

Estimating the Cost of Preschool for All in California: A Policy Brief

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States have traditionally limited public expenditures for preschool programs to children from low-income families or those with disabilities. However, there is growing interest in California and other states in providing universal access to preschool services for one or two years prior to kindergarten entry for all children, regardless of family income.

In 1995, Georgia became the first state to offer free preschool to all four-year-olds. Oklahoma started a universal program in 1998, and Florida passed a ballot initiative in 2002 to make voluntary preschool available to all four-year-olds by September 2005. New York has made a commitment to provide preschool for all four-year-olds across the state, and New Jersey offers full-time, year-round preschool programs to all three- and four-year-olds in 31 of its poorest school districts. In California, the 2002 State Master Plan for Education called for “voluntary access to formal preschool programs that offer group experiences and developmentally appropriate curricula” for all children for the two years prior to kindergarten entry.¹ Los Angeles County has begun phasing in a universal preschool program that

ultimately is expected to serve 150,000 children, and the city of San Francisco has committed funds to provide preschool to all four-year-olds within 10 years.

In 2003, the Packard Foundation awarded collaborative grants to the Institute for Women’s Policy Research (IWPR) and the American Institutes for Research (AIR) to estimate the cost of a preschool program that would be accessible to all four-year-olds in California. This Policy Brief, developed by AIR, summarizes the findings from that project.

How We Estimated the Cost of Preschool for All in California

This cost estimate uses California-specific data from existing state and federal data sources when possible. We also convened a broad-based advisory panel composed of early care and education administrators, specialists in workforce development and preschool facilities, and state and local policymakers to help guide the cost estimate process and to review the findings. The following brief summarizes the methodology used to complete the estimate and our findings. The methodology is based on the cost estimate model

developed by Stacie Carolyn Golin of the IWPR and Anne W. Mitchell of Early Childhood Policy Research,² as amended by Susan Muenchow, Irene Lam, and Hemmie (Jee) Wang of AIR.³

The primary challenge was to estimate the cost of a program that has yet to be fully defined. Therefore, for the purposes of this estimate, our assumptions regarding program characteristics and parameters were based on the common elements of the various preschool proposals that have so far been under consideration in California, including those put forward by the Superintendent’s Universal Preschool Task Force in 1998, the School Readiness Workgroup for the Master Plan for Education in 2002, and the First 5 California Commission on Children and Families in 2003, as well as the recommendations of our advisory panel.^{4,5} Although this Policy Brief focuses mainly on the cost of direct services, we also include some preliminary estimates of the cost of program support services and infrastructure.

The General Model/Program Parameters

The IWPR/AIR Preschool for All (PFA) cost estimate is based on a 10-year program implementation process, with a 14 percent increase in participation in the first year and 10 percent increases each year after that (a higher first-year increase is projected due to the existing supply of preschool programs that already meet PFA qualifications and that can be phased in quickly). See the sidebar below for the assumptions used for the cost estimate.

The Need: How Many Children Would Participate

To estimate the number of children who would most likely participate in the PFA program, we started with the population of four-year-olds in California. According to the California Department of Finance, the state had 488,890 four-year-olds eligible for preschool in 2004; by 2015, the estimated year of full implementation, the state will have 583,816 four-year-olds eligible for PFA.

Based on the experience of the only two states that have some history in offering free

preschool to all four-year-olds, we estimated that 70 percent of four-year-old children in California – or 408,671 children – would participate in PFA by 2015.

- In Georgia, after 10 years of program operation, the participation rate in publicly funded preschool is still 70 percent, including enrollment in both the state-sponsored preschool program and federally sponsored Head Start.
- In Oklahoma, which initiated a universal preschool program in 1998, the participation rate is 67 percent, including enrollment in both the state-sponsored preschool program and Head Start collaborative programs.

Cost estimate assumptions:

1. PFA will be available and free to all four-year-old children in California whose families want them to participate.
2. The PFA program will be based on high-quality standards as defined by the State of California and influenced by professional standards of the National Association for the Education of Young Children (NAEYC).
3. Programs will take place in a variety of publicly and privately operated settings that meet PFA standards.
4. The maximum staff-to-child ratio will be 1:10, with a class size of 20.
5. For every group of 20 children, there will be a lead teacher with a Bachelor's (BA) degree (and eventually with an early childhood education credential), and a second teacher with an Associate's (AA) degree.
6. Teachers with BA degrees and credentials will be compensated at levels comparable to those for public kindergarten teachers, and teachers with an AA degree will be compensated at 80 percent of the BA level salary. To be eligible for fulltime compensation, teachers in the preschool program will teach two three-hour sessions.
7. PFA will build upon existing early childhood programs, while creating new spaces in areas that have unmet preschool need.
8. The number of hours of PFA will be approximately 525 hours per year (three hours per day for 175 days).
9. Preschool will be a viable option for all families, including those with two working parents, or those headed by a single working parent, by offering the program in connection with full-day, full-year services when needed or by providing linkages to other early care and education providers for wraparound services (which would be funded by parent fees or other non-PFA sources).
10. Program implementation will include investments in program support services and infrastructure, including workforce development and facilities, to support local practitioners in providing PFA.

Service Delivery Model

As noted above, rather than constructing a new public school grade for four-year-olds, the estimate assumes that PFA will build upon the existing system of public and private early childhood programs, improving existing programs and creating new spaces in areas that have unmet preschool need.

Based on current enrollment, more than 109,000 children can be served in already publicly funded State Preschool or Head Start programs, upgraded to PFA standards. Upgraded spaces in these two programs cost less than half (33 to 44 percent) of the cost of a new space. An additional 30,000 children could receive preschool services in already existing, full-day General Child

Care (GCC) programs, although cost savings would be limited to reduced costs for investments in infrastructure, because the GCC program is currently substantially underfunded. Building on the existing publicly funded programs is therefore a key factor in this cost estimate.

For the purposes of developing this cost estimate, we looked at the three major publicly funded programs that would most likely deliver PFA initially and for which the most reliable existing statewide data is available: Head Start, California State Preschool, and General Child Care.

Based on current patterns of participation, we estimated that 15 percent of the participating four-year-olds will be served in **upgraded** State Preschool spaces (an upgraded space refers to an existing space in Head Start, State Preschool, or General Child Care that meets the high quality standards of PFA), 17 percent in upgraded Head Start spaces, and 9 percent in upgraded General Child Care spaces. The remaining 59 percent would need **new** (or **newly supported**) preschool spaces (see Figure 1). GCC spaces were counted as

existing capacity that could be upgraded, and some savings in reduced expenditures for new infrastructure would result from embedding preschool services in a portion of this full-day program. However, these spaces would be paid for as “new” spaces. This is because the real cost of the full-day GCC program even at the current Title V standards is at least \$2,000 per child more than the state reimbursement rate. Estimating only the cost of upgrading the preschool portion of the day to PFA standards would not address the deficit in the wraparound hours to meet existing Title V standards. Thus, in this estimate, we included not only the cost of upgrading the 3 hours *to PFA quality*, but also the cost of upgrading the wrap-around hours *to the existing Title V standards*. This raised the cost of the upgrade to essentially that of a new PFA space.

Further, for other non-Title V, privately funded full-day child care programs, we also estimated the cost of the upgrade plus the partial fee replacement for the PFA portion of the day as approximately the cost of a new PFA space.

California’s Capacity to Deliver Preschool

Overall, California’s supply of programs serving preschool children is lower than that in many other states. Based on information from the California Child Care Resource and Referral Network’s (CCR RN) *2003 Child Care Portfolio*, there are an estimated 269,077 licensed center-based program spaces and family child care spaces in California currently allocated to four-year-old children and likely to meet PFA specifications. Taking into account the above estimate of existing capacity, there would still be a need for 164,216 newly created spaces to meet the needs of PFA for four-year-olds. Assuming that the newly created spaces would be established in programs providing two PFA sessions per day, and thus one classroom could serve two groups of 20 children per day, an estimated 4,105 new classrooms would be needed for PFA.

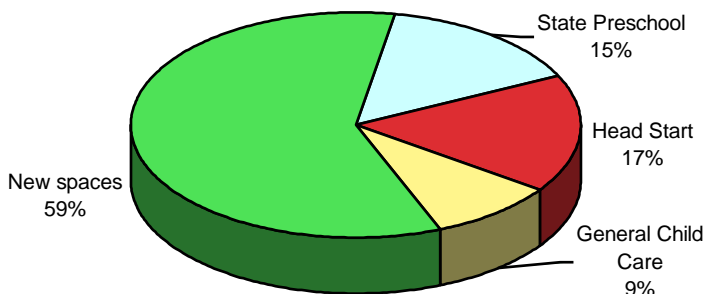
The Cost of High-Quality Early Education in California

This estimate includes both the direct cost of a **new, fully supported** PFA space and of spaces **upgraded** to PFA standards in the major existing publicly supported programs (State Preschool, Head Start and General Child Care).

Direct Service Costs

The direct (or programmatic) service cost of a PFA program includes personnel and non-personnel costs. Personnel costs for PFA include salary and benefits (mandatory benefits

Figure 1. Location of Services



plus health, dental, retirement, life insurance, and EAP) for a director, site supervisor, teachers, educational specialist, and enrollment specialist/family resource coordinator. Non-personnel costs include rent or occupancy, utilities, building maintenance and repairs, education supplies and equipment, consultants and training, office supplies and equipment, audit and legal, insurance, telephone service, publications, advertising, printing, and depreciation.

The estimate assumes that all lead teachers participating in PFA will be required to hold a BA degree by the end of the fifth year. All lead teachers will hold a BA degree *and* a credential at full implementation. For the first five years of PFA implementation, when many PFA lead teachers will not yet have BA degrees, and when few teachers with BAs are expected to have teaching credentials (the state has not yet established an early childhood education credential), the beginning K-12 public school teacher rate will suffice to estimate teacher compensation. Beginning in the sixth year, compensation will be increased incrementally until parity with the average salary for kindergarten teachers is achieved.

Employee benefits were also included for all preschool personnel participating in PFA. The benefit rate for public school personnel in California was 25 percent for the most recent two-year period (1999-

2000 and 2000-01), as reported in the *2003 Digest of Education Statistics*. Because PFA will build on programs under both public school and non-school auspices, based on data we obtained from a range of preschool programs across the state, we used the more generous rate of 32.37 percent, including 18.02 percent for mandatory benefits and 14.35 percent for health, dental, retirement, and EAP. Although this rate should accommodate some escalation in health insurance costs, the Department of Insurance notes that employers (including school districts) frequently pass on these higher health insurance costs to employees in the form of co-payments.

In this estimate, an increase in the cost of teacher compensation is the major factor affecting the cost of both new and upgraded spaces, accounting for 63 percent of the cost during the first five years of implementation, and 69 percent of the cost beginning in the sixth year.

Approximately 37 percent of the direct service cost during the first five years of implementation is non-personnel, or \$1,753 per child-year. Beginning in the sixth year, although compensation was increased incrementally until parity with the average salary for kindergarten teachers was achieved, the non-personnel cost per child was not proportionately increased. As a result, non-personnel costs beginning in the sixth year were 31 percent of the direct service

cost. Occupancy accounts for nearly one-third of the non-personnel cost. This is in addition to the one-time investment in new facilities identified in the section on infrastructure below. The figures that follow show direct service expenditures, by type, in the first five years of implementation and the next five years. The proportion of personnel costs increases in the second five years of implementation, while the proportion of non-personnel costs decreases.

In summary, in this estimate, personnel costs are the major factor affecting the cost of a new PFA space. In 2003-04, California spent \$3,143 per child on its part-day preschool program. This amount was insufficient even to cover the cost of the program under its existing standards, which require the lead or master teacher to have a Master Teacher Permit, but neither a BA nor an AA degree. The estimated direct cost per child will be \$4,928 (in 2004 dollars) in the first year of implementation, and \$5,917 by full implementation in the tenth year. The major reason for the increase in cost is the increase in teacher qualifications and parity in compensation with kindergarten teachers.

Figure 2. Direct Service Costs, Years 1-5, by Type

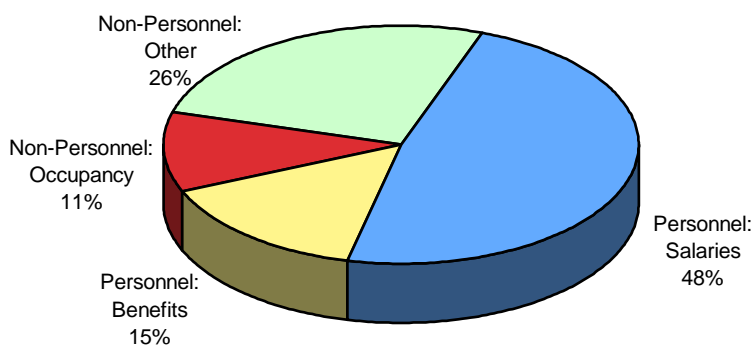


Figure 3. Direct Service Costs, Years 6-10, by Type

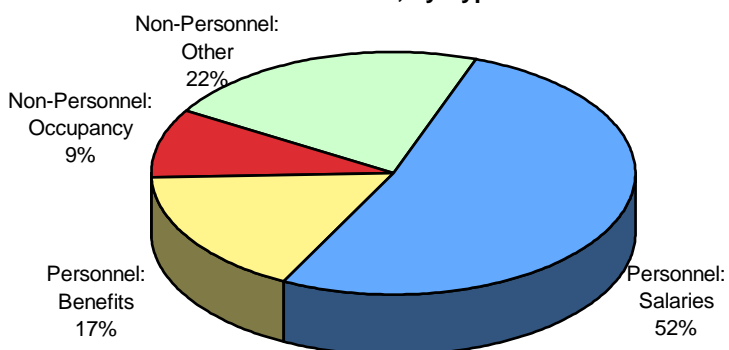


Table 1: Direct Costs Based on Beginning K-12 Salaries, Adjusted to 2004 Dollars

Program	Annual Cost to Upgrade	Annual Cost of New or Fully Supported PFA Space (Part-Day or Full-Day Setting)
State Preschool	\$1,659	
Head Start*	\$1,256	\$4,928
General Child Care	Cost of New SP Space	

Table 2: Direct Costs Based on Average Public Kindergarten Salaries, Adjusted to 2004 Dollars

Program	Annual Cost to Upgrade	Annual Cost of New or Fully Supported PFA Space
State Preschool	\$2,648	
Head Start*	\$2,238	\$5,917
General Child Care	Cost of New SP Space	

* For Head Start programs, to be conservative, we included only the portion of the budget considered to be the "educational component," which we estimated to be just over 45 percent of total Head Start expenditures for four-year-olds in the state of California.

Findings: What is the Estimated Cost of Preschool for All in California?

Direct Services

The annual cost of PFA direct services in California is estimated to be approximately \$1.9 billion (in 2004 dollars) by the tenth year of implementation. Karoly and Bigelow (2005) followed this cost estimate closely in their recent RAND Corporation cost-benefit analysis, *The Economics of Investing in Universal Preschool Education in California*.⁶ The difference in the final estimates (\$1.7 billion in the RAND report vs. \$1.9 billion in the IWPR/AIR estimate) results primarily from the methodology associated with a phase-in as opposed to a steady-state approach. That is, the RAND study estimate is based on full implementation in 2004, serving 70 percent of the population in that year. Our estimate is based on a 10-year-phase-in model where full implementation does not take place until 2015.

The annual cost of direct services for PFA over the ten-year implementation period was estimated to be as follows:

Table 3: Annual Costs of PFA Direct Services, by Year (in millions of 2004 dollars)

Year 1	\$192.1
Year 2	\$338.1
Year 3	\$483.6
Year 4	\$635.6
Year 5	\$792.8
Year 6	\$958.3
Year 7	\$1,191.9
Year 8	\$1,449.9
Year 9	\$1,731.9
Year 10	\$1,962.2

Program Support Services

Preschool for All will require a relatively small, but still significant investment in ongoing program support to ensure high quality, including Monitoring/Program Review, Research and Evaluation, and Developmental Screening. Together, these services represent less than 1 percent per year of the total PFA investment.

Monitoring

Monitoring staff will visit programs annually and provide ongoing technical assistance as necessary. To provide one monitor for every 50 PFA programs will require 116 monitors at the current cost of \$65,733 per monitor plus benefits. The total cost for monitoring once full implementation is reached is approximately \$9.5 million, or \$22 per child. This represents 0.3 percent of the total cost per child in that year.

Research and Evaluation

We estimate that PFA would require a comprehensive evaluation addressing both program quality and child outcomes. In the first two years, evaluation would focus on program implementation to determine progress in meeting PFA standards, obtaining sufficient teachers with BA and AA degrees, and obtaining access to adequate facilities. On an ongoing basis, annual assessments using the Early Childhood Environment Rating Scale would take place to ensure that all PFA-funded program received a satisfactory

score. Beginning in the third year of PFA, a seven-year longitudinal study would be initiated to determine the impact of PFA on school readiness and children’s success in school and in life. The estimated cost of the research and evaluation component is \$2.6 million per year, or \$26 million, over 10 years.

Infrastructure

Preschool for All will require major investments in workforce development and facilities. In the initial year, these infrastructure investments will represent 52 percent of the total PFA expenditure, declining each year thereafter to 10 percent by the tenth year.

Workforce Development

To assist the existing early childhood workforce in obtaining the qualifications required for PFA, we assumed that financial aid will be provided to aid-eligible individuals aspiring to become preschool teachers. The cost of workforce development as a proportion of the total cost of PFA will be highest in the initial years. Once preschool teachers earn a salary comparable to that of kindergarten teachers, market forces will take over, decreasing the need for exponentially increasing investment in professional development.

The estimate is primarily based on the cost of replacing student fees, and assumes that two-thirds of the existing early childhood teachers would

qualify for financial aid in the form of fee replacement to obtain additional education. Assuming that there will be one lead teacher and one assistant teacher for every class of 20 children, and that each teacher will teach two sessions, and that turnover will be the same as in the K-12 system, there will be a need for 24,480 teachers.

Based on CCRRN data, as well as that available from Head Start, State Preschool, and General Child Care, there were an estimated 19,578 lead and assistant teachers working with this age group, resulting in a need for 4,902 new teachers. Based on data on the existing education levels of teachers in Head Start, State Preschool, and center-based child care, it will cost \$55 million over a 10-year period to upgrade the existing early childhood education workforce working with four-year-olds to meet PFA qualifications. In addition, it will cost \$18 million to provide assistance to newly recruited teachers who are “aid eligible” for their units beyond the AA degree toward a BA degree and credential. A higher estimate for tuition assistance would result from expanding aid to teachers who choose to attend a private university to obtain their degree and credential.

The institutional cost of developing or expanding the selection of early childhood education or child development curriculum and courses available to students in community colleges and four-

year public colleges and universities, including a new post-baccalaureate teacher education program, could be included in the cost estimate, which would increase the cost of workforce development. The cost may also vary from year to year, but has been estimated at at least \$500 million by the Center for the Study of Child Care Employment at University of California at Berkeley.

Facilities

To make PFA available to 70 percent of four-year-olds, 4,105 new classrooms will be needed, using a variety of permanent, renovated, and re-locatable facilities. Based on recommendations of the American Academy of Pediatrics (AAP) and the American Public Health Association (APHA), new facilities will have 75 square feet of indoor space per child, including 50 square feet of usable space and additional space for kitchens, bathrooms, staff meeting space, and other needs. In addition, based on new accreditation criteria from NAEYC as well as AAP and APHA recommendations, there will be 75 square feet of outdoor space.

New construction of permanent facilities is estimated at an average cost of \$350 per square foot in urban areas and \$240 per square foot in rural areas, with an additional \$65 per square foot of outdoor space, for an average total cost of \$810,000 for urban classrooms and \$590,000 for rural classrooms. Renovation is estimated at an average of \$125

per square foot in rural areas and \$325 per square foot in urban areas, for an average cost of \$547,500 per classroom, including outdoor space. Purchase of portable facilities is estimated at \$286,000, including the structure, site design, preparation, general site improvement, and installation.

Assuming that 90 percent of the facilities would be needed in urban areas, that 25 percent of the new facilities would be obtained through renovation of existing facilities, 25 percent through new construction, and 50 percent through purchase of re-locatable buildings, the cost of the facilities over 10 years would be \$1.7 billion, with an additional 25 percent for replacement costs, or a total of \$2.1 billion over 10 years. This estimate does not take into account that the facilities established in permanent structures would have an expected life of 30 years. In addition to the \$2 billion investment in new facilities over 10 years, there is an ongoing allowance for the cost of occupancy for every child enrolled in PFA. As we mentioned earlier, occupancy costs are estimated at nearly one-third the non-personnel cost per child.

To estimate the facilities investment, we assumed that the state would make a large, upfront capital investment to build and renovate permanent buildings and purchase re-locatable buildings in order to meet the unmet preschool need. Another approach to estimating the cost of facilities is to

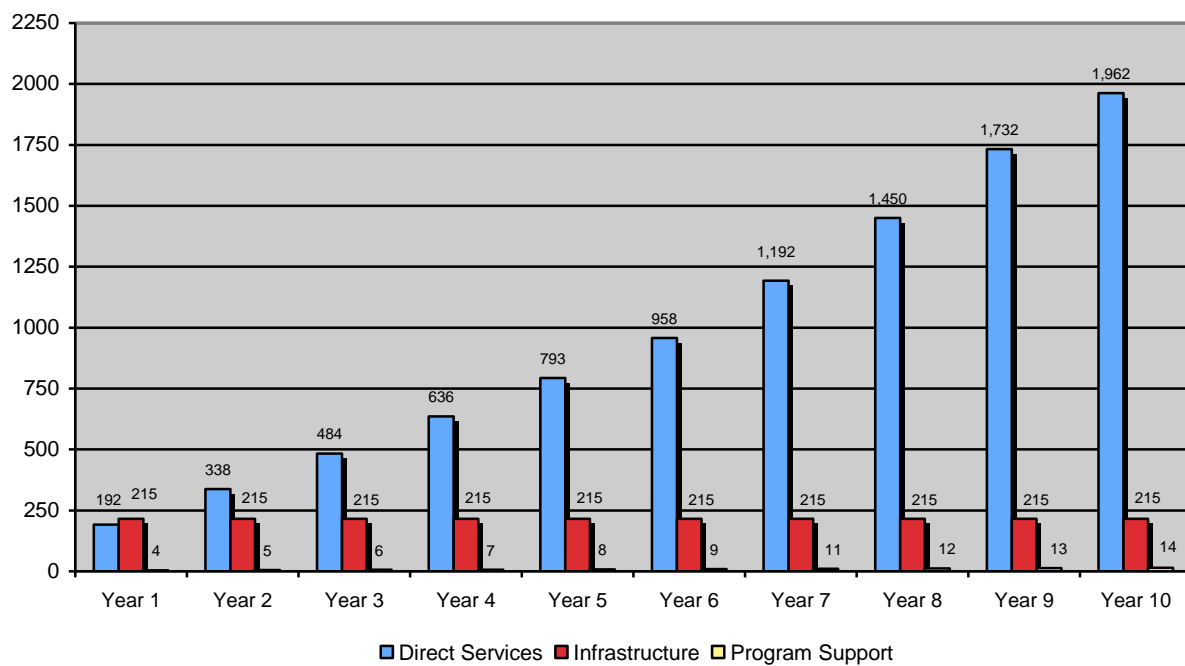
amortize the facilities investments over the life of the buildings, which can be estimated at 30 or 45 years at a 5-6 percent rate of interest. Using this approach reduces the facilities investment in the first 10 years of implementation because facilities costs are

spread over a longer period of time – 30 or 45 years, as compared to 10 years – which would reduce the annual cost of facilities.

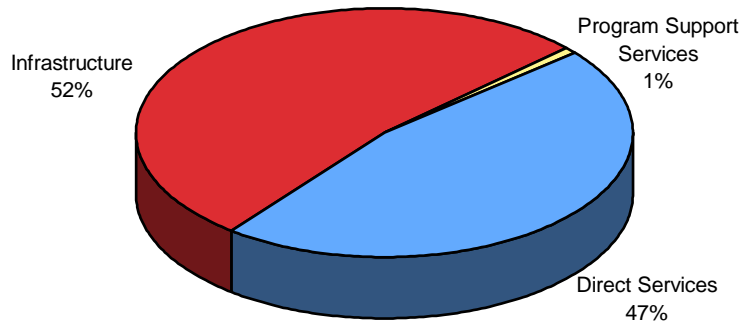
Yet another approach would be to designate a larger proportion of capital investments for the

development of new facilities may be made in the first four or five years of implementation in order to ensure that facilities are in place to meet the needs of all children participating in PFA as they are phased in.

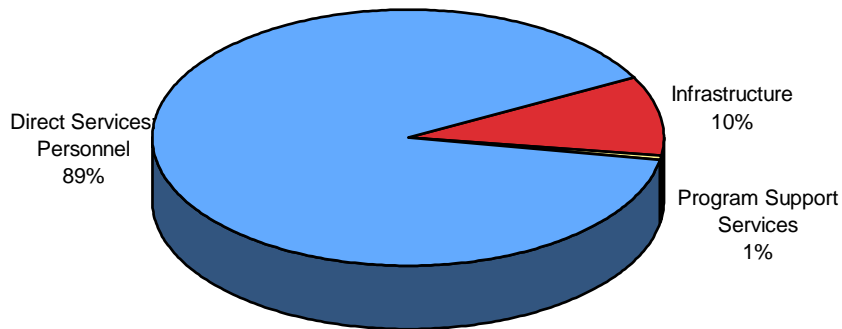
**Total Costs, by Type of Cost, by Year
(in millions of dollars)**



Breakdown of Total Costs, Year 1



Breakdown of Total Costs at Full Implementation



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⁶Karoly, Lynn A. and James H. Bigelow. *The Economics of Investing in Universal Preschool Education in California*, Santa Monica, CA: RAND Corporation, 2005.