# Methodology

# Contents

# Methodology for determining the number of children who need subsidized child care (Appendix A)

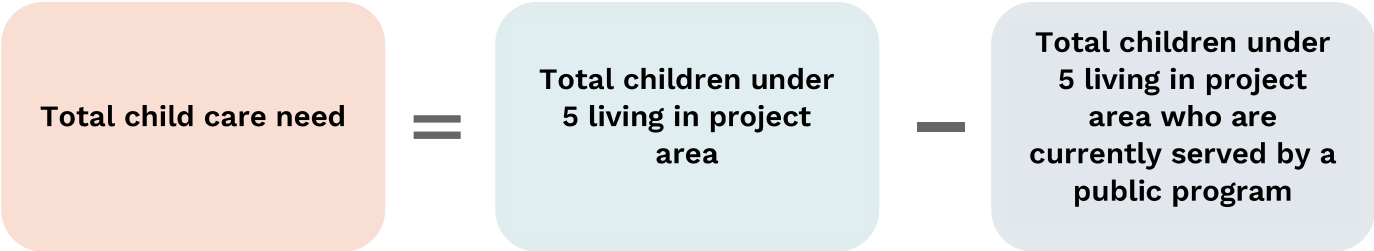The total child care need is defined in this report by the following calculation:

| Total child care need | = | Total children under 5 living in project area | − | Total children under 5 living in project area who are currently served by a public program |

Some families, though the children may have a slot in a private program, may not be able to afford the cost of care for a variety of reasons and thus, estimations are made using the total number of existing public slots instead of the number of slots in both public and private programs.

This equation was used to calculate the total need, place-specific need, and age-specific need present in the following sections.

## Step 1: Calculate the total number of children by age and location

### STEP 1.1: GATHER THE TOTAL NUMBER OF CHILDREN BY LOCATION

The total number of children under 5 years old is provided by the 2016-2020 American Community Survey available through the US Census Bureau. This data was found at the zip-code level scale and compiled in Table 40.

To simplify models, the "Total children" number produced by the US Census was used for all calculations in this report without use of the margin of error. These margins of errors are for reference to show the potential base of children that exist. Note that the margin of error rates in some places in the project region are very high (over 50%). This is possibly due to low population numbers in these rural areas.

### STEP 1.2: CALCULATE NUMBER OF CHILDREN BY SPECIFIC AGE

Single age population estimations are only available at the national scale. On a national level, 18.9% of children under 5 are less than 1 year old, 19.7% are 1 year old, 20.0% are 2 years old, 20.5% are 3 years old, and 20.9% are 4 years old. The number of children by specific age was calculated by multiplying the percent of children age 5 by single-year age by the total number of children in each zip code (Table 40). Table 41 provides the resulting single-age population estimations.

**TABLE 40 |** *Total number of children by age and location with margin of error estimates of minimum and maximum possible total number of children, 2020*

| Place | Zip | Total children | Margin of error (MOE) # | (MOE) % | Min. children with MOE | Max. children with MOE |
|---|---|---|---|---|---|---|
| Milton Freewater | 97862 | 600 | 176 | 29% | 424 | 776 |
| Burbank | 99323 | 236 | 140 | 59% | 96 | 376 |
| College Place | 99324 | 417 | 146 | 35% | 271 | 563 |
| Dayton | 99328 | 170 | 17 | 10% | 153 | 187 |
| Dixie | 99329 | 3 | 4 | 133% | 0 | 7 |
| Prescott | 99348 | 170 | 95 | 56% | 75 | 265 |
| Starbuck | 99359 | 0 | 13 | - | 0 | 13 |
| Touchet | 99360 | 94 | 53 | 56% | 41 | 147 |
| Waitsburg | 99361 | 55 | 32 | 58% | 23 | 87 |
| Walla Walla | 99362 | 2,280 | 238 | 10% | 2,042 | 2,518 |
| Wallula | 99363 | 26 | 39 | 150% | 0 | 65 |
| **Total** | | **4,051** | **953** | **24%** | **3,098** | **5,004** |

**TABLE 41 |** *Estimated number of children by single-year age and location, 2020*

| Place | Age <1 | 1 | 2 | 3 | 4 | Total children |
|---|---|---|---|---|---|---|
| Milton Freewater | 113 | 118 | 120 | 123 | 125 | 600 |
| Burbank | 45 | 46 | 47 | 48 | 49 | 236 |
| College Place | 79 | 82 | 83 | 85 | 87 | 417 |
| Dayton | 32 | 33 | 34 | 35 | 36 | 170 |
| Dixie | 1 | 1 | 1 | 1 | 1 | 3 |
| Prescott | 32 | 33 | 34 | 35 | 36 | 170 |
| Starbuck | 2 | 3 | 3 | 3 | 3 | 13 |
| Touchet | 18 | 19 | 19 | 19 | 20 | 94 |
| Waitsburg | 10 | 11 | 11 | 11 | 11 | 55 |
| Walla Walla | 431 | 449 | 456 | 467 | 477 | 2,280 |
| Wallula | 5 | 5 | 5 | 5 | 5 | 26 |
| **Total** | **768** | **800** | **813** | **832** | **850** | **4,064** |

# Step 2: Calculate total number of children served by a public program by age and location

Arrowleaf Consulting compiled the child care slots in the region by age, location, subsidy acceptance, and more for this project. Some slots were not counted in the final tally, because no information existed online and program contacts did not respond. If it was hard for us to find out if slots existed, parents wouldn't know either, making it inaccessible.

Children enrolled in publicly funded programs do not require any additional funds to support their early learning experiences as they are already being supported by state and federal sources. The total number of public slots was calculated directly from program reports and direct communication with program managers (Table 42).

Children currently enrolled in private home-based and center-based programs do not necessarily have their enrollment supported and thus count toward the gap of children not currently served by a public program. Data for Working Connections Child Care subsidy usage in the region is not available so all children enrolled in private programs who could be using this subsidy are counted with children not served by a public program.

**TABLE 42 |** *Number of public child care slots by age and location, 2022*

| Place | Age | | | | | Total public slots |
|---|---|---|---|---|---|---|
| | <1 | 1 | 2 | 3 | 4 | |
| Milton Freewater | 16 | 47 | 47 | 99 | 99 | 308 |
| Burbank | 0 | 0 | 0 | 10 | 10 | 20 |
| College Place | 0 | 0 | 0 | 15 | 30 | 45 |
| Dayton | 0 | 0 | 0 | 9 | 9 | 18 |
| Dixie | 0 | 0 | 0 | 0 | 0 | 0 |
| Prescott | 0 | 0 | 0 | 10 | 10 | 20 |
| Starbuck | 0 | 0 | 0 | 0 | 0 | 0 |
| Touchet | 0 | 0 | 0 | 5 | 15 | 20 |
| Waitsburg | 0 | 0 | 0 | 10 | 10 | 20 |
| Walla Walla | 20 | 31 | 32 | 190 | 263 | 536 |
| Wallula | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 36 | 78 | 79 | 348 | 446 | 987 |

## Step 3: Calculate total number of children who need child care or early learning

To calculate the total need for child care by age by location, results from Table 42 were subtracted from the results in Table 41. Table 43 shows the calculated results.

**TABLE 43 |** *Total number of children who need care by age and location*

| Place | Age | | | | | Total need |
| --- | --- | --- | --- | --- | --- | --- |
| | <1 | 1 | 2 | 3 | 4 | |
| Milton Freewater | 97 | 71 | 73 | 24 | 26 | 292 |
| Burbank | 45 | 46 | 47 | 38 | 39 | 216 |
| College Place | 79 | 82 | 83 | 70 | 57 | 372 |
| Dayton | 32 | 33 | 34 | 26 | 27 | 152 |
| Dixie | 1 | 1 | 1 | 1 | 1 | 3 |
| Prescott | 32 | 33 | 34 | 25 | 26 | 150 |
| Starbuck | 2 | 3 | 3 | 3 | 3 | 13 |
| Touchet | 18 | 19 | 19 | 14 | 5 | 74 |
| Waitsburg | 10 | 11 | 11 | 1 | 1 | 35 |
| Walla Walla | 411 | 418 | 424 | 277 | 214 | 1,744 |
| Wallula | 5 | 5 | 5 | 5 | 5 | 26 |
| Total | 732 | 722 | 734 | 484 | 404 | 3,077 |

# Methodology for calculating the costs associated with expanding early learning and care access and affordability (Appendix B)

## Step 1: Calculate the total price associated with providing direct services to all children who may need subsidized care

### STEP 1.1: GATHER THE 85TH PERCENTILE MARKET RATES OF CHILD CARE IN THE SERVICE AREA

The 85th percentile market rates of child care are available in the 2021 Washington Child Care Market Rate Study. The project area is located in Region 2 of the study boundaries, so rates for Region 2 were used.

## STEP 1.2: CALCULATE AVERAGE COST OF CHILD CARE BY AGE

For each age group (infant, toddler, and preschool), the 85th percentile market rate costs of child care for both center-based programs and home-based programs were averaged. These averages were used as the definition of cost per child per year.

## STEP 1.3: CALCULATE COSTS ASSOCIATED WITH EACH SCENARIO

For each of the eight scenarios, we multiplied the cost per child per year per age group by the number of estimated children by age represented in each scenario. For scenario definitions and estimated children, see Appendices A and B.

# Step 2: Calculate the total costs associated with establishing new center-based and home-based child care operations

Each-center based slot has an associated cost of $50,000 while each home-based slot has an associated cost of $10,000. These rates are estimations based on key informant interviews and recent facilities planning processes underway in the region and are meant to provide a general idea of the scope of facilities costs needed to meet the need for more classrooms and space. For the estimates provided in each scenario, it is assumed that 70% of to-be-added slots are to be center-based slots and 30% will be home-based slots. This ratio of center-to home- based slots is based on the current center-to-home-based slot ratio in the project area.

The number of slots needed for facilities is different than the number of children who need direct service care. While children who require direct services are calculated by subtracting the total children served by a public program from the total number of children in the project area, the children who require facilities is calculated by subtracting the total current capacity of all programs from the total children in the project area. Facility costs have already been completed and paid for existing programs and are assumed not to need additional facility funds to serve their current capacity (expanding facilities to meet increased capacity is accounted for in the facility calculations).

For each of the eight scenarios, the number of slots required in new facilities was multiplied by the costs per child per facility type. The two costs (one for home-based slots and one for center-based slots) were then added together to ger the total cost for new facilities. These totals were calculated using the number of slots required in new facilities at both 71% participation expectation and 100% participation expectation.