

**Reference Document C**  
**Early Childhood System Financial Analysis & Cost Estimates**

**I. Key Questions/Factors involved in Costing an ECE System**

A key question in estimating the cost of a comprehensive system is to define what comprises that system. Conversely, the cost of any particular system component may itself be a factor in deciding whether or not it is included. Therefore, defining the system and estimating its cost must be an iterative process.

Examples of factors that can significantly impact cost are:

- the size and characteristics of the population to be served (e.g., will proposed programs and services be *universally available* to every child in a particular age group, or *targeted* to specific subpopulations?)
- minimum teacher qualifications
- teacher compensation
- staff-to-child ratios
- participation rate
- subsidization rate
- intensity of family support
- need for new and/or rehabilitated facilities (capital improvements)
- timeframe for phasing in the development of the system.

In addition, as described in Sections III. and IV., Boulder County’s ECE System will include other components or “domains” whose costs will need to be estimated (i.e., health, mental health, and parent engagement/family support). The cost of providing services in each of these domain areas will also vary depending on similar planning assumptions.

Finally, there will need to be some estimate of the costs of providing an administrative infrastructure to support the operation of the desired programs and services, to monitor progress toward the Community Vision and Goals via program evaluation and community indicators, and to ensure fiscal and fiduciary accountability.

**II. Two Approaches to Estimating Cost**

There are two complementary approaches that can be taken to estimating the cost of a comprehensive ECE System. It is likely that both approaches will need to be undertaken to assure a complete understanding of the ultimate cost of the desired ECE System and its constituent components.

**1) Assessing the cost of unmet need in programs that currently exist.**

This approach moves from the program level to the system level, extrapolating System costs from the cumulative costs of expanding those specific programs that are deemed to be essential components of the System. For example:

- Head Start
- CPKP
- CCCAP
- Child Care Certificate Programs
- Child Health Promotion
- Kid Connects
- Informal Care
- Professional Development
- Quality Ratings
- Others

This approach has the advantage of *convenience*. That is, it would be a relatively simple matter to engage managers of each program in estimating unmet need (which many have already done for fundraising purposes) and then applying cost estimates to those numbers. Indeed, some of these programs (e.g., Head Start, CPKP) have already conducted needs assessments that have provided very specific estimates of unmet need.

It would also lend itself to strategic planning regarding *incremental* implementation of the proposed ECE System. That is, the proposed ECE System will describe a large universe of everything that *could* be done, but a key strategic question will be what *can* be done given the constraints of financial and political realities? Perhaps the ECE System Development process will result in recommendations for specific short-term steps, such as, for example, expanding Head Start and CPKP to meet the identified need.

## **2) Identifying goals for ECE System capacity and then estimating costs based on population demographics.**

This approach moves in the reverse direction, from the system level to the program level. It lends itself well to System implementation strategies in which funds follow *families and children* (through vouchers or certificates, for example) rather than funding *programs* directly; it is more of a *population-based* than a *program-based* approach.

One example of this approach is the planning that supported Denver's 2006 ballot initiative supporting the availability of "universal voluntary pre-school for every 4-year-old in Denver." The initiative has made vouchers available to families (at varying rates depending upon family income) that can be used at licensed child care centers or homes of their choice.

Several national and Colorado groups have recently developed models for costing universally available ECE Systems of this type, which can be applied at local, state, or even national levels. Four of the most promising are summarized below

<b>Resource</b>	<i>A Guide to Calculating the Cost of Quality Early Care and Education</i> By Helene Stebbins and Barbara Langford, The Finance Project, 2006.
<b>Steps in Calculating Cost</b>	<ol style="list-style-type: none"> <li>1. Determine financing for what</li> <li>2. Identify quality improvements</li> <li>3. Create cost model to determine the baseline cost estimate</li> <li>4. Estimate the cost of improving quality</li> <li>5. Determine ramp-up assumptions</li> </ol>
<b>Description of Costing Model</b>	<ol style="list-style-type: none"> <li>1. Create a budget for a hypothetical child care setting to determine an average cost per slot.</li> <li>2. Multiply average cost per slot by # of children who are served in that setting.</li> <li>3. Repeat process if necessary to create budgets for additional settings (e.g., family home)</li> <li>4. Add total cost for each setting to arrive at total cost for care</li> <li>5. Calculate the cost of infrastructure and capital as a % of direct services. FP believes 10% of total funding is a reasonable assumption but recommends collecting actual levels of investment in infrastructure to create a baseline percentage.</li> <li>6. To estimate cost of improved quality run the model using enhanced quality variables e.g., lower staff: child ratios or higher wages</li> <li>7. Develop cost projections for each year by rerunning the model according to ramp-up assumptions.</li> </ol>

<b>Resource</b>	<i>The Price of School Readiness: A Tool for Estimating Cost of Universal Preschool in the States</i> by Anne Mitchell, Stacie Golin, and Barbara Gault, Institute for Women's Policy Research, 2004.
<b>Steps in Calculating Cost</b>	<ol style="list-style-type: none"> <li>1. Estimate program need and participation</li> <li>2. Estimate direct service costs</li> <li>3. Estimate infrastructure costs</li> <li>4. Adjust for inflation</li> </ol>

<p><b>Description of Costing Model</b></p>	<p>Model contains 18 formulas for estimating the following:</p> <ol style="list-style-type: none"> <li>1. Total annual direct service costs</li> <li>2. Total annual indirect or infrastructure costs</li> <li>3. Example of full-day, full year participation serving 10% of population</li> <li>4. Including per-child-hour costs in a child care setting</li> <li>5. Adding per-child material costs</li> <li>6. Technical assistance and consultation to programs</li> <li>7. Annual technical assistance and consultation costs</li> <li>8. Per child cost of monitoring</li> <li>9. Annual cost for monitoring</li> <li>10. Cost of increasing teacher education</li> <li>11. Cost of improving qualification of BA and AA-level teachers</li> <li>12. Annual cost of professional development</li> <li>13. Cost of renovation or construction</li> <li>14. Cost of governance</li> <li>15. Cost of upgrading teacher credentials</li> <li>16. Cost of upgrading director credentials</li> <li>17. Cost of facilities renovation</li> <li>18. Cost of preschool governance</li> </ol>
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<p><b>Resource</b></p>	<p><i>Early Care and Education Cost Estimates for Shelby County, Tennessee</i> by Richard Brandon et al, Human Services Policy Center, 2005.</p>
<p><b>Steps in Calculating Cost</b></p>	<ol style="list-style-type: none"> <li>1) Major financing considerations <ol style="list-style-type: none"> <li>a) No-fee vs. Parent Provider Assistance</li> <li>b) Teacher wage levels</li> <li>c) Infrastructure costs</li> <li>d) Demand adjustments</li> </ol> </li> <li>2) Policies determining quality <ol style="list-style-type: none"> <li>a) Staff qualifications</li> <li>b) Child:adult ratios</li> </ol> </li> <li>3) Policies determining mechanisms to make ECE affordable <ol style="list-style-type: none"> <li>a) Baseline:current public expenditure</li> <li>b) Parent Provider Assistance Package (low and high cost/coverage options based on family income)</li> </ol> </li> </ol>

	c) Public school type system (free for all)
<b>Description of Costing Model</b>	Calculations used not show in report, but ideally could be obtained. Cost of various options shown as gross cost, increase needed, and as % of Total K-12 spending (to show relative scope).
<b>Comments</b>	Great resource for demonstrating how varying the parameters of system components and/or financing can have a dramatic effect on overall cost. HSPC used sophisticated approach in 4 states, then developed a short cut method to develop ballpark estimates at the county level for less time and money. Great for estimating various scenarios. Did not include special needs population in analysis.

<b>Resource</b>	<i>Early Childhood Education in Denver: A Needs Assessment</i> by Andrew Brodsky and Alex Medler, Colorado Children’s Campaign, 2006.
<b>Steps in Calculating Cost</b>	<ol style="list-style-type: none"> <li>1) Quantify met need by analyzing all public funding for preschool (e.g. CPP, CCCAP. Head Start, etc.)</li> <li>2) Estimate total demand</li> <li>3) Estimate unmet need.</li> <li>4) Apply income-based sliding scale</li> <li>5) Consider additional factors including: <ol style="list-style-type: none"> <li>a) Variable subsidy rates</li> <li>b) Supplanting</li> <li>c) Changes over time</li> <li>d) Demand by income tier</li> </ol> </li> <li>6) Apply the costing model to various scenarios</li> </ol>
<b>Description of Costing Model</b>	Interactive data tool is a spreadsheet that depicts relationships among many data points: demographics, availability of care, and cost of additional care. The tool allows for adjusting parameters such as participation rate, hours per day/days per year, income tiers, etc. and tabulates a total cost for subsidizing unmet demand.