than 52,000 children under the age of six and more than 124,000 children between the ages of six and 17 living in homes where all parents work (Figure 1). Further, a 2002 national survey of care arrangements revealed that while nearly 35 percent of children under age five were enrolled in the formal child care and early education programs, more than half of all children under five also participated in non-parental care. While the number of children participating in the informal care system of unlicensed friends and neighbors cannot be accurately measured, this provides a picture of the significant role of informal care.

Figure 1
Percentage of Children with All Parents Working



Source: U.S. Census Bureau, Census 2000.

SECTION TWO
CHILD CARE AND EARLY EDUCATION: AN INDUSTRY IN ITS OWN RIGHT

THE SIZE OF THE CHILD CARE AND EARLY EDUCATION INDUSTRY

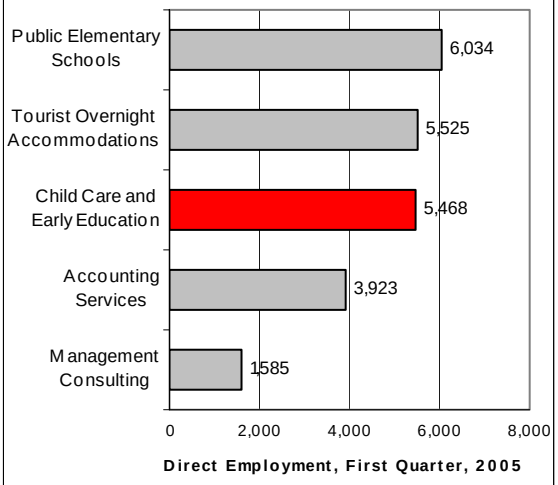
The CCEE industry is a powerful job-creating and income-generating sector of the South Hampton Roads economy. To assess the economic impact of this industry, it is necessary to estimate the number of jobs and the annual gross receipts it generates in the region.

DIRECT EMPLOYMENT

As a major employer, the CCEE industry provides work for 5,468 people in South Hampton Roads. Interestingly, the CCEE industry workforce is nearly as large as the total workforce employed by the region's hotels and motels—one of South Hampton Roads most significant industries. Moreover, the CCEE industry employs ninety percent the number of public elementary school teachers, and nearly as many individuals as the region's accounting and management consulting businesses combined (5,508; Figure 2). [2]

The child care and education workforce is as large as the total workforce employed by the region's hotels and motels, one of South Hampton Roads most important industries.

Figure 2
Employment of Various Industries in South Hampton Roads, 2005



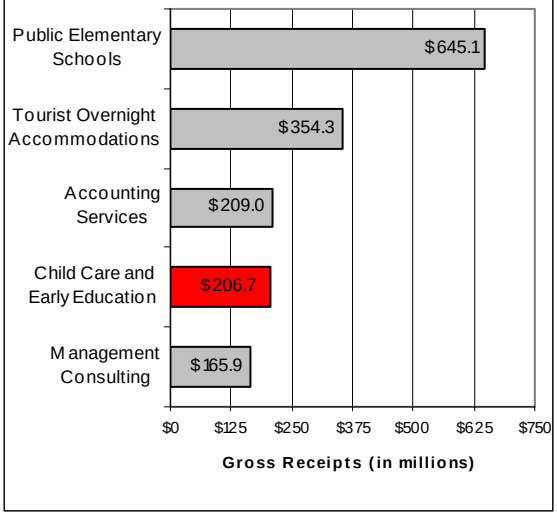
Source: National Economic Development and Law Center, Virginia Economic Development Authority, and the Virginia Employment Commission, ES-202 survey for the first quarter of 2005, which includes all employees covered under Unemployment Insurance (UI), and excludes self-employed individuals and those not covered under UI.

GROSS RECEIPTS

Clearly, the South Hampton Roads CCEE industry's economic impact is tremendous. In 2005, gross receipts for the industry (or the total value of all the goods and services produced in the region) amounted to $206.7 million. (See Appendix A for a detailed methodology).[3] This sum includes payments from private funds, such as parent fees, grants or scholarship programs, and local, state and federal funds. Figure 3 puts the size of these gross receipts in perspective. The CCEE industry generates well more than half as many dollars for the South Hampton Roads economy as do all hotels and motels in the region, and is on par with the entire South Hampton Roads accounting services industry.

The $206.7 million per year child care and early education industry is on par with all accounting services in the region, and well more than half all the dollars flowing into the region's hotels and motels.

Figure 3
Gross Receipts of Various Industries in South Hampton Roads, 2005



Source: 2002 Economic Census (adjusted to 2005 using the Consumer Price Index), and the National Economic Development and Law Center.

LINKAGES TO OTHER INDUSTRIES

The total impact of the CCEE industry's $206.7 million of receipts is further increased by the multiplier effect. The CCEE industry employs individuals and purchases products and services locally. This purchasing power adds to the gross receipts for other local industries and represents an additional $66.1 million in gross receipts for those industries. This ripple or multiplier effect boosts the total annual economic impact of the formal CCEE industry from $206.7 to $272.8 million.

SECTION THREE
CHILD CARE AND EARLY EDUCATION, BUSINESS, AND ECONOMIC DEVELOPMENT

SUPPORTING THE CURRENT LABOR FORCE

Working parents of children under age six in South Hampton Roads earn more than $2.7 billion annually.[4] The CCEE industry provides the infrastructure for parents to enter and remain part of a productive workforce.

There are 84,100 workers in South Hampton Roads with a child under age six. Together, these working parents earn over $2.7 billion annually.

A strong CCEE industry also provides the infrastructure for parents with children to access higher levels of education and further training. This means parents who are better trained and better educated, make more money, pay higher taxes and provide businesses with a more skilled workforce. Better educated parents also save taxpayers money because they are less likely to need unemployment and welfare services. A recent study investigating higher education opportunities for individuals transitioning from welfare to work found that 88 percent of those receiving welfare assistance while obtaining four-year college degrees discontinued participation in welfare after earning their degrees.[5]

Moreover, access to quality child care and early education makes it more likely that parents attending school will ultimately graduate. Research demonstrates that student-parents using on-campus child care and early education services have higher graduation rates, are more likely to remain in school, graduate in fewer years and have higher grade point averages than student-parents without such access.[6] Student-parents indicate that the availability of child care and early education is critical to their decision to enroll in college.[7]

In a survey of residents of Chesapeake, Norfolk, and Virginia Beach, 46 percent of those who would consider further education said access to child care would be important in order for them to take courses at Tidewater Community College.

QUALITY CHILD CARE AND EARLY EDUCATION IS A DRIVER OF INCREASED LABOR FORCE PRODUCTIVITY

Employees who have difficulty finding quality, reliable, affordable child care and early education services are more likely to miss work, be less productive or leave their jobs. Indeed, such constraints may impede the ability of some parents to enter the workforce. Employee absences, lowered productivity and turnover represent tangible economic costs to employers. Because the availability of affordable, quality child care and early education has positive effects on businesses' bottom lines, some employers use child care and early education as a business tool to recruit and retain employees and to reduce absenteeism and expenses associated with employee turnover.

Employee Recruitment and Retention

Attracting and retaining staff is a priority, particularly for companies that rely on highly skilled workers. Non-portable benefits, such as quality child care, are effective business tools for recruiting and retaining valuable employees. A national study of companies that offer center-based child care and early education to their employees found that turnover was nearly one-half for those who used the centers compared to other workers.[8] This same survey also found that more than half of the employees using the centers had been with their respective companies for more than five years and nearly half had been with their companies for more than 10 years.

A national study of companies that sponsor child care and early education centers for their employees found that turnover was nearly one-half for those who used the centers compared to other workers.

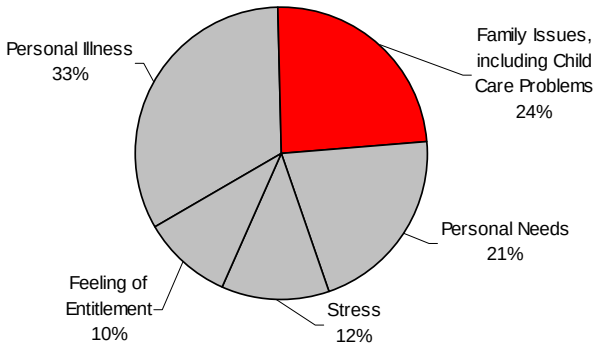
When employees do leave because of problems with child care and early education or transfer to a company with better options, companies lose skilled workers and incur high recruiting and retraining costs. An analysis of 15 different studies found that average turnover costs for a full-time employee making $8 per hour exceed $9,000, 56 percent of the annual wages for that employee.[9] For salaried employees, costs are estimated to be at least 150 percent of their base salaries. These costs increase dramatically for more skilled and higher-paid staff.[10]

Reducing Absenteeism

Simply put, access to on-site and back-up child care and early education services reduces employee absenteeism. In 2004 unscheduled absences cost U.S. businesses an average of

$610 per employee, according to a national survey of human resource executives.[11] Nearly one quarter of all unscheduled absences are due to family issues, including, but not limited to, children's illnesses as well as breakdowns in child care and early education arrangements (Figure 4). The survey found that on-site child care and emergency back-up child care are two of the most effective work-life programs that employers use to reduce unscheduled absenteeism.

Figure 4
Reasons for Unscheduled Absences by Employees



Source: CCH Incorporated.

Employer Options for Child Care and Early Education

Several South Hampton Roads employers provide model programs to address their employees' child care needs.

- The U.S. Department of Defense, a major employer in South Hampton Roads, offers high-quality child care in centers and family child care homes. Parent co-payments are based on income and are designed to ensure that quality programs are affordable for all military families. These programs are subsidized by the federal government.

- The Ford Motor Company factory in Norfolk partners with the local child care resource and referral agency, The Planning Council, to improve the quality of child care and early education in the five family child care homes and 21 centers that Ford employees use. Each facility receives $1,100 towards training and resources from The Planning Council.

- Children's Hospital of the King's Daughters owns and operates a child care center near its Norfolk hospital that is open from 6 a.m. to 8 p.m. This center offers child care and early education services for evening-shift employees, allowing the hospital to retain a high-qualified nursing staff. The center administration provides discounted tuition rates for hospital employees and is open to children from the community as well.

- Obici Hospital owns and manages an on-site child care center for hospital employees. The center is perceived as a significant benefit by employees, and also serves as an important factor in recruitment and retention. The Manager of Growing Up at Obici, Gin Staylor, finds that children often stay from infancy through age ten. While parent-

employees pay tuition, the hospital does provide a subsidy. This makes the center's quality care more accessible to employees at all levels of income.

- Child and Family Services of Eastern Virginia has approximately 60 full-time and 100 part-time employees. Employees benefit from flexible scheduling and telecommuting options to help them balance work and family obligations. As Human Resources Director Rachel Hill explains, "We allow a lot of ways of getting your work done. I know our benefits improve retention, because I scan the classifieds every Sunday. And word spreads; despite not having the highest salaries, we have a really good reputation."[12]

- At least five other corporations in the South Hampton Roads area offer child care resource and referral as an employee benefit. Employees are offered seminars on early education and information and resources on parenting and educational issues.

The rationale for these employers to provide child-care support for parents is clear. USAA's regional office in Norfolk offers on-site, reasonably priced child care centers for employees' children. General Manager Bill Putnam notes:

> USAA's mission is to provide best-in-class financial services to our military men and women. To do so, we must attract, hire and retain the very best employees, those who know, as our motto says, what it means to serve. Our success is due largely to our employees – our most valuable resource. For that reason, USAA provides world-class child development centers at very reasonable cost. We believe that by providing our people and their families with the support they need to successfully manage work and their personal lives, they will not have to make the difficult choice between work and home. And, when they are at work, they are able to focus on our mission, knowing that their little ones are close by and well cared for. Providing child care has a favorable economic impact. More importantly, it is one thing quality companies can do to ensure quality employees.[13]

Amy Paulson, a full-time professional at the Eastern Virginia Medical School, has two small children, and says she would not be able to work without accessible, affordable early care and education. She wrote:

> The on-campus child care has made it easier for me to work and care for my family, including being able to leave work during breaks to breastfeed my children or quickly access them in the event of illness. The on-campus child care also offers extended hours, and is open until 8:00 p.m., which has been extremely helpful with my work schedule. Even with this great resource, it's still a challenge—their care is our second biggest expense after the mortgage.

There are cost-efficient ways for both small and large employers to support the child care and early education needs of their employees. Options for employers of all sizes that are trying to increase retention, loyalty, morale and productivity are provided in the box below.

Strategies for Employers to Improve the Bottom Line

- **Ensure that employees are aware of Virginia's child care subsidy program**
- **Join other employers to support a near-by child care and early education program or facility**
- **Offer pre-tax flexible spending accounts for child care and early education costs**
- **Offer flexible scheduling and telecommuting options**
- **Offer employees resource and referral information regarding quality, affordable, and accessible child care and early education programs**
- **Create or join community partnerships to help improve the affordability, quality and quantity of child care and early education in the region**

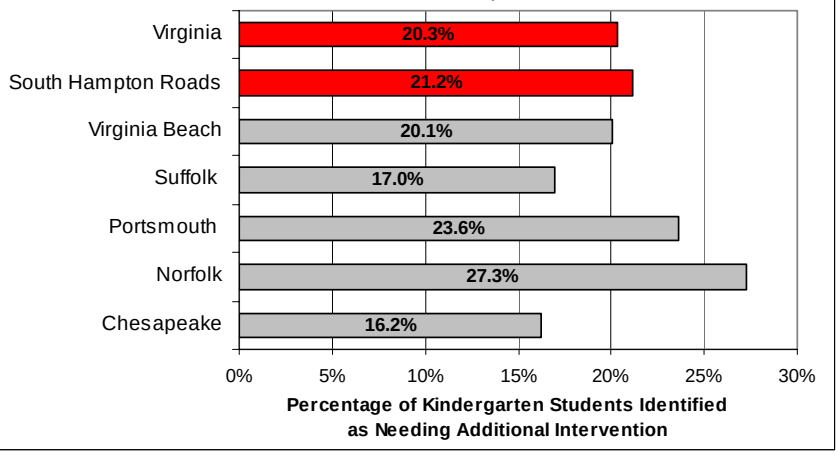
SECTION FOUR
CHILD CARE AND EARLY EDUCATION AND THE SOUTH HAMPTON ROADS ECONOMY

While support for the current labor force is critical, the vitality of the South Hampton Roads economy depends on the quality of its future workforce. There is a demonstrable link between high-quality child care and early education programs and school readiness—the foundation for success in traditional K-12 education. Quality programs can increase children's ability to enter school ready to learn and prepared for the future workforce in South Hampton Roads and in the global economy.[14]

SCHOOL READINESS IN SOUTH HAMPTON ROADS

School readiness indicators reveal that not all of South Hampton Roads' children are prepared to succeed in school. In 2003, one in five children in South Hampton Roads was identified as at risk for reading difficulties (Figure 5).[15]

Figure 5
Percentage of Kindergarten Students Identified as Needing Additional Intervention, 2002-03



Source: Virginia School Readiness Indicators Initiative.

IMPROVING SCHOOL READINESS THROUGH CHILD CARE AND EARLY EDUCATION

In order to reap the benefits of increased school readiness, the quality of programs is crucial. Generally accepted indicators of quality child care and early education programs include:

- The number of staff with specific training in early education;
- Child-focused facilities with adequate space;
- Small class sizes; and
- Low child-to-teacher ratios.

Three long-term studies demonstrate the positive effects of high-quality early education programs for children from low-income families, not just in the early grades of K-12 education, but throughout their lives.

Public savings associated with quality child care and early education is significant.

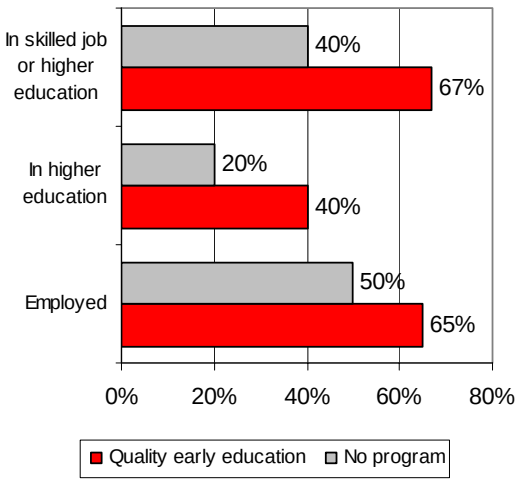
- Participation rates of remedial education in the traditional school system, criminal justice system, and welfare systems decrease;
- Adults earn more, translating to a larger tax base;
- Criminal justice costs and tangible costs to victims of crime are reduced;
- Child welfare spending associated with child abuse and neglect decrease; and
- Health costs associated with smoking and other illnesses are reduced.

- In 1962, 123 Michigan children ages three and four were randomly assigned to one of two groups—those that received high-quality early care and education through the High/Scope Perry Pre-School Project and those that did not participate in the program. At age 40, those who participated in the program earned more money, were more likely to have a savings account, and were less likely to be repeat criminal offenders than those that did not benefit from the program. Renowned Federal Reserve Bank of Minneapolis economists Art Rolnick and Rob Grunewald analyzed the rates of return for investment in this program. They calculated an inflation-adjusted 16 percent return on the Project's investment, considerably higher than the 7 percent long-term return on the U.S. stock market.

- The Chicago CPC Study focused on 1,539 low-income children starting in 1985. The study showed that children enrolled in high-quality early education programs were less likely than their peers to drop out of high school, need special education services, repeat a grade, or be arrested as juveniles.[16]

- In the 1972 Abecedarian Study in North Carolina, 111 low-income children were randomly assigned to participate in a high-quality early education program. By age 21, the children who participated in the program were significantly more likely to be working in high-skilled jobs or pursuing degrees in higher education (Figure 6).[17]

Figure 6
Outcomes of Low-income Children in Abecedarian Project, at Age 21



Source: University of North Carolina.

AN INVESTMENT WITH A SIGNIFICANT FINANCIAL RETURN

Money spent on high-quality child care and early education programs is an investment with significant returns over the long term. These programs translate into savings for K-12 education and criminal justice, reduced welfare participation and the realization of increased tax dollars as a result of higher incomes. Economists have analyzed the overall costs and benefits of the three long-term programs described above, revealing that significant cost savings were realized in each program.[18] Over the long run, for every $1 spent on a child who participated in a high-quality program, as much as $17 is returned to society. [19]

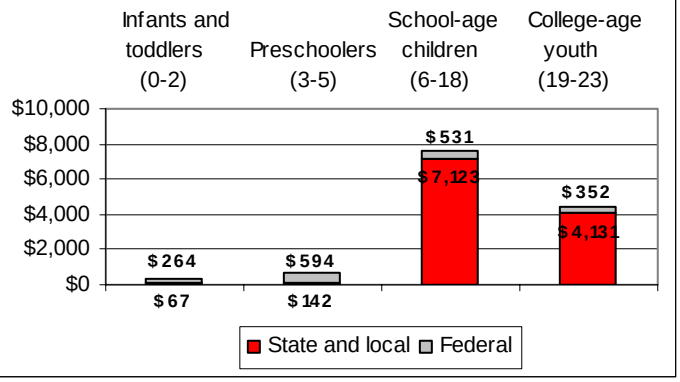
Chief Alfred M. Jacocks, Jr. of the Virginia Beach Police Department sees the public returns in his job as well. He wrote:

> When we invest in proven children's programs, we are investing in crime prevention. Early education programs teach kids the skills they need to succeed in school and in life, and thus they have a better chance of avoiding future involvement in crime. When law enforcement arrests a criminal, the system has already failed. When we make investments in programs that enhance our crime prevention efforts, we protect innocent people from becoming victims and save taxpayers' money.[20]

"There are some areas of clear agreement between market economists and child development researchers. The time has come to invest in young children, and there are substantial gains to be made from these investments if they are made wisely."
-Jack Shonkoff, Co-Editor of From Neurons to Neighborhoods [21]

While research shows that the majority of brain development occurs between birth and age five, the state government invests $67 per infant and $142 per preschooler, while spending $4,131 per college-age youth (Figure 7).[22] Despite the proven high rates of return for quality child care and early education programs, Virginia's investment in preschool-age children is only 3.4 percent of the amount it invests in college-age youth.

Figure 7
Public Per Child Spending, 2003, Virginia



Source: Voices for Virginia's Children.

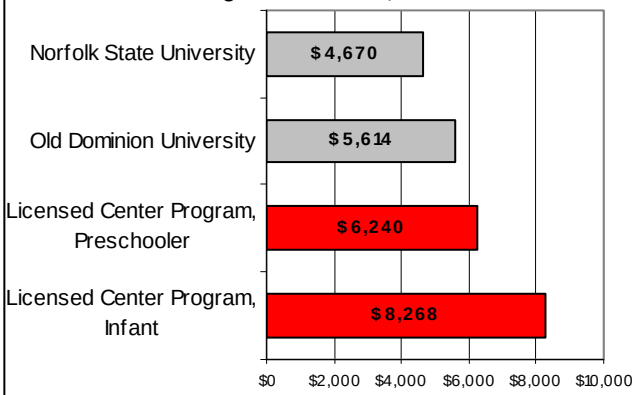
CHILD CARE COSTS PRESENT CHALLENGES FOR THE WORKFORCE

There are 52,100 children under the age of six in South Hampton Roads living in households where all parents are employed. This means that every work day these parents must secure child care and early education arrangements for their children.

Research shows that while government, business and other outside sources cover nearly two-thirds of the cost of attending college, incredibly, parents must bear 60 percent of the costs of their children's child care and early education.[23]

Child care and early education services are expensive. The 2002 median household income in the five South Hampton Roads cities ranges from $30,648 in Norfolk to $52,336 in Chesapeake.[24] It costs families an average of $6,200 a year to place a preschooler in a fully-licensed child care center. For an infant, the cost exceeds $8,200. These fees are significantly higher than tuition rates for Norfolk State University and Old Dominion University (Figure 8).

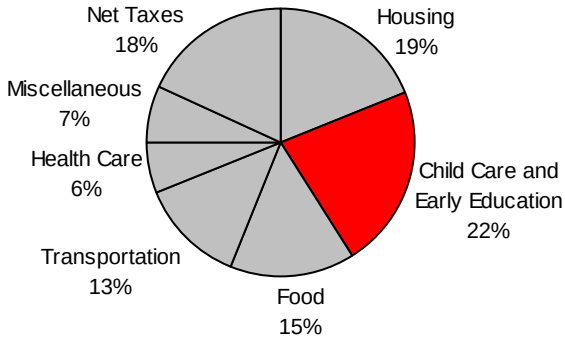
Figure 8
Tuitions for Child Care and Early Education versus Higher Education, 2005-06



Source: State Council of Higher Education for Virginia and Virginia Department of Social Services.

The 2002 Self-Sufficiency Standard for Virginia indicated that costs of child care and early education consume a significant portion of a typical family's budget. In 2002, a Norfolk family with two adults, an infant and a preschooler would have spent 22 percent of its basic needs budget on child care and early education services – a greater portion of the family budget than transportation, healthcare, food or housing (Figure 9).[25]

Figure 9
Basic Needs Budget, 2002,
Norfolk Family with 2 Adults, 1 Preschooler and an Infant



Source: Voices for Virginia's Children

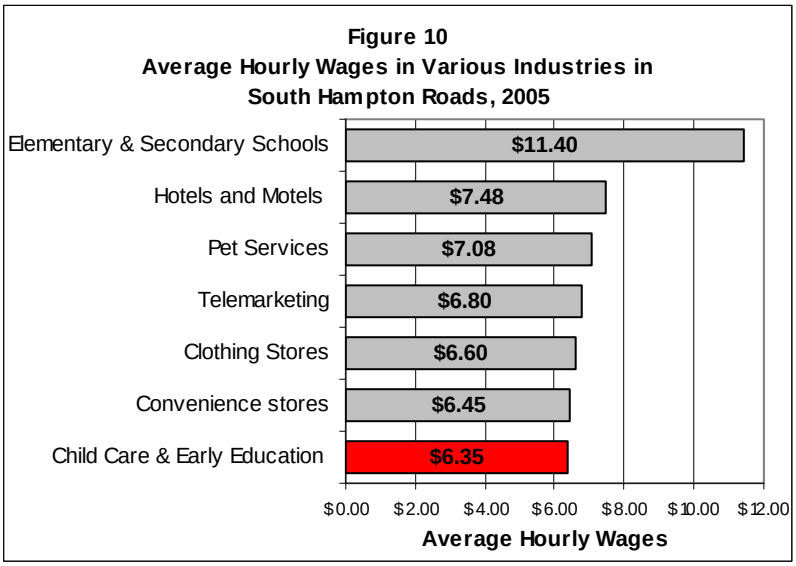
The high costs of quality child care and early education forces many parents to seek lower-cost and lower-quality alternatives, affecting their stability and productivity as employees and likely to the detriment of their children's educational needs. High costs of quality care often drive parents from the workforce resulting in high turnover costs for employers and depriving the marketplace of valuable personnel.

THE CHALLENGES OF WORKING IN THE CHILD CARE WORKFORCE

Most quality programs have teachers with extensive training in early education, small classroom sizes, low child-to-teacher ratios and customized facilities. It is difficult to retain highly trained and educated teachers in child care and early education because wages are so low. The average annual wage of a child care and early education professional in South Hampton Roads is not competitive with other jobs that require less skill or education (Figure 10). This leads to high turnover rates in child care programs, which increases recruitment costs, lowers experience levels, and can adversely affect the quality of child care and early education programs.

Child care and early education professionals are paid less, on average, than convenience store workers in South Hampton Roads.

Figure 10
Average Hourly Wages in Various Industries in South Hampton Roads, 2005



Source: ES-202 Survey, First Quarter, 2005. Note these wages are across all occupations in the industry listed.

High operating costs and, in some cases, the lack of business skills of facility directors, leaves child care and early education programs with tight operating margins. In the end, the majority of programs cannot increase quality based on existing budgets.

SECTION FIVE
FINDINGS

MAXIMIZING SOCIAL AND ECONOMIC RETURNS

Child care and early education is part of the infrastructure for achieving good jobs in vibrant communities. Investments in quality programs, particularly for children in families with low wages, have a high public return and save on government spending over the long term. Investing in quality child care and early education benefits all stakeholders:

- Taxpayers benefit when costs for criminal justice, remedial education, and welfare decline as a result of high-quality child care and early education;
- Businesses benefit when quality, affordable child care and early education options attract new skilled workers to the area, support their employees to do their best work, reduce absenteeism and turnover, and prepare children for skilled employment in the future;
- Communities benefit when parents have access to safe, quality child care and early education to ready children for success in kindergarten and/or enable parents to work outside the home; and
- Children benefit because they are better prepared to succeed in kindergarten, achieve later academic success, and eventually, to be productive and successful as adults.

In the same way that local government and the private sector collaborate to increase the availability of affordable housing and quality transportation systems to attract a skilled workforce, they benefit from investing together in the child care and early education infrastructure. Government, business and other stakeholders must work together on the larger goal of making quality, affordable child care and early education accessible to all families in South Hampton Roads.

APPENDIX A
METHODOLOGY FOR CALCULATING GROSS RECEIPTS AND DIRECT EMPLOYMENT

DEFINING THE CHILD CARE AND EARLY EDUCATION INDUSTRY

The formal CCEE industry in South Hampton Roads, Virginia, for this report refers to programs that provide care and education for children between birth and age 5. This includes licensed child care centers; licensed child care in providers' homes (family day care homes); license-exempt programs run by religious institutions; regulated family day care homes that register voluntarily with the Virginia Department of Social Services (VDSS); Virginia Preschool Initiative programs; Head Start; and programs for children in military families. It does not include license-exempt child care programs not registered with VDSS nor special education preschools.

GROSS RECEIPTS

Gross receipts estimates are based on enrollment and annual average cost information. Enrollment includes children from families who pay the entire tuition themselves, those who are partially or fully subsidized by another private source (e.g., an employer or a philanthropic organization), and those who are subsidized by VDSS. Enrollment is estimated at 74.1% of total capacity and typical statewide usage rates by age: 9% infants (birth to 16 months), 8% toddlers (16 months to 2 years), 51% preschoolers (2 to 5 years), and 32% school age (5 to 13 years).[26] These figures were used to generate an enrollment rate for each age group, locality, and type of care. Program enrollment numbers are in Table A.1.

Table A.1
Estimated Enrollment of Child Care and Early Education in South Hampton Roads

	Licensed Centers			Church Exempt			Family Providers		
	Infants	Toddlers	Pre-schoolers	Infants	Toddlers	Pre-schoolers	Infants	Toddlers	Pre-schoolers
Chesapeake	432	385	2,452	192	171	1,090	76	67	430
Norfolk	457	406	2,587	183	163	1,038	134	119	761
Portsmouth	220	195	1,244	64	57	362	53	47	301
Suffolk	146	130	827	27	24	153	24	22	137
Virginia Beach	1,011	899	5,729	319	283	1,806	103	92	584
South Hampton Roads	2,266	2,014	12,839	785	698	4,449	391	347	2,213

Cost information was obtained from the VDSS, and is presented in Table A.2.

Table A.2
Average Weekly Rates of Child Care and Early Education in the South Hampton Roads Region

	Licensed Centers			Church Exempt			Family Providers		
	Infants	Toddlers	Pre-schoolers	Infants	Toddlers	Pre-schoolers	Infants	Toddlers	Pre-schoolers
Chesapeake	$164	$142	$121	$117	$110	$106	$115	$101	$95
Norfolk	$153	$133	$111	$127	$113	$102	$115	$87	$76
Portsmouth	$154	$137	$110	$100	$85	$90	$97	$84	$83
Suffolk	$133	$125	$116	$118	$118	$90	$87	$79	$73
Virginia Beach	$165	$153	$127	$119	$109	$100	$116	$101	$93
South Hampton Roads	$159	$144	$120	$120	$110	$101	$107	$92	$85

Gross receipts for Head Start, Virginia Preschool Initiative, and Child Care Food Program were determined by budget information for Fiscal Year 2005-06. Federal funding for military families was based on capacity information and a study of the cost of military child care conducted by the RAND Corporation. The respective values for these programs are in Table A.3.

Table A.3
Gross Receipts for Public Early Education Programs

Program	Annual Gross Receipts
Head Start	$10,100,000
Virginia Preschool Initiative	$13,470,000
Child Care Food Program	$6,700,000
Military Programs	$10,100,000

DIRECT EMPLOYMENT

Direct employment was based on a recent survey of child care and early education directors in South Hampton Roads licensed or registered with VDSS. A detailed methodology is available from the study on the South Hampton Roads child care and early education workforce, also commissioned by VDSS.[27]

APPENDIX B
MULTIPLIER EFFECTS OF THE CHILD CARE AND EARLY EDUCATION INDUSTRY

Every industry, including child care and early education, is linked to the rest of the local economy through a number of avenues, reflecting the fact that establishments purchase supplies and services from other businesses. The linkages of the South Hampton Roads child care and early education industry in Virginia can be measured by using an input-output model and its associated multipliers, a methodology used by some economic development specialists. While the multiplier methodology is not without controversy, these estimates illustrate that child care and early education is an important integrated component of South Hampton Roads' economy, both through its direct employment and output, and through its economic linkages.

The multiplier effect estimates the links between an industry and other areas of the economy. Type I multipliers represent the combined direct and indirect effects of a million dollars of final demand, and exclude government and households spending. Direct effects are dollars spent on child care and early education in the region's economy. Indirect effects are the dollars spent in the region by the child care and early education industry for supplies and services from other industries, such as computers to manage administrative information or legal services to manage contracts. The Virginia and South Hampton Roads Type I multipliers for the "child care industry" are reported in Table B.1.[28]

Table B.1
IMPLAN Model Child Care Industry Type I Multipliers

	Virginia	South Hampton Roads
Output	1.46	1.32
Employment	1.22	1.09

Analyses using the Type I multipliers indicates that $206.7 million in gross receipts corresponds to a total economic impact of $272.8 million and 5,468 jobs corresponds to a total impact in employment of 5,960.

[1] Licensed child care and early education meets standards set by the State Board of Social Services or Child Day-Care Council and regulated by the Virginia Department of Social Services (VDSS). Programs operated by religious institutions, private schools, and those operating on federal government premises are not required to hold a license with VDSS, but do have comprehensive information on their gross receipts and expenditures. Informal programs and services are often used and thus also add to the economy, although it is more difficult to ascertain their impact because the dollars and economic exchanges are not tracked by any regulatory entity. The majority of license-exempt arrangements are not possible to capture and are not included in this report.

[2] Virginia Employment Commission. Virginia's Electronic Labor Market Access. *1st Qtr. 2005 (January, February, March) Quarterly Census of Employment And Wages Subsector (3 digit) data for Chesapeake City, Norfolk City, Portsmouth City, Suffolk city and Virginia Beach, Private.* Available at http://velma.virtuallmi.com/. Retrieved December 12, 2005.

[3] Based on the U. S. Census Bureau's 2002 Economic Census, and adjusted to 2005 values using the Consumer Price Index (CPI).

[4] Based on Census 2000 median income by family type, employment status of householders by children and age, and average number of children in each family type in South Hampton Roads.

[5] T. Karier, *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 Center for Research on Women and Women's Institute for Housing and Economic Development, 2003.

[6] *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 Access Means Parents in School Act, S1151 and H.R. 3936,* 1999.

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

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

[9] Sasha Corporation. *Turnover costs in 15 different studies*. www.sashacorp.com. November 2003.

[10] W. Bliss. *The Business Cost and Impact of Employee Turnover*. New Jersey: Bliss & Associates, Inc., 1999, www.blissassociates.com.

[11] CCH Incorporated. *2004 CCH ® Unscheduled Absence Survey*. Riverwoods, IL: CCH®, 2005.

[12] National Economic Development and Law Center. Private Interview, December, 2005.

[13] National Economic Development and Law Center. Private Interview, January, 2006.

[14] National Academy of Sciences. J. Shonkoff and D.A. Phillips, Editors. *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Washington, D.C.: National Academies Press, 2000, p. 307.

[15] Virginia School Readiness Indicators Initiative. *No Time to Waste. Indicators of School Readiness 2004 Data Book*. Available at www.vakids.org. Retrieved December 12, 2005.

[16] A. J. Reynolds, J. A. Temple, D. L. Robertson, E. A. Mann. "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,* May 19, 2001, v. 285, no. 18, pp. 2239-2346.

[17] See The Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill, *Early Learning, Later Success: The Abecedarian Study.* www.fpg.unc.edu/~abc/.

[18] A.J. Reynolds, J.A. Temple, D.L. Robertson, E.A. Mann. "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Center Program: Executive Summary", 2001, and Reynolds, A. J., Temple, J. A. Robertson, D. L., Mann, E. A. & Ou, S. "Prevention and cost-effectiveness in the Chicago Child-Parent Centers." Paper presented at the Biennial Meeting of Society for Research in Child Development, Tampa, FL, April 2003. W.S. Barnett. *Lives in the Balance: Age 27 benefit-cost analysis of the High/Scope Perry Preschool Program*. Ypsilanti, MI: High/Scope Press. L.N. Masse and W.S. Barnett. *A Benefit Cost Analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, NJ: National Institute for Early Education Research, 2002.

[19] L. J. Schweinhart. *The High/Scope Perry Preschool Study through Age 40: Summary, Conclusions and Frequently Asked Questions.* Ypsilanti, MI: High/Scope Press, 2004. Available at http://www.highscope.org/Research/PerryProject/PerryAge40SumWeb.pdf.
[20] National Economic Development and Law Center. Private Interview, December, 2005.
[21] J. Shonkoff. Closing remarks at *The Economics of Early Childhood Development: Lessons for Economic Policy* conference, Federal Reserve Bank of Minneapolis, October 17, 2003.
[22] Voices for Virginia's Children. *Early Learning Left Out: Investments by Child Age of Education and Development*. Richmond: Voices for Virginia's Children, 2005.
[23] A. Mitchell, L. Stoney, and A. Dichter. *Financing Child Care in the United States*, 2001. As cited in Voices for Virginia's Children. *Economic Impact of the Child Care Industry in Virginia*. Richmond: Voices for Virginia's Children, 2004. Page 16.
[24] Virginia Employment Commission. *Virginia Electronic Labor Market Access.* Available at http://velma.virtuallmi.com/analyzer/saintro.asp?cat=INC&session=INCOME&geo=&time=&currsubsessavail=03,02,01. Retrieved February 16, 2006.
[25] D. Pearce and J. Brooks. *The Self-Sufficiency Standard for Virginia*. Richmond: Voices for Virginia's Children, 2002.
[26] *Economic Impact of the Child Care Industry in Virginia*. Richmond: Voice for Virginia's Children, 2004.
[27] E. Schwab, T. Derrick, and S. Russell. *Who's Caring for Our Children? A Profile of the Workforce in Licensed and Voluntarily Registered Centers and Homes in South Hampton Roads Virginia*. Richmond: Virginia Department of Social Services, 2006.
[28] Virginia Type I multipliers are from Voices for Virginia's Children. *Economic Impact of the Child Care Industry in Virginia*. Richmond: Voice for Virginia's Children, 2004. South Hampton Roads multipliers were made available by Hampton Roads Planning District Commission, January, 2006.