

Texas Early Childhood Education Needs Assessment

Gaps Between Need and Availability of Early Care and Education

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ACRONYMS

ACS	American Community Survey
ACF	Administration for Children and Families
Boards	Local Workforce Development Boards
CCDF	Child Care Development Fund
COG	Council of Governments
DARS.....	Department of Assistive Rehabilitative and Services
DOD	Department of Defense
TDFPS	Texas Department of Family and Protective Services
ECI	Early Childhood Intervention
EHS	Early Head Start
ERC	Education Research Center
FPG	Federal Poverty Guidelines
GAO	Government Accounting Office
HHS.....	U.S. Department of Health and Human Services
HS	Head Start
IDEA.....	Individual with Disabilities Education Act
LEP.....	Limited English Proficient
MSA	Metropolitan Statistical Area
PPCD.....	Preschool Program for Children with Disabilities
PIR	Program Information Report
Pre-K.....	Pre-Kindergarten
RMC.....	Ray Marshall Center
SAC	School Age Care
SMA	State Median Income
TANF	Temporary Assistance for Needy Families
TEA	Texas Education Agency
TWC.....	Texas Workforce Commission
UTHSCH	University of Texas Health Science Center at Houston

INTRODUCTION

The first two reports in the Texas Early Childhood Education Needs Assessment measure the size and geographic distribution of the population potentially eligible for Texas early care and education (ECE) and school-age care (SAC) and the existing supply of available ECE and SAC. The goals of this report are to estimate the gap between the demand for services and the available supply in 2010, and to estimate in which areas supply would need to expand to better meet the projected increase in the overall size and distribution of the Texas child population in 2015 and 2040.

The overall scope of this project limits all of the projections in this report to those that can be estimated using available population and program data. To the extent feasible with the available data, estimates are provided for selected sub-state areas within Texas. However, many gaps in available data have limited the ability of the project to fully estimate service gaps for many of the desired sub-state geographic regions.

The main chapter of this report presents multiple estimations of service gaps for children under 5 years of age. The first is an ECE service gap estimate based on the total 2010 young child population. Then, more targeted gap estimates comparing the 2010 ECE supply to the children of working parents (demand) as well as the predicted young child population are presented.

Next, gap estimations for Pre- Kindergarten (Pre-K), Head Start/Early Head Start (HS/EHS), and the Child Care Development Fund (CCDF) are presented. Throughout each section, service gaps are first estimated for the entire state of Texas in 2010, then expanded to include sub-state estimates when available data are sufficient for that purpose and to estimate the extent to which the current service level would need to be expanded to meet population growth. Due to limited data, it was not possible to calculate a detailed gap analysis for school-age children or programs with eligibility criteria based on anything except family income. Therefore, the remaining programs and services, private school Pre-K, military child care, Early Childhood Intervention (ECI), Public Pre-K for Children with Disabilities (PPCD), and school-age care receive a limited discussion regarding services provided in 2010.

Finally, the quality gap among quality accredited and certified providers is discussed. Accompanying this section is a discussion of the challenges facing programs striving to meet quality standards.

SERVICE GAPS FOR EARLY CARE AND EDUCATION

SERVICE GAPS FOR ALL YOUNG CHILDREN

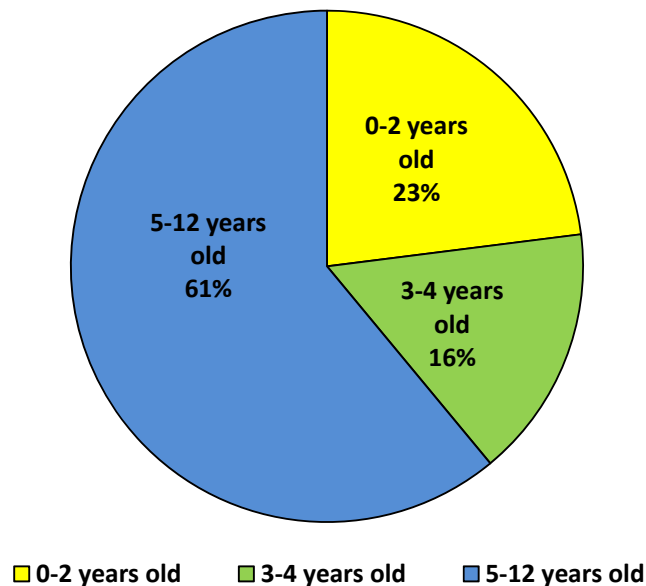
According to the U.S. Census, nearly 5 million children ages 0-12 resided in the State of Texas in 2010. (Murdock et al., 2012). Further analysis of the 2010 Census data shows that 23 percent of these children were 2-years-old or younger in 2010 and 16 percent were either 3- or 4-years old. Thus, over 1.9 million children were potentially eligible for ECE in 2010, while an additional 3 million children ages 5-12 were potentially eligible for SAC (Table 1 and Figure 1). Appendix A presents age distributions for all Texas children subdivided by age group for Council of Government regions (COGs) and Metropolitan Statistical Areas (MSAs) in 2010, as well as projections for 2015 and 2040.

Table 1. 2010, 0-12 Child Population Counts by Age

0-2	3-4	5-12	Total
1,151,310	777,163	3,066,796	4,995,269

Source: U.S. Census Bureau, 2010 Census, Summary File

**Figure 1. 2010, Percentages of 0-12 Child Population Counts by Age
N = 4,995,269**



Source: U.S. Census Bureau, 2010 Census, Summary File

As discussed in the report describing the supply of ECE and SAC, the supply data structure for the many types of ECE programs in Texas makes it difficult to estimate the total number of unduplicated slots available for ECE in Texas (Schexnayder et al., 2012). However, Ray Marshall Center researchers conservatively estimate that 867,628 formal ECE slots were available to serve young Texas children in 2010. These slots include licensed child care centers, family homes with various levels of governance, public pre-kindergarten and military installations. All other types of ECE are either sub-sets of these types of care or could not be measured at the desired geographical levels due to limitations of the available data. Table 2 presents the unduplicated formal child care and education slots throughout the state in 2010.

Table 2. 2010 Total Supply of Unduplicated Formal ECE Slots for Texas Children 0-4

	TDFPS Registry Slot Data					Other Slots		Total Slots
	Licensed Centers	Licensed Homes	Registered Homes	Listed Homes	Total	Public Pre-K	Military Installation CDCs	
State of Texas	586,923	12,600	30,557	10,155	640,235	224,287	3,106	867,628

Source: Supply and Quality of Early Care and Education and School-Age Care, 2012

The demand for early childhood education and after-school services is influenced by factors related to supply of the services available and variation in socioeconomic and other characteristics of the families located within a specific geographic area. There were an estimated 867,628 early child education slots available in 2010. These slots could serve 45 percent of all children less than age five.

Table 3 and Table 4 present the variation in slot ratios by COGs and MSAs. The share of formal ECE slots per 100 children range from a low of 36.6 in the Rio Grande COG to a high of 58.5 in the Ark-Tex COG. The lowest shares of slots per 100 children within the state’s MSAs are in the Brownsville-Harlingen and the Sherman-Denison MSAs (36.7 slots per 100) to a high of 78 slots per 100 children in Texarkana. Figure 2 shows the distribution of the 2010 ECE slots per 100 children across all counties.¹

¹ The numerical values of total formal slots per 100 children for each county are included in Appendix Table A-4.

In order to maintain the 2010 ratio (45 slots per 100 children) as Texas' population increases, an additional 51,752 ECE slots would be needed by 2015 and an additional 542,237 slots by 2040².

Table 3. 2010 Total Supply of Unduplicated Formal Early Care and Education Slots Per 100 Children 0-4 by Council of Government Regions

	Children ages 0-4	Slots	Slots per 100 Children
Council of Government (COG) Region			
Alamo Area	162,990	67,428	41.4
Ark-Tex	18,832	11,021	58.5
Brazos Valley	20,184	10,052	49.8
Capital Area	133,835	68,196	51.0
Central Texas	39,100	19,801	50.6
Coastal Bend	40,324	19,643	48.7
Concho Valley	10,535	4,979	47.3
Deep East Texas	24,689	11,233	45.5
East Texas	55,011	24,461	44.5
Golden Crescent	13,468	6,667	49.5
Heart of Texas	23,777	10,999	46.3
Houston-Galveston	480,760	222,795	46.3
Lower Rio Grande Valley	111,961	43,686	39.0
Middle Rio Grande	13,622	6,164	45.2
Nortex	14,549	7,069	48.6
North Central Texas	507,849	221,308	43.6
Panhandle	33,304	14,970	44.9
Permian Basin	34,131	13,566	39.7
Rio Grande	66,243	24,239	36.6
South East Texas	26,215	12,170	46.4
South Plains	30,765	14,453	47.0
South Texas	31,860	13,103	41.1
Texoma	12,501	4,765	38.1
West Central Texas	21,968	10,416	47.4

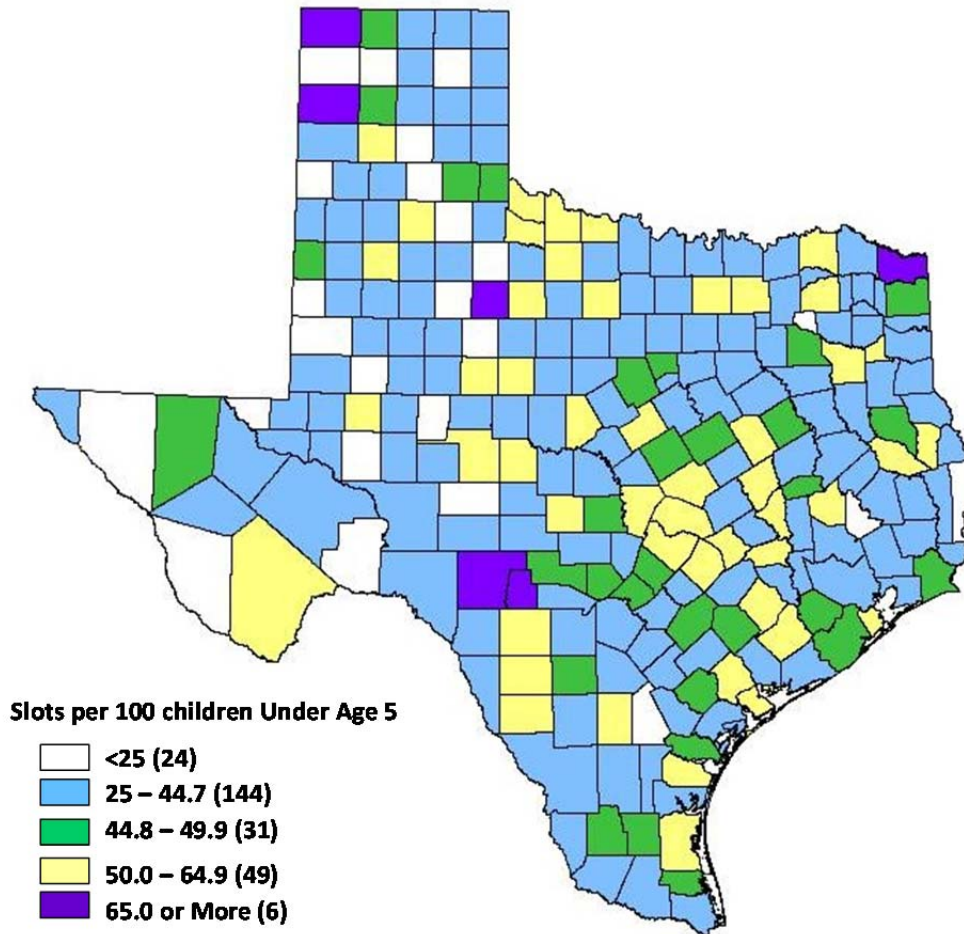
² To compute this, determine 45 percent of the projected population for each year and subtract the slots available in 2010.

Table 4. 2010 Total Supply of Unduplicated Formal Early Care and Education Slots Per 100 Children 0-4 by Metropolitan Statistical Areas

	Children ages 0-4	Slots	Slots per 100 Children
Metropolitan Statistical Area			
State of Texas	1,928,473	858,513	44.5
Non-Metropolitan	206,974	87,078	42.1
Metropolitan	1,721,499	771,435	44.8
Abilene	11,582	6,624	57.2
Amarillo	19,015	9586	50.4
Austin-Round Rock	127,504	66,317	52.0
Beaumont-Port Arthur	26,215	12,170	46.4
Brownsville-Harlingen	35,854	13,172	36.7
College Station-Bryan	14,742	7,508	50.9
Corpus Christi	30,025	15,810	52.7
Dallas-Fort Worth-Arlington	496,946	217,925	43.9
El Paso	64,621	24,169	37.4
Houston-Sugar Land-Baytown	472,212	216,355	45.8
Killeen-Temple-Fort Hood	36,281	19,011	52.4
Laredo	24,424	9,827	40.2
Longview	15,048	7,046	46.8
Lubbock	20,673	10,713	51.8
McAllen-Edinburg-Mission	74,538	29,954	40.2
Midland	11,001	5,539	50.4
Odessa	12,075	4,483	37.1
San Angelo	7,794	4,136	53.1
San Antonio	157,131	65,526	41.7
Sherman-Denison	7,833	2,877	36.7
Texarkana	5,921	4,620	78.0
Tyler	14,954	7,275	48.7
Victoria	8,439	4,475	53.0
Waco	16,642	7,726	46.4
Wichita Falls	10,029	5,075	50.6

Note: Because of area specific estimation, the numbers of slots estimated at the county level, when summed to get a statewide figure, is not expected to equal the total number estimated at the MSA level.

Figure 2. Proportion of Unduplicated Formal ECE Slots by County per 100 Children Under Age 5 in 2010



Source: Supply and Quality of Early Care and Education and School-Age Care, 2012

However, not all children need ECE services nor can one assume either a perfect relationship between one child and one slot or perfect geographic distribution of available slots throughout the state. Given the complex nature of services, eligibility requirements for some of the ECE programs, and the data limitations, this number should only be interpreted as a very rough indicator of the difference between the available supply of ECE and the demand for that care.

SERVICE GAPS FOR YOUNG CHILDREN OF WORKING PARENTS

Typically, families seek ECE for two different reasons: because either parents are working or in school and/or parents want a socialization or educational experience for their children before the children enter kindergarten.³ However, it is not possible to easily divide these into separate categories because parents often use early education services as part of their child care arrangements so that they can work or attend school themselves. Prior research has shown that a number of factors affect the type of care that families choose, with the primary factors being family structure, parent employment status and family income (Lippman et al, 2008; Overturf & Johnson, 2005).

This section will first estimate the gap between the available supply of care and the demand from working parents of young children. Then, a statistical model incorporating additional variables estimates the sub-state variation for the 20 most populous counties in 2010 as well as how the 2010 ECE supply would need to expand or contract for those counties based on the projected child population in 2015. Family characteristics, family structure and family work status have changed rapidly over the past decade and are quite susceptible to societal and economic influences that cannot be accurately projected into future years. Therefore, future projections are solely based on changes in the size of population of young children.

Statewide estimates. From American Community Survey data, it is possible to estimate the employment status and family structure for Texas children, ages 0-5. As shown in Table 5, nearly six out of ten young Texas children reside in households in which either both parents are employed (32%) or a single parent is employed (27%); these families clearly need someone to care for their children while they are working.

³ School age care (SAC), which is typically sought for children of working parents, will be discussed in a different section of this report.

Table 5. Texas Children, Ages 0-5, by Family Structure and Parent Employment in 2010

Total Children ages 0-5	2,315,927	
Children ages 0-5 residing with one or both parents	2,230,481	100%
Married couples		
Both parents employed	713,027	32%
One parent employed	663,852	30%
Neither parent employed	22,340	1%
Single parents		
Employed	612,963	27%
Not employed	218,299	10%

Source: U.S Census Bureau, 2010 American Community Survey

Note: The total children include children residing in foster care, residential facilities, or with grandparents or other relatives.

Applying the percentage of working parents to the 2010 population of Texas children ages 0-4 (Table 1) indicates that nearly 1.1 million young children needed child care or early education because all resident parents worked. Applying this estimated demand to the supply of formal ECE slots (see Table 2), the existing supply could have potentially served 78 percent of the estimated need for child care demand among working families in 2010 if those slots had been evenly distributed by geographic location and age of young children. In order to maintain the 2010 ECE coverage (78 percent) for children of working parents, an additional 260,000 ECE slots would be needed by 2015 and an additional 399,214 slots by 2040. These projections assume that the share of children of working parents would not change and that the same share of working parents would use formal ECE in lieu of informal arrangements.

The nature of market-based child care services means that centers and family homes regularly enter and leave the formal child care market in response to the local demand for care. An analysis of these businesses' duration has shown that over the course of a five year study, 65 percent of the child care centers remained in business and only one-third of the registered family homes remained in operation (Schexnayder and Schroeder, 2008). To estimate the future statewide demand for care, it is reasonable to expect that these types of facilities will continue to adapt to meet future demand for care.

Sub-state gap estimates. To get a better estimate of how the 2010 formal ECE demand among working families varies across the state, the Ray Marshall Center constructed an estimation model that includes a set of predictor variables that reflect families' child care needs due to employment or higher education. The detailed

information needed to construct this model was only available for 179 Texas counties. Thus, its results can only be interpreted for the most populous counties in the state. Together, these predictors explain 64 percent of the variation in child care demand across the state. Table 6 lists the predictor variables. These are discussed briefly below, with more complete model details included in Appendix B.

The first predictor measures the percent of two-parent households with children under six with both parents working, and the second measures the percent of single-parent working households. Data from the U.S. Census Survey of Income and Program Participation (SIPP) in 2010 indicate that single-parent households are more likely to rely on non-parental care than two-parent households. Furthermore, children living in single-parent families enter into care earlier, spend more time in care arrangements, and are more likely to be cared for in informal arrangements, such as home-based child care, than children from two-parent families. As would be expected, counties with high percentages of two-parent families in which both are working and working single parents have more slots per child.

The next set of predictors is intended to capture local variation in income and earning levels. Within the literature, a family's income level is one of the most consistent determinants in child care selection. In general, higher family income is associated with increased enrollment in center-based care, while lower-income families are more likely to use less-expensive arrangements, such as family home care or kin-care (Fuller et al., 2002). Data from the 2010 SIPP indicates that only 18 percent of low-income children under the age of five with employed mothers are enrolled in center-based care versus 31 percent of children with household incomes at least twice the federal poverty level.

Table 6. Predictive Variables

Variable Description
Both parents working, 2 parent families with children under 6
Parent is working, 1 parent families with children under 6
Median annual income, families with own children under 18
Earnings of those with less than HS education (1000s)
Earnings of HS graduates (1000s)
Earnings of those with some college or more education (1000s)
Grandparents living with and responsible for own grandchildren
Percent of males 18-34 enrolled in college or grad school
Percent of females 18-34 enrolled in college or grad school
Percent who leave home early for work (before 6:30am)
Percent who leave home late for work (after 9am)
Percent of low-income (<150% FPL) workers who commute to work by driving alone
Percent of low-income (<150% FPL) workers who commute to work by public transportation
Average time commuting to work, hours
Unemployment rate
Employment growth rate
Labor force growth rate
Mobility from outside county, children 1-4
Percent of children 0-12 who are very young (0-4)
Percent of children 0-4 who are Black
Percent of children 0-4 who are Hispanic

Table 7 presents the difference in predicted ECE slots versus actual ECE slots for the 20 most populated counties in Texas. These counties accounted for 76 percent of the 2010 Texas child population. There is considerable variation in the range of predicted to actual ECE slots among the 20 largest counties. According to this model, Nueces County would have 14 percent more slots than expected while Fort Bend County would have 9 percent fewer slots than expected. While these results may indicate an over- or under-supply of formal care in those counties, they also may reflect differences in community preferences for certain types of care or variation in the employment patterns of parents not captured by the Census data that may necessitate a higher or lower use of informal care. Analyzing the reasons that certain communities may have different levels of formal care than other Texas counties is beyond the scope of this study.

Table 7. Actual vs. Predicted Early Care and Education Slots in 2010, Children Ages 0-4, for 20 Most Populous Texas Counties

Slot Gaps: Children 0 to 4			
County	Actual Slots	Predicted Slots	Gap
Harris	150,525	143,139	5.2%
Dallas	70,776	75,751	-6.6%
Tarrant	62,664	64,962	-3.5%
Bexar	55,561	57,472	-3.3%
Travis	39,377	41,069	-4.1%
Hidalgo	29,954	29,626	1.1%
El Paso	24,169	24,270	-0.4%
Collin	35,059	34,427	1.8%
Denton	29,072	27,311	6.4%
Fort Bend	19,803	21,827	-9.3%
Cameron	13,172	13,932	-5.5%
Williamson	19,009	17,221	10.4%
Montgomery	14,553	14,875	-2.2%
Bell	15,416	14,713	4.8%
Brazoria	12,307	12,053	2.1%
Webb	9,827	8,850	11.0%
Nueces	13,140	11,530	14.0%
Lubbock	10,621	10,566	0.5%
Galveston	12,575	11,068	13.6%
Jefferson	8,481	9,053	-6.3%

From the predictive model, it is also possible to refine the estimates of the relative supply and demand for formal care for the 0-2 and 3-4 age groups. The formal supply of early care and education varies considerably between very young children, ages 0-2, and pre-school children, ages 3-4. These are presented in Table 8 and Table 9. Almost all of the demand for very young children stems from parents needing child care while they are working or in school. However, for 3- and 4-year-olds, the demand for ECE includes both child care needs for working parents and early education for children participating in Pre-K or some other school-based program.

Table 8. Actual vs. Predicted Early Care and Education Slots in 2010, Children Ages 0-2, for 20 Most Populous Texas Counties

Slot Gaps: Children 0 to 2			
County	Actual Slots	Predicted Slots	Gap
Harris	65,333	66,350	-1.5%
Dallas	36,897	35,789	3.1%
Tarrant	31,225	33,607	-7.1%
Bexar	26,580	26,708	-0.5%
Travis	21,403	21,621	-1.0%
Hidalgo	12,062	11,153	8.1%
El Paso	10,699	10,539	1.5%
Collin	25,555	23,938	6.8%
Denton	18,510	16,364	13.1%
Fort Bend	12,482	13,859	-9.9%
Cameron	4,764	4,951	-3.8%
Williamson	9,067	9,825	-7.7%
Montgomery	8,035	8,216	-2.2%
Bell	6,545	5,578	17.3%
Brazoria	7,808	6,442	21.2%
Webb	4,402	4,045	8.8%
Nueces	6,002	5,424	10.7%
Lubbock	5,495	5,394	1.9%
Galveston	6,626	6,122	8.2%
Jefferson	4,108	4,426	-7.2%

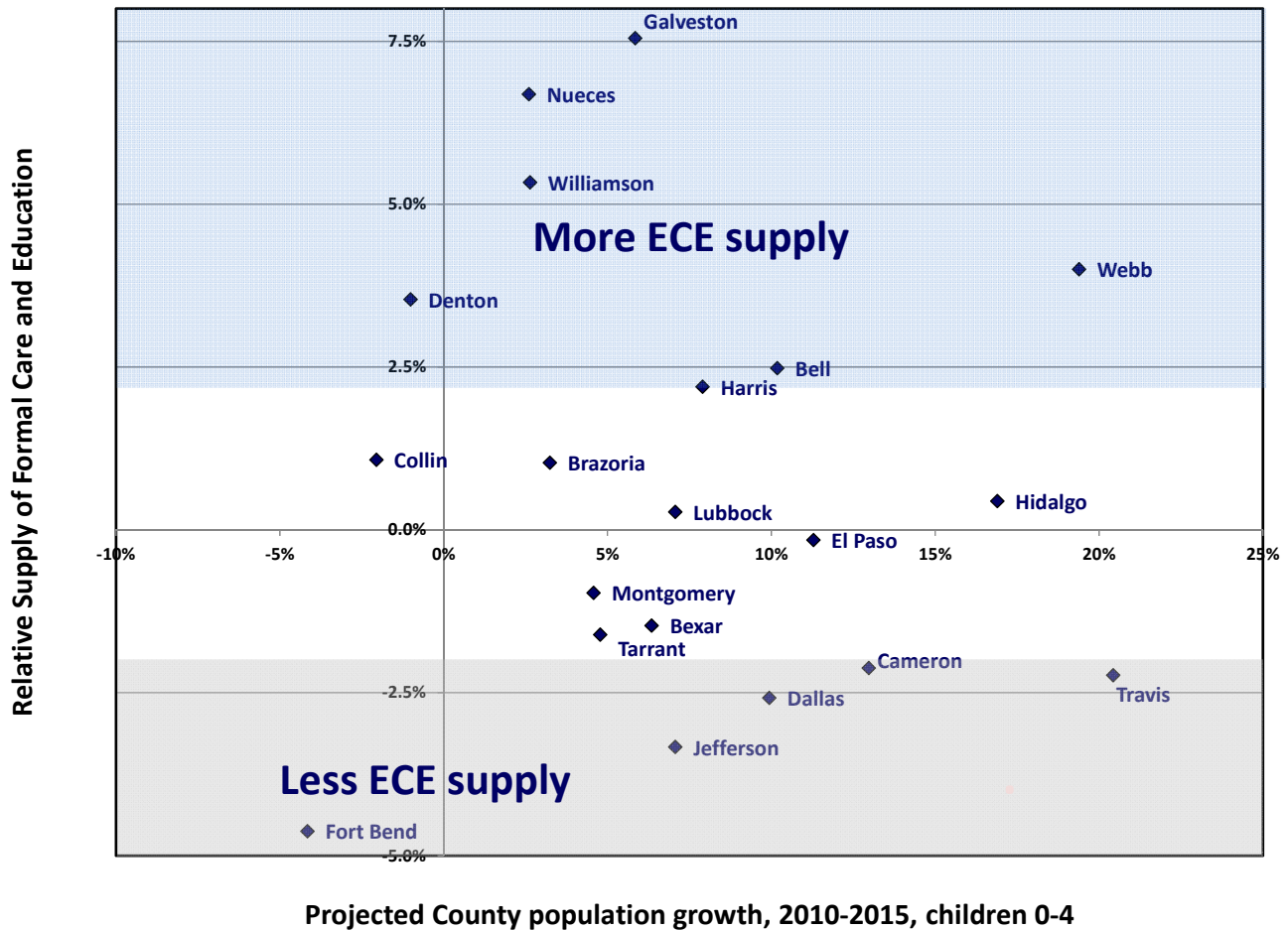
As shown in Table 8, as controlling for the model variables, in 2010, Brazoria, Bell and Denton counties had the largest supply of formal slots for children ages 0 to 2 relative to the predicted need. Fort Bend and Williamson counties had the smallest supply of slots for this age group relative to predicted need. A different pattern emerges when looking at the relative distribution of slots for 3- and 4-year-olds, as shown in Table 9. Relative to predicted need, Galveston, Webb and Bell counties had the largest supply of formal slots, while Brazoria and Dallas counties had the smallest relative supply of slots for that age group.

Table 9. Actual vs. Predicted Early Care and Education Slots in 2010, Children Ages 3-4, for 20 Most Populous Texas Counties

Slot Gaps: Children 3 to 4			
County	Actual Slots	Predicted Slots	Gap
Harris	68,850	63,304	8.8%
Dallas	27,935	33,562	-16.8%
Tarrant	24,825	24,175	2.7%
Bexar	23,525	24,394	-3.6%
Travis	11,958	12,076	-1.0%
Hidalgo	17,213	16,835	2.2%
El Paso	11,450	12,366	-7.4%
Collin	6,324	6,448	-1.9%
Denton	7,853	6,839	14.8%
Fort Bend	5,555	6,402	-13.2%
Cameron	8,231	8,239	-0.1%
Williamson	4,679	4,866	-3.8%
Montgomery	4,860	4,914	-1.1%
Bell	7,151	6,013	18.9%
Brazoria	3,263	4,125	-20.9%
Webb	5,361	4,488	19.5%
Nueces	4,284	4,625	-7.4%
Lubbock	3,651	3,753	-2.7%
Galveston	5,059	4,048	25.0%
Jefferson	3,592	4,111	-12.6%

Relative gaps based on future population growth. Figure 3 illustrates, for the 20 largest counties in the state, the relationship between the relative supply of unduplicated ECE slots in 2010 and the projected population growth among 0-4 year olds as of 2015.

Figure 3. Relative Supply of Current Unduplicated Early Care and Education Slots by Projected Child Population Growth for the 20 Largest Texas Counties for 2015



The counties in the lower-right section of the graph represent counties with the most projected need to create ECE capacity by 2015 based upon the projected population growth among 0-4 year-olds.⁴ For example, in Travis County, the number of young children who will need care is expected to increase by approximately 20 percent; however, the capacity of the county to meet that need falls short by approximately 2.5 percent. Conversely, Galveston County appears to have more formal ECE slots than expected based upon the combination of variables controlled for in the RMC model. While these estimations shed light on formal child care needs for 2015 in those counties, they also raise questions for future analysis such as: which factors in different counties influence the size of the formal child care market; how do parent choice and preferences influence the formal

⁴ Given the many assumptions and predictions underlying the future demand for ECE, conducting an analysis such as this one for 2040 would not produce reliable estimates.

care market; and to what degree can normal market forces be expected to handle future increases or decreases in the demand for ECE.

SERVICE GAPS IN PROGRAMS SERVING LOW-INCOME CHILDREN

In addition to families' general demand for ECE, various government programs provide early education services for low-income children considered at-risk of not being academically ready for kindergarten (e.g., public Pre-K and Head Start). In addition, the Child Care Development Fund (CCDF) subsidizes the cost of child care for parents receiving or transitioning off public assistance and for low-income parents who work, attend school or participate in job training. The following sections estimate the gaps between available services and estimated need for each of these types of services. To the extent feasible from the available data, the service gaps between the 2010 supply and the number of children eligible for these services are estimated for sub-state areas and projected for future years based on the anticipated growth in the child population.

Public School Pre-K

TEA method. The Texas Education Agency (TEA) estimates that, in 2010-2011, public Pre-K classrooms served approximately 28 percent of the total population of 3- and 4-year-olds and 90 percent of eligible 4-year-olds, based on the number of kindergarten students either classified as limited-English proficient or economically disadvantaged in the following year.⁵ This estimate was derived from 2009 population estimates based on 2000 U.S. Census data.

In this needs assessment, a similar method was used to identify the number of 4-year-old students eligible for, but not served, by Texas public school Pre-K programs using 2010 U.S. Census information. This analysis was conducted both for the entire state and the 20 most child populous counties. Using this approach, 85 percent of the children eligible for public Pre-K due to either limited English proficiency or family income less than 185 percent of poverty were served in public Pre-K programs throughout the entire state, resulting in a service gap of 15 percent of Pre-K-eligible children.

Table 10 presents an analysis of the demand and supply of Pre-K service using TEA's method for the 20 most child populous counties. The analysis indicates wide variation in the degree to which slots are available to serve the eligible Pre-K population in these counties. For example, Fort Bend County only appears to have enough slots to serve 60

⁵Source: Texas Pre-Kindergarten Data

percent of the eligible children while the number of Bell County slots appears to equal 119 percent of the total children eligible for those slots.

Table 10. Gap of Estimated Percentage of Eligible Pre-K Students Not Served in Texas Public School Pre-K Using TEA Method (2010)

	Fall 2010 Pre-K Slots - Any Eligibility	Fall 2011 Kindergarten Slots - Economic Disadvantage or LEP	Percent of Kindergarten Slots Accounted for by Pre-K Slots = Pre-K/K	Gap (Unaccounted) = 1-(Pre-K/K)
State of Texas	216,664	255,914	85%	15%
20 Most Child Populous Counties				
Harris	45,653	46,974	97%	3%
Dallas	20,183	29,363	69%	31%
Tarrant	13,613	16,719	81%	19%
Bexar	15,910	17,478	91%	9%
Travis	7,385	8,450	87%	13%
Hidalgo	12,207	14,608	84%	16%
El Paso	7,420	10,513	71%	29%
Collin	2,668	4,109	65%	35%
Denton	2,715	3,398	80%	20%
Fort Bend	2,137	3,560	60%	40%
Cameron	5,728	6,548	87%	13%
Williamson	2,225	2,773	80%	20%
Montgomery	2,569	3,388	76%	24%
Bell	4,225	3,557	119%	-19%
Brazoria	1,962	2,470	79%	21%
Webb	4,268	4,522	94%	6%
Nueces	2,213	3,392	65%	35%
Lubbock	1,667	2,475	67%	33%
Galveston	2,624	2,867	92%	8%
Jefferson	2,410	2,173	111%	-11%

Source: RMC analysis of Texas Education Research Center (ERC) data

While this method can provide an estimate of the Pre-K service gap for sub-state areas, several factors could affect the estimates' accuracy. First, the eligibility definitions vary from Pre-K to kindergarten. Secondly, high rates of student mobility may cause the number of Pre-K eligible children to move before entering kindergarten. Children from low-

income families are more likely than others to change schools frequently (GAO 2011). Family mobility is also high among military families: Bexar, Bell and El Paso counties host large populations of military families that typically move every two to three years (Rumberger & Larson, 1998). Finally, even though Texas school districts are required to provide Pre-K services if the district has a minimum of 15 eligible four-year-old children, districts can request waivers from this requirement. For example, Duncanville ISD, in Dallas County, has received a TEA waiver granting an exemption from offering a Pre-K program on those campuses where the district would be required to construct classroom space to serve the Pre-K students. This may partially account for the large service gap (31 percent) in Dallas County.

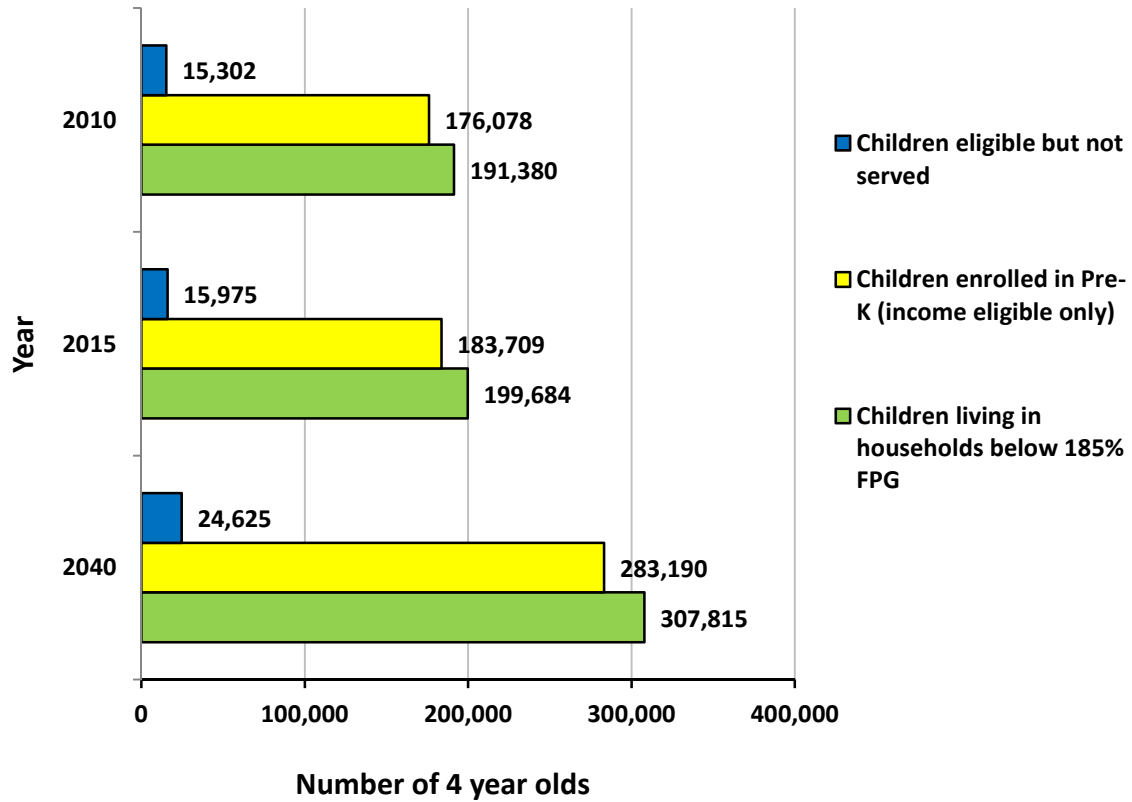
ACS method. An alternate method for estimating the children eligible for Texas public Pre-K is to use American Community Survey estimates of the number of children younger than five living in families with income less than 185 percent of poverty. Children in low-income families make up 91 percent of eligible children participating in Texas Pre-K programs.⁶ Assuming that the same ratio of the children live in low-income families over time, it is possible to use this approach to estimate the additional Pre-K slots that would be needed in 2015 and 2040 based on future child population projections.⁷ Due to data limitations, it is not possible to compute sub-state estimates using this approach.

Based on these ACS estimates, Texas public Pre-K programs served 92 percent of income-eligible children in 2010. An additional 15,000 slots would have been needed to serve all income-eligible children in 2010. Assuming static poverty and enrollment rates, by 2015 an additional 7,600 Pre-K slots would be needed and an additional 98,000 slots by 2040 to meet the growth in Pre-K income-eligible children. Figure 4 compares the total number of children who would need to be served, against total eligible children in 2010, 2015 and 2040.

⁶Ray Marshall Center analysis of Texas Education Research Center data

⁷ The limited size of the ACS sample makes it difficult to project future poverty rates for 4-year-olds. Thus, this projection assumes no change in the future poverty rate rather than using the projected two percent increase in the poverty rate for the entire group of 0-12 year olds.

Figure 4. Public School Pre-K Services Gap Between Income Eligible and Served 4 Year-Olds for 2010 and Projected Gap for 2015 and 2040



Note: This graph assumes that 92 percent of income-eligible children would be served in each year.

Head Start and Early Head Start

Of the children served by Early Head Start, Head Start and Migrant/Seasonal Head Start, on average, 95 percent reside in households with incomes lower than 100 percent of poverty. Table 11 illustrates the Texas children served by age for each program: EHS, HS and the Migrant/Seasonal program for 2010.

Table 11. 2010, Head Start programs - Children Served by Program and Age

	0-2 years old	3 years old	4 years old
Total Served	15,092	34,354	42,017
EHS	9,890	278	0
HS	700	31,858	40,876
Migrant/Seasonal	4,502	2,218	1,141
Income-eligible served	14,337	32,637	39,917
Non-income-eligible served	755	1717	2,100

Source: 2010-2011 Head Start Program Information Report

As shown in Table 12, Texas EHS and HS served only 5 percent of eligible 0-2-year-olds, 31 percent of eligible 3-year-olds and 39 percent of eligible 4-year-olds in 2010.⁸ As the Texas child population ages 0-4 grows, the need for EHS/HS services also will grow, assuming that the share of income-eligible children within each age group remains constant. Table 12 also projects the number of income-eligible children for HS or EHS in 2015 and 2040, and the number of additional children who would need to be served assuming that HS/EHS funding is only adjusted for inflation and that current enrollment rates remain the same. Because the HS/EHS data available for this analysis were aggregated at the state-level, it was not possible to conduct sub-state analyses.

⁸ The numbers of 2010 enrolled, income-eligible children are counts from the HS Program Information Report (PIR) that were adjusted to account for non-eligible enrollment.

Table 12. Head Start and Early Head Start Services Gap Between Income Eligible and Number Served by Child Age and Year

Year of Service	2010	2015	2040
		projected estimates	
Total children 0-2 years-old	1,151,310	1,257,156	1,932,229
Income-eligible children	307,745	335,661	515,905
Children enrolled in EHS	14,337	15,608	23,990
Children eligible but not served	293,408	320,053	491,195
Percentage of children eligible but not served	95.3%	95.3%	95.3%
Total children 3-years-old	390,262	407,903	628,946
Income-eligible children	104,309	108,910	167,929
Children enrolled in HS	32,637	33,762	52,058
Children eligible but not served	71,672	75,148	115,871
Percentage of children eligible but not served	69%	69%	69%
Total children 4-years-old	386,901	403,728	622,352
Income-eligible children	103,418	107,795	166,168
Children enrolled in HS	39,917	41,501	63,975
Children eligible but not served	63,501	66,294	102,193
Percentage of children eligible but not served	61.5%	61.5%	61.5%

Child Care Development Fund

CCDF, which is administered in Texas by 28 local Workforce Development Boards (Boards), provides child care subsidies for low-income TANF families to aid their transition to employment and also provides child care subsidies for low-income working families. Due to the flexible nature of this program, these subsidies can be used for both formal and informal care for children, ages 0-12. In Texas, TANF families receive priority for service under CCDF. Other income-eligible families with child care needs can receive subsidies if their income is less than the maximum income limits set by each local Board. CCDF income limits vary across the state but 19 of the 28 Boards maintain an income limit of 85 percent of State Medium Income (SMI), which roughly equals 240 percent of the federal poverty level.

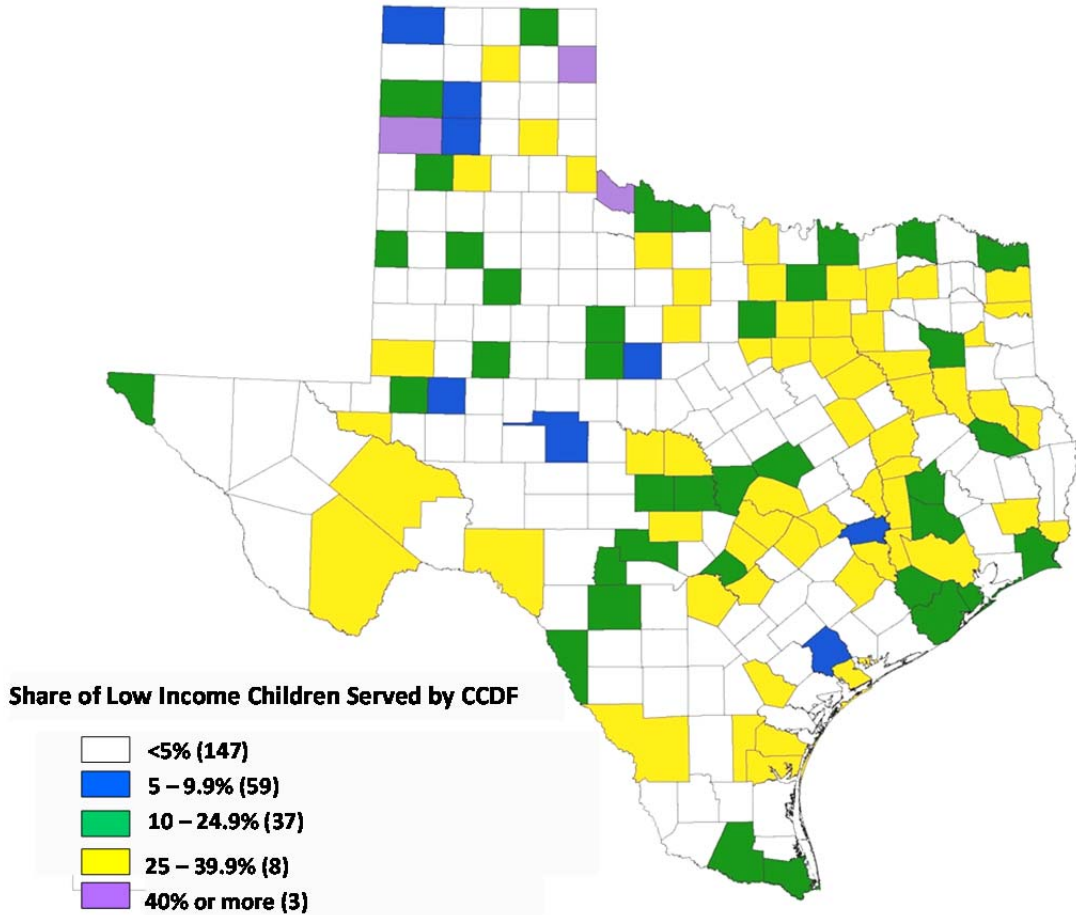
The flexible nature of the services that can be offered through CCDF, the family-based eligibility system (instead of a system restricted to specific services for children of a certain age), and the ability of different workforce boards to set specific income-eligibility ceilings all make it difficult to precisely estimate service gaps for CCDF services using the

data available in this needs assessment. Because TANF families receive priority for CCDF services, there should be no service gap for that portion of the eligible CCDF population. But prior research has found that only a small fraction of children in working families who are eligible for CCDF based on income actually receive services.

This program is highly sensitive to the amount of allocated funding, and the number of CCDF-eligible families far exceeds the available funds. Because families often know when enrollment is closed, many do not apply for funds even though they are eligible. (Lein et al, 2007) It is typical for program waiting lists to briefly disappear whenever additional funding is allocated — as occurred recently through the infusion of ARRA funds — only to re-appear as soon as families realize that funding is available and begin applying for child care subsidies again.

Several different approaches have been used to estimate the share of eligible families who actually receive CCDF subsidies. The simplest approach compares the number of children receiving subsidies to the number of children, ages 0-12, living in families whose income is less than 185 percent of poverty (the same income eligibility threshold used to allocate CCDF discretionary funding). In the state of Texas, 2,372,133 children ages 0-12 met these income criteria in 2010. The average number of children served monthly by CCDF in 2010 was 139,537, or less than 6 percent of children living in families below this income level. (It is not possible to limit CCDF participation estimates to only working families using such an approach.) Figure 5 displays the share of children, ages 0-12, in families with incomes less than 185 percent of poverty who actually received CCDF subsidies in all Texas counties during an average month in 2010.

Figure 5. Share of Children in Low-Income Families Served by CCDF in 2010



Using a more sophisticated approach, a team of multi-state researchers used linked individual-level subsidy data, identifiable Census records and CCDF eligibility criteria to develop a statistical model to determine the share of CCDF-eligible families who actually received subsidies in three states. These researchers found that less than ten percent of income-eligible Texas families actually received CCDF subsidies. (Goerge et al, 2009).⁹

Collection of the detailed information of each Board’s local eligibility requirements, waiting lists and local family income and employment information needed to identify the local gap in services for each Board region is beyond the scope of this study.

⁹ Two of the needs assessment’s co-authors (Schexnayder and Schroeder) conducted the Texas portion of that study.

SERVICE GAPS FOR OTHER CARE AND SERVICES

Private School Pre-Kindergarten

In 2009, 1,064 private school Pre-K programs provided Pre-K for 54,644 Texas children. Assuming that the same number of students participated in Pre-K at private schools in 2010, combining the private and public Pre-K enrollment indicates that Texas had 4,218 providers offering Pre-K to 278,931 students. Of the 386,901 4-year-old children in Texas in 2010, approximately 72 percent participated in some sort of school-based Pre-K program in 2010.

Military Child Care

The Department of Defense (DOD) strives to ensure that DOD ECE funding provides quality care. To reach this goal, the DOD is increasing on-installation child care capacity by constructing new CDCs across the country. The DOD estimates that adding over 21,000 additional child care slots to the current capacity would enable them to meet 80 percent of the demand for military child care. In Texas, two new facilities at Ft. Hood and three at Ft. Bliss will begin offering services in 2012. The Texas-based Military Child Education Coalition estimates that there were 100,000 children in Texas military families in 2010 but could not provide estimates of the share of children eligible for care on military installations.

Individual with Disabilities Education Act Programs

The Early Childhood Intervention (ECI) program and the Preschool Programs for Children with Disabilities (PPCD) are both required to serve all eligible children and families. Neither program maintains waiting lists of eligible children who are not receiving services. Precise service gaps could not be computed for either of these programs due to the lack of a suitable variable measuring developmental delay or disability in the Census data.

ECI: The Department of Assistive and Rehabilitative Services (DARS) estimates that approximately three or four percent of children statewide have a medically diagnosed condition or developmental delay that would make them eligible for comprehensive early intervention services. In 2010, ECI provided comprehensive services and follow-along services to 66,648 children, or 5.8 percent of children, ages 0-2. This figure exceeds the 4 percent estimate of statewide need yet is less than half the eligible children estimated by other sources (Rosenberg et. al. 2008).

PPCD. PPCD refers to the services provided by the school district, not to the place where they are provided. Eligible children receive PPCD services in various settings such as Pre-K, resource rooms, self-contained classrooms, or in community settings including Head Start and private pre-school. In 2010, 41,494 children ages 3-5, or 3.6 percent of all Texas

children in that age range, received PPCD services. The national average of children ages 3-5 served in this program is 5.9 percent.

School-Age Care

In 2010, Texas was home to 3,066,796 children ages 5-12 but a complete list of Texas school-age care providers was not available. Partial information for TDFPS-listed providers and CCDF-subsidized school-age care is discussed below.

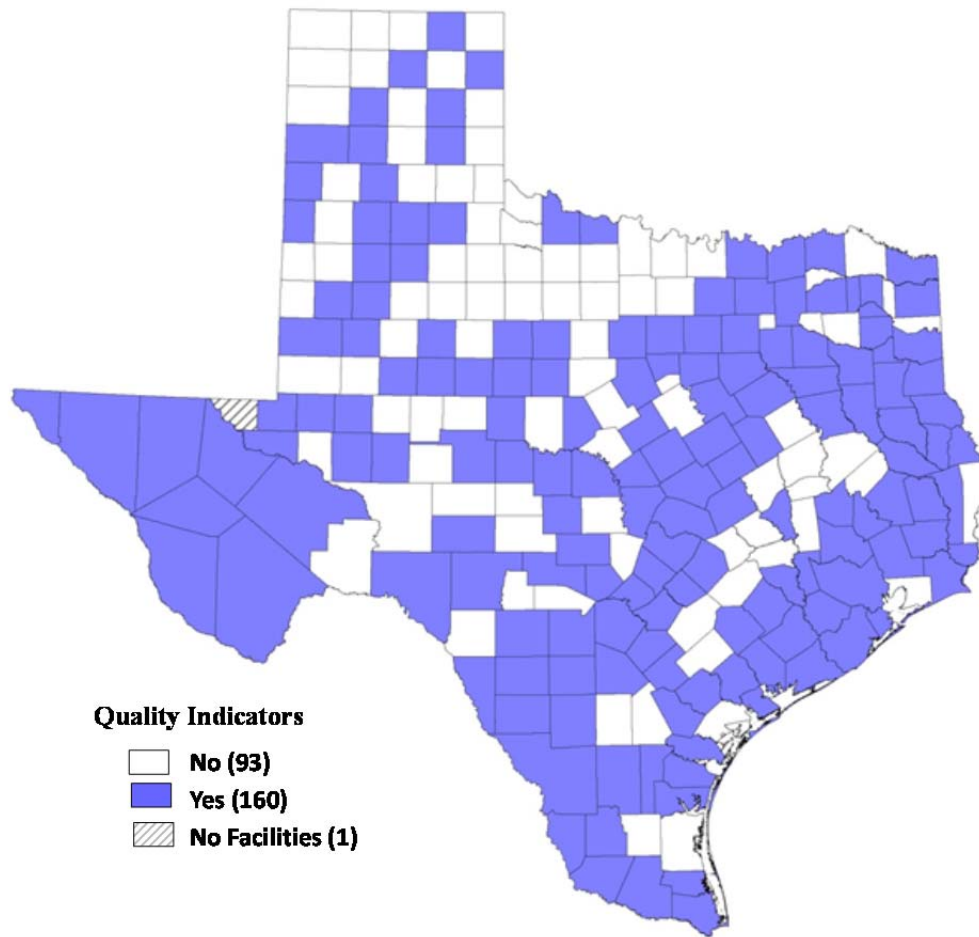
TDFPS identifies 18,243 sites that provide school-age care (SAC) in licensed centers, licensed, registered, and listed homes; however, identifying the number of school-age slots is not currently possible within the registry system. The TDFPS list of SAC providers also includes YMCA programs and private agencies that provide care on public school campuses. Non-state-regulated SAC includes programs on military bases and public and private school campuses, including programs that operate for educational purposes. There is no data source identifying all programs providing SAC. In 2010, the CCDF provided services for approximately 3 percent of the children ages 5-12 living in households with incomes 185 percent of federal poverty guidelines.

Afterschool Alliance reported a 2009 survey of 1,129 Texas households regarding afterschool care, in which parents and guardians were asked about the afterschool care arrangements of students in grades K-12 (America After 3 p.m. Survey). Survey respondents reported that only 15 percent of K-12 children participated in afterschool programs and that 26 percent of children in grades K-12 were responsible for taking care of themselves after school.

THE GAP BETWEEN AVAILABLE PROGRAMS AND THOSE MEETING QUALITY STANDARDS

There is no consistent approach to assigning quality to Texas ECE and SAC programs. For the purpose of this study, the definition of quality was limited to a formal designation of quality of existing programs by one of eight selected formal quality accreditation or certification programs. Even with eight different organizations providing some sort of quality designation, only 160 of Texas's 254 counties had even one provider meeting *any* quality seal of approval in 2010. Figure 6 shows those counties with any program meeting an external quality designation in 2010. Assuming that no provider received more than one type of quality designation, a maximum of 16 percent of child care centers and 12 percent of public Pre-K programs received a quality designation. Improvement in this area clearly needs to occur to aid parents and case managers in selecting better care.

Figure 6. Distribution of Quality Designated Sites by County

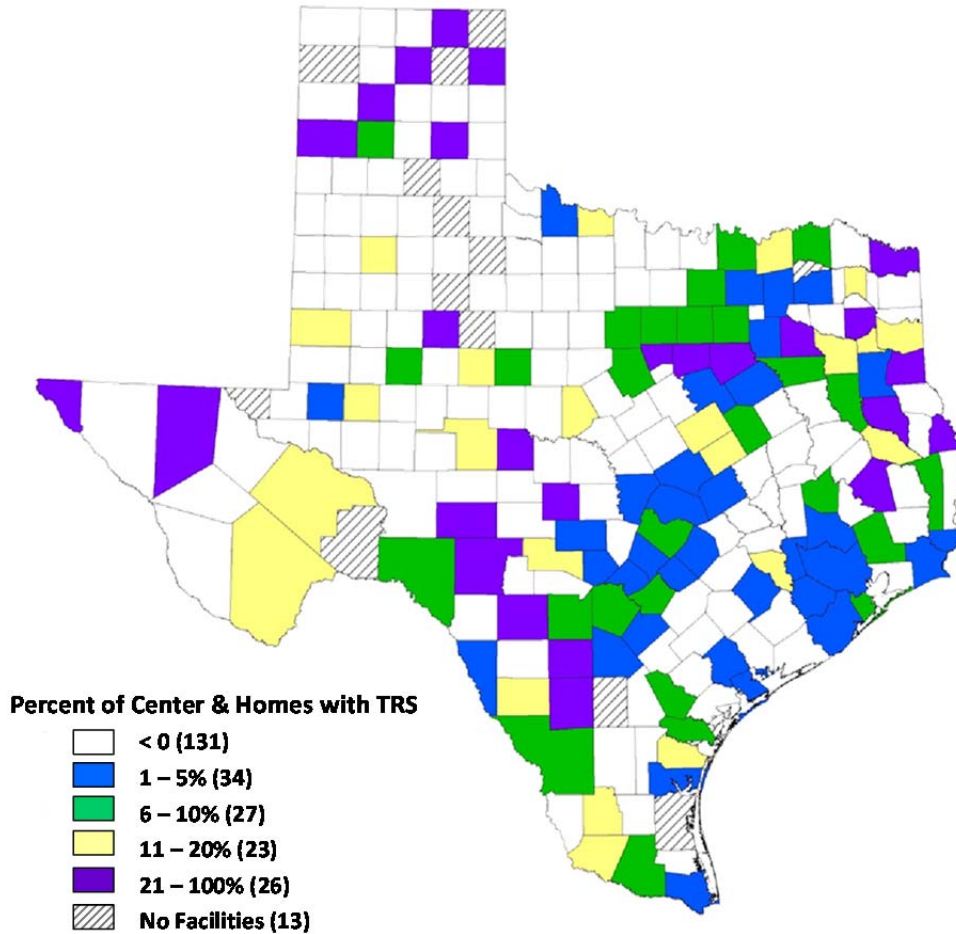


Source: Supply and Quality of Early Care and Education and School-Age Care, 2012

State Certification Programs

Texas Rising Star (TRS). Texas Rising Star (TRS) is a quality rating system that the state originally developed for CCDF-subsidized providers. TRS gives child care centers and family homes ratings ranging from two to four stars that signal various levels of quality improvements as providers go beyond the state’s Minimum Child Care Licensing Standards. Providers are assessed according to health and safety records, group size, child/staff ratios, caregiver training, and age-appropriate curricula and activities. With over 1,200 accredited sites in 160 out of 254 counties, TRS is the most frequently achieved quality certification in the State (Figure 7). However, because local workforce boards now rely on local funds to support quality programming, there is variability in the amount of funding to support this system across the state.

Figure 7. Distribution of TRS Certified Sites Across the State by County



Source: Supply and Quality of Early Care and Education and School-Age Care, 2012

Texas School Ready! (TSR!). Texas School Ready! (TSR!) is an early childhood quality improvement and quality certification project administered by the Children’s Learning Institute at the University of Texas Health Science Center at Houston (UTHSCH). The project includes mentoring, professional development, progress monitoring, a research-based curricula and a quality certification system. TSR! certification identifies pre-school programs that are effective in preparing at-risk Pre-K children for kindergarten. Public schools, Head Start, charter schools, nonprofit and for-profit programs are eligible to enroll in the certification process. TSR!-certified programs are listed on the Children’s Learning Institute’s website. In Texas for the 2010-2011 school year, there were 1,765 TSR!-certified classrooms serving a total of 30,098 students, with an additional 1,452 in the process of certification (Table 13.)

In March 2012, the Texas Education Agency (TEA) announced a new Kindergarten Readiness System (KRS) to certify quality Pre-K programs at no cost to the local programs. This new certification program is part of the larger Texas Student Data System (TSDS) initiative to improve upon the statewide longitudinal education data system. The TSR! quality enhancement program will remain the same but the KRS will provide the certification that identifies a Pre-K classroom as a “Pre-K Center of Excellence.”

Table 13. 2010 Texas School Ready! Certification

Type of Program	Classrooms	Teachers	Students
Child Care	205	211	2,682
Head Start	337	349	4,660
Independent School District	1,173	1,021	21,923
Other	50	49	833
Total	1,765	1,630	30,098

Source: The Children's Learning Institute at the University of Texas – Houston. Texas School Ready! Beat. (December 2010) 21:19

Table 14 identifies the estimated gap in TSR!-certified HS and public school Pre-K classrooms. The estimate of eligible classrooms was determined using the total number of enrolled children, 4 year-old HS children and all Pre-K children, divided by 20 (the HS maximum class size for a group of predominantly 4-year-old children). The number of child care center classrooms potentially eligible to apply for TSR! certification is not available. As shown in the table, an estimated 16 percent of HS classrooms and 11 percent of public Pre-K classrooms were certified by TSR! in 2010.

Table 14. 2010 Estimated Gap in Texas School Ready! Certification for Head Start and Public Pre-K Classrooms

Type of Program	Estimate of Eligible Classrooms	TSR! Classrooms	Share of TSR! Classrooms
Head Start	2,040	337	16.5%
Independent School District	10,833	1,173	10.8%

Source: Head Start Program Information Report 2010-2011, TEA Pre-K Fact Sheet 2010-2011, The Children's Learning Institute at the University of Texas – Houston. Texas School Ready! Beat. (December 2010) 21:19

National Quality Accreditation Programs

Of the six national accreditation systems reviewed for this project, all use best-practice, research-based standards to accredit programs but only two have a significant presence across the state: the National Association for the Education of Young Children (NAEYC), which accredits 250 programs across the state and the National Association for Family Child Care (NAFCC), which accredits 81 family homes.

Understanding the accreditation process can offer insight into the challenges ECE sites experience in pursuing national accreditation. For example, the NAEYC is often described as the gold standard in ECE care. To earn NAEYC accreditation, sites conduct an extensive self-study, measuring the program and its services against the 10 NAEYC Early Childhood Program Standards and more than 400 related accreditation criteria. A program receives NAEYC Accreditation after a site visit by an NAEYC assessor to ensure that the program meets each of the 10 program standards. The cost of NAEYC accreditation for a center with 10-60 children is \$1,275, with an annual fee of \$500 for a five-year accreditation term. Of the 250 accredited programs, 77 are HS/EHS programs, 18 are located on military installations and many of the remaining 155 appear to be affiliated with a university, public school, corporation or religious organization. The majority of the ECE sites across the state do not have resources that may be available to programs that are affiliated with larger organizations.

Few formal program evaluations have been conducted on specific ECE services to evaluate their effect on child outcomes. A recent longitudinal analysis of Texas public Pre-K found that children participating in public Pre-K in the 2000-2001 school year showed small but significant gains in 3rd grade standardized test scores when compared to Pre-K-eligible children who did not participate, with most of the gains concentrated among children from very poor families and those who qualified by virtue of both family income and limited English proficiency. (Huston et al, 2012). In 2009, Head Start programs received support to implement the Classroom Assessment Scoring System (CLASS), a valid and reliable research-based observational instruments that assesses classroom quality. CLASS is now included in the triennial review for a sample of HS grantees but the results of those reviews are currently unavailable.

SUMMARY

Service gaps between the unduplicated supply of ECE and the population of young children were computed both for all young children and the sub-sets of young children living with employed parents. In 2010, the total available supply of formal ECE could have potentially served 45 percent of all Texas children, ages 0-4. In order to maintain the same

ratio of slots in 2015 and 2040, an additional 51,752 ECE slots would be needed by 2015 and an additional 542,237 slots by 2040. Across the state, the share of children who could be served by formal ECE in 2010 ranged from a low of 37 percent in the Brownsville-Harlingen and Sherman-Denison MSAs to 78 percent in the Texarkana MSA.

Nearly 1.1 million young children needed child care or early education in 2010 because their parents were working. This demand was adjusted to reflect only those children living in either in two-parent households in which both parents were working or single-working parent households. Assuming that the demand for these slots was evenly distributed by geographic location and age of young children, the total unduplicated supply of formal ECE could have potentially served 78 percent of the estimated need for child care among working families in 2010.

A statistical model was developed incorporating factors known to affect the demand for ECE and applied to the counties for which sufficient data were available. The results were then interpreted for the 20 most populous Texas counties by child age. After controlling for the model variables, Brazoria, Bell, and Denton counties had the largest supply of formal slots for children ages 0 to 2 relative to the entire state, while Fort Bend and Williamson counties had the smallest relative supply of slots for this age group. For 3- and 4-year-olds, Galveston, Webb and Bell counties had the largest relative supply of slots while Brazoria and Dallas counties had the smallest relative supply of slots needed for this age group. The same model was used to compare the current supply of formal ECE to predicted population growth in 2015 and displayed those counties most likely to need additional ECE capacity in the future.

The degree to which service gaps could be determined for specific programs providing ECE education and services or SAC was severely constrained due to data limitations. Gaps could only be estimated for Pre-K, HS/EHS and CCDF programs. Two different methods were used to estimate service gaps for Pre-K programs, which showed that existing programs served 85-92 percent of children eligible for this program in 2010. Based on summary HS and EHS data, it appears that only five percent of eligible 0-2-year-olds, 31 percent of eligible 3-year-olds and 39 percent of eligible 4-year-olds were served in Texas Head Start programs. Due to the flexible nature of the services offered through the CCDF program and its family-based eligibility system, it was difficult to precisely measure the share of eligible children who received those services. But prior research has found that less than ten percent of eligible CCDF families actually receive those services.

Only 160 of Texas' 254 counties contain a provider meeting at least one of the selected quality designations. A maximum of 16 percent of child care centers and 12 percent of public Pre-K programs received any type of quality designation.

DETAILED DATA GAPS

Due to the local nature of the market for early care and education, a needs assessment would be most useful if conducted for each local level. Ideally, local data measuring the demand for ECE could be matched against the available local ECE supply, including the cost and program eligibility information for each type of service. Program quality would be measured using both structural and observational techniques and published in a form that is readily available to parents and case managers who need to make day-to-day decisions when choosing the best environments for young children and children needing school-age care.

Even for a needs assessment conducted solely from existing data, the level of detail listed in Table 15 for each county would be required in order to fully complete the requested analyses originally envisioned for this study. As a result of the many gaps in the available supply data, the ability to measure the gaps between the demand for and supply of early care and education was limited to the types of services for which full information was available at the county level. To the extent possible, researchers used statistical estimation techniques to account for these data deficiencies but, in general, the best estimates for the gaps between supply and demand for services are those for the most populous counties in the state.

**Table 15. Desired Units of Analysis
for Each Type of Measure in Needs Assessment**

Type of Measure	Desired Level of Detail
Number of children needing ECE or SAC	By age
	By family income
	By family structure and work status
	By geography (county preferred)
Number of providers	By zip code (or county)
	By number of slots per age group
	By type of service provided
	By waiting list vs. excess capacity
Number of providers meeting quality standards	Matched to list of providers
	By type of quality standards
Number of ECE and SAC slots	By child age
	By full-day or part-day
	By work week and season
	By geography (county preferred)
	By number of children served
	By eligible vs. non-eligible enrollees

Table 16 summarizes the types of population, supply and quality data barriers that were encountered when conducting this study. Unless resolved, these barriers would impede any future attempts to replicate this study.

Table 16. Types of Data Barriers Encountered When Performing This Research

Data Category	Type of Barrier	Specific Issues and Data Files
Population Data	Limited sample size	Important socioeconomic characteristics — income, employment, family structure — only available through ACS and could only be used for larger counties
	Lack of variables needed to measure program eligibility	No variables for measuring disabilities, developmental delays or limited English within ACS
Program Data	Data access	Only most recent data available (i.e. website updated dynamically with no historical record) – NAEYC, Head Start Center list
	Data availability	No comprehensive source of data for SAC
	Level of reporting (summarized at state level vs. individual county)	Head Start – enrollment and demographic data only available at grantee level; ECI – demographic data only available at state level
	Differing sub-state geographical boundaries	Pre-K at campus level; CCDF at county level; HS center zip codes available but service area (grantees) unclear
	Inability to measure multiple services per provider	HS and Pre-K overlap; LCCC and HS; LCCC and private Pre-K
	Lack of details re: types of service, ages of children served, service capacity, unit of service	Licensing data do not specify number of slots for each age group. Public Pre-K data do not indicate if full-day or half-day slots.
Quality data	Lack of common identifier	Could not link any program directly to state licensing data or determine if one program had multiple accreditations

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APPENDIX A: DETAILED POPULATION ESTIMATES AND COUNTY SLOTS PER 100 CHILDREN

Total Texas Children

The first report in this series, *Change in the Early Childhood and School-Age Population in Texas, 2000 to 2010, and Projected to 2015*, presented the total number of children ages 0-12 in the state of Texas for three points in time: 2010, 2015 and 2040. The age break-downs represented in Tables A-1, A-2 and A-3 (0-2, 3-4 and 5-12) represent more typical age groups needed to compare child population statistics to categories of care and services for children of different ages. Ages 0-2 are infants and toddlers, 3-4 year-old children are considered pre-school age and 5-12 are school-age children. Each of these age groups of children have different care needs for different reasons. Tables A-1 and A-2 present numbers of children by age categories for the COGs and MSAs and Table A-3 presents numbers of children by age categories for the 20 most child populous counties in the state.

Table A-1. Child Population Estimates for 2010 and Projections for 2015 and 2040 by Age Group and COG

	0-2			3-4			5-12			Total		
	2010	2015	2040	2010	2015	2040	2010	2015	2040	2010	2015	2040
State of Texas	1,151,310	1,257,156	1,932,229	777,163	811,631	1,251,298	3,066,796	3,229,554	4,864,023	4,995,269	5,298,341	8,047,550
Council of Government (COG) Region												
Alamo Area	96,937	104,631	140,573	66,053	67,676	92,632	267,514	278,005	374,967	430,504	450,312	608,172
Ark-Tex	11,117	11,452	13,610	7,715	7,629	9,135	30,784	31,664	37,096	49,616	50,745	59,841
Brazos Valley	12,238	15,633	21,056	7,946	9,864	13,329	29,854	32,683	50,521	50,038	58,180	84,906
Capital Area	80,126	94,344	179,447	53,709	60,322	114,754	207,485	232,611	444,735	341,320	387,277	738,936
Central Texas	23,706	24,497	32,766	15,394	16,351	21,787	54,288	62,909	84,525	93,388	103,757	139,078
Coastal Bend	24,093	25,335	25,621	16,231	16,584	17,002	65,474	64,071	67,010	105,798	105,990	109,633
Concho Valley	6,309	6,352	6,481	4,226	4,192	4,324	16,128	16,663	17,217	26,663	27,207	28,022
Deep East Texas	14,631	15,686	19,059	10,058	10,465	12,672	39,504	40,861	50,226	64,193	67,012	81,957
East Texas	32,473	34,663	53,397	22,538	22,707	34,528	89,807	93,696	135,274	144,818	151,066	223,199
Golden Crescent	8,013	8,258	9,945	5,455	5,429	6,658	21,341	22,397	26,906	34,809	36,084	43,509
Heart Of Texas	14,209	15,515	16,651	9,568	9,936	10,941	38,186	38,681	43,390	61,963	64,132	70,982
Houston-Galveston	289,009	311,604	496,032	191,751	201,116	321,589	752,439	809,225	1,253,846	1,233,199	1,321,945	2,071,467
Lower Rio Grande Valley	66,679	80,062	111,815	45,282	49,440	70,148	185,808	177,800	258,066	297,769	307,302	440,029
Middle Rio Grande	8,007	9,275	9,677	5,615	6,006	6,401	22,388	21,877	24,505	36,010	37,158	40,583
Nortex	8,700	8,748	8,934	5,849	5,908	6,030	23,011	23,757	24,633	37,560	38,413	39,597
North Central Texas	300,955	323,577	583,665	206,894	210,150	376,583	817,444	869,553	1,456,054	1,325,293	1,403,280	2,416,302
Panhandle	19,914	19,715	27,257	13,390	13,147	18,283	51,368	56,411	75,232	84,672	89,273	120,772
Permian Basin	20,789	21,489	26,823	13,342	14,074	17,592	50,539	55,392	69,008	84,670	90,955	113,423
Rio Grande	39,452	45,354	52,198	26,791	28,357	33,664	109,092	104,087	127,603	175,335	177,798	213,465
South East Texas	15,753	16,384	21,759	10,462	10,988	14,404	41,372	43,646	57,532	67,587	71,018	93,695
South Plains	18,676	19,607	22,485	12,089	12,716	14,823	46,658	49,049	57,808	77,423	81,372	95,116
South Texas	19,098	23,672	29,299	12,762	14,493	18,283	51,670	47,917	64,901	83,530	86,082	112,483
Texoma	7,413	7,493	9,738	5,088	4,983	6,392	20,622	20,823	25,307	33,123	33,299	41,437
West Central Texas	13,013	13,810	13,941	8,955	9,098	9,344	34,020	35,776	37,661	55,988	58,684	60,946

Table A-2. Child Population Estimates for 2010 and Projections for 2015 and 2040 by Age Group and MSA

	0-2			3-4			5-12			Total		
	2010	2015	2040	2010	2015	2040	2010	2015	2040	2010	2015	2040
State of Texas	1,151,310	1,257,156	1,932,229	777,163	811,631	1,251,298	3,066,796	3,229,554	4,864,023	4,995,269	5,298,341	8,047,550
Metropolitan	1,028,321	1,125,799	1,772,262	693,178	725,446	1,145,445	2,732,520	2,886,233	4,443,625	4,454,019	4,737,478	7,361,332
Non-Metropolitan	122,989	131,357	159,967	83,985	86,185	105,853	334,276	343,321	420,398	541,250	560,863	686,218
Metropolitan Statistical Area (MSA)												
Abilene	6,926	7,567	6,997	4,656	4,985	4,659	17,108	18,193	18,363	28,690	30,745	30,019
Amarillo	11,332	11,243	15,731	7,683	7,592	10,579	29,211	32,210	43,806	48,226	51,045	70,116
Austin-Round Rock-San Marcos	76,375	90,425	173,646	51,129	57,818	110,965	196,349	221,455	429,115	323,853	369,698	713,726
Beaumont-Port Arthur	15,753	16,384	21,759	10,462	10,988	14,404	41,372	43,646	57,532	67,587	71,018	93,695
Brownsville-Harlingen	21,371	24,859	28,798	14,483	15,646	18,282	61,219	56,181	67,965	97,073	96,686	115,045
College Station-Bryan	8,994	11,995	16,002	5,748	7,542	10,067	20,896	23,532	37,840	35,638	43,069	63,909
Corpus Christi	17,939	18,785	18,974	12,086	12,280	12,599	49,697	48,005	49,998	79,722	79,070	81,571
Dallas-Fort Worth-Arlington	294,493	316,670	574,091	202,453	205,573	370,286	799,712	850,964	1,430,534	1,296,658	1,373,207	2,374,911
El Paso	38,475	44,248	50,997	26,146	27,665	32,883	106,331	101,479	124,604	170,952	173,392	208,484
Houston-Sugar Land-Baytown	283,897	304,854	488,547	188,315	196,625	316,657	739,058	795,581	1,235,621	1,211,270	1,297,060	2,040,825
Killeen-Temple-Fort Hood	22,008	22,781	30,765	14,273	15,249	20,453	49,654	58,267	79,160	85,935	96,297	130,378
Laredo	14,665	18,135	23,853	9,759	11,025	14,859	39,724	37,018	52,783	64,148	66,178	91,495
Longview	8,964	9,654	16,535	6,084	6,322	10,573	23,507	25,345	40,994	38,555	41,321	68,102
Lubbock	12,617	13,402	15,729	8,056	8,654	10,285	31,032	32,797	39,924	51,705	54,853	65,938
McAllen-Edinburg-Mission	44,373	54,056	81,791	30,165	33,077	51,080	121,986	119,172	187,232	196,524	206,305	320,103
Midland	6,697	6,987	8,931	4,304	4,552	5,778	16,386	17,875	22,657	27,387	29,414	37,366
Odessa	7,423	7,736	9,535	4,652	5,094	6,198	17,626	19,238	23,596	29,701	32,068	39,329
San Angelo	4,685	4,821	4,734	3,109	3,235	3,148	11,647	12,193	12,349	19,441	20,249	20,231
San Antonio-New Braunfels	93,438	100,762	135,758	63,693	65,228	89,502	257,708	268,204	362,621	414,839	434,194	587,881
Sherman-Denison	4,666	4,726	6,268	3,167	3,127	4,076	13,051	12,897	15,893	20,884	20,750	26,237
Texarkana	3,448	3,523	3,335	2,473	2,370	2,295	9,990	9,760	9,225	15,911	15,653	14,855
Tyler	8,748	9,738	15,436	6,206	6,244	9,929	24,010	25,255	38,118	38,964	41,237	63,483
Victoria	5,057	5,359	6,705	3,382	3,509	4,481	13,461	14,199	18,262	21,900	23,067	29,448
Waco	9,984	11,092	11,527	6,658	6,977	7,486	26,357	26,694	29,518	42,999	44,763	48,531
Wichita Falls	5,993	5,997	5,818	4,036	4,069	3,921	15,428	16,073	15,915	25,457	26,139	25,654

**Table A-3. Child Population Estimates for 2010 and Projections for 2015 and 2040
by Age Group for 20 Most Child Populous Counties**

	0-2			3-4			5-12			Total		
	2010	2015	2040	2010	2015	2040	2010	2015	2040	2010	2015	2040
20 Most Child Populous Counties												
Harris	203,677	221,465	290,450	132,637	141,442	186,934	506,603	529,054	693,379	842,917	891,961	1,170,763
Dallas	115,587	129,145	144,347	77,251	82,861	92,526	288,630	289,968	337,772	481,468	501,974	574,645
Tarrant	84,930	90,910	153,492	57,969	58,812	99,015	228,222	244,012	381,111	371,121	393,734	633,618
Bexar	77,590	83,994	105,104	52,497	54,352	69,087	207,826	214,759	272,717	337,913	353,105	446,908
Travis	45,892	55,783	67,571	29,882	35,477	42,814	109,237	118,860	157,209	185,011	210,120	267,594
Hidalgo	44,373	54,056	81,791	30,165	33,077	51,080	121,986	119,172	187,232	196,524	206,305	320,103
El Paso	38,475	44,248	50,997	26,146	27,665	32,883	106,331	101,479	124,604	170,952	173,392	208,484
Collin	34,267	34,607	107,750	24,582	23,034	69,296	105,493	118,161	272,514	164,342	175,802	449,560
Denton	29,082	29,467	91,007	20,708	19,820	58,915	84,263	96,661	226,657	134,053	145,948	376,579
Fort Bend	25,447	25,030	73,829	18,301	16,899	48,991	79,535	95,475	212,525	123,283	137,404	335,345
Cameron	21,371	24,859	28,798	14,483	15,646	18,282	61,219	56,181	67,965	97,073	96,686	115,045
Williamson	19,729	20,873	65,643	13,802	13,542	42,151	56,289	67,073	168,306	89,820	101,488	276,100
Montgomery	19,513	21,145	58,991	13,711	13,599	37,795	57,147	66,386	156,797	90,371	101,130	253,583
Bell	17,391	18,865	25,347	10,974	12,389	16,584	38,202	43,803	61,622	66,567	75,057	103,553
Brazoria	14,807	15,278	30,830	9,921	10,252	20,171	38,869	44,597	80,198	63,597	70,127	131,199
Webb	14,665	18,135	23,853	9,759	11,025	14,859	39,724	37,018	52,783	64,148	66,178	91,495
Nueces	14,343	14,983	15,464	9,733	9,720	10,246	39,635	38,267	40,493	63,711	62,970	66,203
Lubbock	12,327	13,115	15,266	7,841	8,479	9,975	30,295	31,944	38,645	50,463	53,538	63,886
Galveston	11,898	12,699	15,769	8,081	8,448	10,576	33,274	34,015	42,753	53,253	55,162	69,098
Jefferson	10,337	11,073	15,280	6,825	7,303	9,962	26,001	27,486	38,557	43,163	45,862	63,799

Table A-4. 2010 Total Supply of Unduplicated Formal Early Care and Education Slots Per 100 Children 0-4 by County

County	Children ages 0-4	Slots	Slots per 100 Children
Anderson	3,135	1,399	44.6
Andrews	1,226	371	30.2
Angelina	6,506	3,344	51.4
Aransas	1,190	356	29.9
Archer	472	200	42.5
Armstrong	107	18	17.2
Atascosa	3,337	1,045	31.3
Austin	1,850	751	40.6
Bailey	682	222	32.5
Bandera	923	376	40.8
Bastrop	5,014	2,700	53.9
Baylor	228	144	63.3
Bee	1,937	787	40.6
Bell	28,365	15,416	54.3
Bexar	130,087	55,561	42.7
Blanco	551	159	28.9
Borden	28	9	33.8
Bosque	1,016	349	34.4
Bowie	5,921	4,618	78.0
Brazoria	24,728	12,307	49.8
Brazos	12,506	6,638	53.1
Brewster	542	345	63.7
Briscoe	103	15	14.6
Brooks	619	282	45.5
Brown	2,368	1,203	50.8
Burleson	1,074	392	36.5
Burnet	2,498	1,455	58.2
Caldwell	2,614	913	34.9
Calhoun	1,526	910	59.7
Callahan	779	252	32.3
Cameron	35,854	13,172	36.7
Camp	899	373	41.5
Carson	363	92	25.4
Cass	1,780	854	48.0
Castro	699	177	25.3
Chambers	2,438	809	33.2
Cherokee	3,627	1,328	36.6
Childress	424	194	45.7
Clay	602	215	35.8
Cochran	248	118	47.4
Coke	166	67	40.6
Coleman	501	211	42.2
Collin	58,849	35,059	59.6
Collingsworth	256	75	29.4
Colorado	1,326	675	50.9
Comal	6,211	2,991	48.2

County	Children ages 0-4	Slots	Slots per 100 Children
Comanche	938	275	29.3
Concho	161	83	51.3
Cooke	2,687	752	28.0
Coryell	6,687	3,079	46.0
Cottle	78	35	44.5
Crane	335	91	27.2
Crockett	297	109	36.7
Crosby	505	141	27.8
Culberson	179	84	46.9
Dallam	624	418	67.0
Dallas	192,838	70,776	36.7
Dawson	1,055	460	43.6
Deaf Smith	1,841	796	43.2
Delta	309	93	30.0
Denton	49,790	29,072	58.4
De Witt	1,242	476	38.3
Dickens	132	42	31.5
Dimmit	819	465	56.8
Donley	203	81	39.8
Duval	844	316	37.4
Eastland	1,114	415	37.3
Ector	12,075	4,558	37.7
Edwards	114	79	69.7
Ellis	10,939	4,441	40.6
El Paso	64,621	24,169	37.4
Erath	2,397	1,149	47.9
Falls	1,069	322	30.1
Fannin	1,981	826	41.7
Fayette	1,377	569	41.3
Fisher	220	54	24.5
Floyd	493	260	52.7
Foard	57	36	64.0
Fort Bend	43,748	19,803	45.3
Franklin	699	254	36.4
Freestone	1,229	566	46.1
Frio	1,204	549	45.6
Gaines	1,819	277	15.2
Galveston	19,979	12,575	62.9
Garza	382	114	29.9
Gillespie	1,234	544	44.1
Glasscock	79	26	32.6
Goliad	385	183	47.5
Gonzales	1,530	689	45.0
Gray	1,636	546	33.4
Grayson	7,833	3,199	40.8
Gregg	9,081	5,154	56.8

Table A-4. 2010 Total Supply of Unduplicated Formal Early Care and Education Slots Per 100 Children 0-4 by County

County	Children ages 0-4	Slots	Slots per 100 Children
Grimes	1,580	633	40.0
Guadalupe	9,197	2,870	31.2
Hale	3,016	1,034	34.3
Hall	218	103	47.2
Hamilton	469	238	50.7
Hansford	466	159	34.1
Hardeman	269	144	53.6
Hardin	3,686	1,462	39.7
Harris	336,314	150,525	44.8
Harrison	4,676	1,895	40.5
Hartley	349	11	3.2
Haskell	311	171	54.9
Hays	10,571	5,175	49.0
Hemphill	326	118	36.3
Henderson	4,668	1,726	37.0
Hidalgo	74,538	29,954	40.2
Hill	2,291	957	41.8
Hockley	1,754	771	44.0
Hood	2,918	1,330	45.6
Hopkins	2,434	1,355	55.7
Houston	1,362	463	34.0
Howard	2,267	930	41.0
Hudspeth	242	56	23.2
Hunt	5,713	2,462	43.1
Hutchinson	1,601	593	37.1
Irion	68	23	33.2
Jack	485	125	25.8
Jackson	1,030	352	34.1
Jasper	2,439	979	40.2
Jeff Davis	89	29	32.1
Jefferson	17,162	8,481	49.4
Jim Hogg	460	219	47.5
Jim Wells	3,345	1,208	36.1
Johnson	10,780	4,463	41.4
Jones	949	343	36.1
Karnes	834	238	28.6
Kaufman	7,754	2,971	38.3
Kendall	1,764	801	45.4
Kenedy	27	16	59.3
Kent	38	7	18.4
Kerr	2,587	1,292	49.9
Kimble	235	95	40.5
King	11	-	
Kinney	190	56	29.6
Kleberg	2,479	1,008	40.7
Knox	278	112	40.4

County	Children ages 0-4	Slots	Slots per 100 Children
Lamar	3,187	1,713	53.7
Lamb	1,139	305	26.8
Lampasas	1,229	380	30.9
La Salle	412	167	40.5
Lavaca	1,227	603	49.2
Lee	1,079	550	50.9
Leon	1,023	318	31.1
Liberty	5,189	1,432	27.6
Limestone	1,530	919	60.0
Lipscomb	255	78	30.6
Live Oak	574	127	22.2
Llano	826	394	47.7
Loving	3	-	0.0
Lubbock	20,168	10,621	52.7
Lynn	438	111	25.3
Madison	820	383	46.7
Marion	548	222	40.5
Martin	392	80	20.5
Mason	200	124	62.2
Matagorda	2,577	1,081	41.9
Maverick	4,762	2,094	44.0
McCulloch	536	238	44.4
McLennan	16,642	7,726	46.4
McMullen	28	14	50.0
Medina	2,971	978	32.9
Menard	128	38	29.3
Midland	11,001	5,592	50.8
Milam	1,698	716	42.1
Mills	298	84	28.1
Mitchell	490	201	41.1
Montague	1,234	427	34.6
Montgomery	33,224	14,553	43.8
Moore	2,028	470	23.2
Morris	836	264	31.6
Motley	63	14	22.2
Nacogdoches	4,434	2,146	48.4
Navarro	3,480	1,547	44.5
Newton	840	197	23.5
Nolan	1,128	675	59.9
Nueces	24,076	13,140	54.6
Ochiltree	953	388	40.7
Oldham	100	93	93.1
Orange	5,367	2,362	44.0
Palo Pinto	1,921	700	36.4
Panola	1,539	621	40.3
Parker	7,344	2,630	35.8

Table A-4. 2010 Total Supply of Unduplicated Formal Early Care and Education Slots Per 100 Children 0-4 by County

County	Children ages 0-4	Slots	Slots per 100 Children
Parmer	912	190	20.9
Pecos	1,177	353	30.0
Polk	2,612	963	36.9
Potter	10,326	5,112	49.5
Presidio	570	103	18.1
Rains	574	63	11.1
Randall	8,219	4,364	53.1
Reagan	277	84	30.5
Real	162	113	69.6
Red River	724	308	42.5
Reeves	914	229	25.1
Refugio	446	138	30.9
Roberts	73	14	19.2
Robertson	1,162	620	53.4
Rockwall	5,752	2,423	42.1
Runnels	700	288	41.2
Rusk	3,434	1,009	29.4
Sabine	541	229	42.3
San Augustine	476	308	64.8
San Jacinto	1,602	281	17.6
San Patricio	4,759	2,210	46.4
San Saba	354	118	33.2
Schleicher	344	53	15.5
Scurry	1,274	521	40.9
Shackelford	221	95	42.9
Shelby	1,921	757	39.4
Sherman	216	106	49.0
Smith	14,954	7,851	52.5
Somervell	496	208	41.9
Starr	5,513	2,447	44.4
Stephens	630	229	36.3
Sterling	88	9	9.9
Stonewall	82	68	82.8
Sutton	309	137	44.4
Swisher	614	226	36.8
Tarrant	142,899	62,664	43.9
Taylor	9,854	5,705	57.9
Terrell	65	11	16.9
Terry	1,003	367	36.6
Throckmorton	93	24	25.6
Titus	2,942	1,293	44.0
Tom Green	7,726	4,110	53.2
Travis	75,774	39,377	52.0
Trinity	817	349	42.7
Tyler	1,139	404	35.5
Upshur	2,533	746	29.4

County	Children ages 0-4	Slots	Slots per 100 Children
Upton	249	55	22.3
Uvalde	2,035	1,306	64.2
Val Verde	4,079	1,456	35.7
Van Zandt	3,146	1,430	45.4
Victoria	6,528	3,450	52.8
Walker	3,241	2,016	62.2
Waller	3,140	1,044	33.2
Ward	813	239	29.4
Washington	2,019	1,185	58.7
Webb	24,424	9,827	40.2
Wharton	3,006	1,776	59.1
Wheeler	392	126	32.2
Wichita	8,955	4,662	52.1
Wilbarger	965	534	55.4
Willacy	1,569	708	45.1
Williamson	33,531	19,009	56.7
Wilson	2,641	934	35.4
Winkler	633	177	28.0
Wise	3,979	1,341	33.7
Wood	2,197	788	35.9
Yoakum	731	181	24.7
Young	1,204	621	51.6
Zapata	1,463	587	40.1
Zavala	1,049	626	59.7

APPENDIX B: STATISTICAL MODEL COMPARING ACTUAL TO PREDICTED DEMAND FOR FORMAL CARE IN SUB-STATE AREAS

This section provides a detailed description of several statistical models developed to account for variation in the number of slots available per child living in each county.

Overall Models for Children ages 0-4

The first statistical models of slot ratios are shown in Appendix Table B-1. These models, the results of which were described in the main text, use various county-level data from the Census and other public data sources to estimate the ratio of formal child care slots available to the number of children living in each county. In other words, they attempt to estimate local demand, in terms of what share of young children require child care.

**Table B-1. Two County-Level Models Predicting Overall Slot Ratio,
or Number of Slots per 100 Children Ages 0-4**

Variable Description	Model A	Model B
	Rsq=.56	Rsq=.64
	Num Counties = 251	Num Counties = 179
Intercept	0.288	0.667 **
Both parents working, 2 parent families with children under 6	0.004	0.007 *
Parent is working, 1 parent families with children under 6	0.010 **	0.009 *
Median annual income, families with own children under 18	0.005 **	0.004 **
Earnings of those with less than HS education (1000s)	-0.009 **	-0.010 **
Earnings of HS graduates (1000s)	-0.003	-0.002
Earnings of those with some college or more education (1000s)	-0.004 *	0.000
Grandparents living with and responsible for own grandchildren	-0.012	-0.013
Percent of males 18-34 enrolled in college or grad school	-0.001	-0.002
Percent of females 18-34 enrolled in college or grad school	0.002	0.002
Percent who leave home early for work (before 6:30am)	-0.004 **	0.000
Percent who leave home late for work (after 9am)	-0.002	0.000
Percent of low-income (<150% FPL) workers who commute to work by driving alone	-0.003 **	-0.003 **
Percent of low-income (<150% FPL) workers who commute to work by public transportation	-0.004	-0.001
Average time commuting to work, hours		-0.576 **
Unemployment rate	-0.006	-0.003
Employment growth rate	-0.035 **	-0.037 **
Labor force growth rate	0.036 **	0.037 **
Mobility from outside county, children 1-4	0.000	0.000
Percent of children 0-12 who are very young (0-4)	0.014 **	0.004
Percent of children 0-4 who are Black	0.000	-0.001
Percent of children 0-4 who are Hispanic	-0.001 **	-0.002 **

The models in Table B-1, which predict the overall slot ratio for children ages zero to four, are nearly identical, with the exception that the second model has an additional predictor variable that is only available for a subset of the state's counties. Both models do an acceptable job of accounting for variation in slot ratios, with R-squared values of 0.56 and 0.64 indicating that they account for 56 and 64 percent, respectively, of the county-level variation in this measure of slots per child.

The average slot ratio for this age group is 0.45, indicating that on a statewide basis, there are 45 child care slots for every 100 children, ages zero to four. Means for this variable and all the predictors included in these two regressions are shown in Appendix Table B-2.

Table B-2: Statewide Means for Variables in County-Level Models Predicting Overall Slot Ratio¹⁰

Variable Description	Model A	
	Mean	Standard Deviation
Dependent Variable: Number of child care slots per 100 children ages 0-4	0.45	7.0
Both parents working, 2 parent families with children under 6	11.93	170.3
Parent is working, 1 parent families with children under 6	9.06	174.8
Median annual income, families with own children under 18	53.04	1374.3
Earnings of those with less than HS education (1000s)	18.28	225.0
Earnings of HS graduates (1000s)	25.67	278.5
Earnings of those with some college or more education (1000s)	41.90	548.5
Grandparents living with and responsible for own grandchildren	2.27	65.6
Percent of males 18-34 enrolled in college or grad school	18.19	625.0
Percent of females 18-34 enrolled in college or grad school	22.65	650.8
Percent who leave home early for work (before 6:30am)	22.10	451.7
Percent who leave home late for work (after 9am)	22.01	242.1
Percent of low-income (<150% FPL) workers who commute to work by driving alone	68.74	463.7
Percent of low-income (<150% FPL) workers who commute to work by public transportation	3.50	269.7
Average time commuting to work, hours	0.41	6.8
Unemployment rate	8.07	121.8
Employment growth rate	1.96	193.8
Labor force growth rate	3.51	191.3
Mobility from outside county, children 1-4	8.15	350.5
Percent of children 0-12 who are very young (0-4)	38.68	145.1
Percent of children 0-4 who are Black	11.23	663.0
Percent of children 0-4 who are Hispanic	50.64	1839.0

¹⁰ Means and standard deviations for models A and B are virtually identical, thus only the first are shown.

Models by Age

Since the dynamics of child care supply and demand vary critically depending on the age of the children, separate models of slot ratios by age were also estimated. The first model examines factors influencing the number of slots per child dedicated to children ages two or younger. The second model predicts the number of slots per child for children ages three or four.¹¹

The slot model for infants and toddlers does even better at predicting slots per child than the overall model, with an R-squared of 0.73 indicating that 73 percent of the variation in slots per child is accounted for. The slot model for preschoolers, those three and four years of age, did not do as well at predicting slots per child as did the overall or the infant/toddler models. An R-squared value of 0.53 indicates that only 53 percent of the variance in slots per child for older children can be accounted for. Although this is still a good model, the reduction in variance accounted for could be instructive. The difference in predictive power could in part be due to the inclusion of some five-year-old slots in the dependent variable discussed earlier. Even more interesting, however, is the possibility that the inclusion of free public Pre-K among the slot supply measures means that the link to parental income is not as strong in this instance.

Table B-3 shows the results of these two models of slot ratios by age, presented side-by-side with the second model from above for easier comparison. Means for these predictors are included in Table B-4. A complete analysis of model results is available upon request.

¹¹ Unfortunately, some of the slot supply measures for the 3-4 year old model include slots for 5 year olds as well. For this reason, the average slots per child will not be interpreted for these models.

Table B-3: Three County-Level Models Predicting Slot Ratio, Overall and by Age

Variable Description	Model B, ages 0-4	Model C, ages 0-2	Model D, ages 3-4
	Rsq=.64	Rsq=.73	Rsq=.53
	Num Counties = 179	Num Counties = 179	Num Counties = 179
Intercept	0.667 **	0.605 *	1.500 **
Both parents working, 2 parent families with children under 6	0.007 *	0.005	0.013 *
Parent is working, 1 parent families with children under 6	0.009 *	0.014 **	-0.003
Median annual income, families with own children under 18	0.004 **	0.007 **	-0.002
Earnings of those with less than HS education (1000s)	-0.010 **	-0.012 **	-0.005
Earnings of HS graduates (1000s)	-0.002	-0.004	-0.004
Earnings of those with some college or more education (1000s)	0.000	0.004	-0.004
Grandparents living with and responsible for own grandchildren	-0.013	0.004	-0.004
Percent of males 18-34 enrolled in college or grad school	-0.002	0.000	0.000
Percent of females 18-34 enrolled in college or grad school	0.002	0.002	-0.001
Percent who leave home early for work (before 6:30am)	0.000	-0.003	0.006 *
Percent who leave home late for work (after 9am)	0.000	-0.003	0.001
Percent of low-income (<150% FPL) workers who commute to work by driving alone	-0.003 **	-0.002	-0.005 **
Percent of low-income (<150% FPL) workers who commute to work by public transportation	-0.001	0.002	-0.001
Average time commuting to work, hours	-0.576 **	-0.494 **	-0.481 *
Unemployment rate	-0.003	0.012	-0.007
Employment growth rate	-0.037 **	0.003	-0.070 **
Labor force growth rate	0.037 **	-0.003	0.067 **
Mobility from outside county, children 1-4	0.000	-0.002	0.003
Percent of children 0-12 who are very young (0-4; 0-2; 3-4)	0.004	-0.008	-0.024
Percent of children (0-4; 0-2; 3-4) who are Black	-0.001	0.000	0.002
Percent of children (0-4; 0-2; 3-4) who are Hispanic	-0.002 **	-0.002 **	0.000

**Table B-4: Statewide Means for Variables in County-Level Models
Predicting Slot Ratio, by Age**

Variable Description	Model C, Ages 0-2		Model D, Ages 3-4	
	Mean	Standard Deviation	Mean	Standard Deviation
Dependent Variable: Number of child care slots per 100 children ages 0-2	0.37	9.4		
Both parents working, 2 parent families with children under 6	11.95	148.4	11.97	123.5
Parent is working, 1 parent families with children under 6	9.08	154.5	9.04	128.5
Median annual income, families with own children under 18	53.16	1235.3	53.40	1032.7
Earnings of those with less than HS education (1000s)	18.31	197.5	18.31	163.4
Earnings of HS graduates (1000s)	25.70	246.8	25.72	204.6
Earnings of those with some college or more education (1000s)	42.04	489.6	42.06	406.0
Grandparents living with and responsible for own grandchildren	2.26	57.9	2.26	47.7
Percent of males 18-34 enrolled in college or grad school	18.37	563.3	18.34	455.8
Percent of females 18-34 enrolled in college or grad school	22.78	585.1	22.76	476.1
Percent who leave home early for work (before 6:30am)	22.10	409.6	22.10	336.5
Percent who leave home late for work (after 9am)	22.08	212.6	22.06	174.7
Percent of low-income (<150% FPL) workers who commute to work by driving alone	68.62	408.6	68.68	334.3
Percent of low-income (<150% FPL) workers who commute to work by public transportation	3.57	244.8	3.52	200.5
Average time commuting to work, hours	0.41	5.2	0.41	4.3
Unemployment rate	8.08	108.8	8.08	89.8
Employment growth rate	1.97	169.1	1.99	139.1
Labor force growth rate	3.53	167.3	3.54	137.7
Mobility from outside county, children 1-4	8.11	303.3	8.15	249.9
Percent of children 0-12 who are very young (0-2; 3-4)	23.12	100.6	15.57	29.4
Percent of children (0-2; 3-4) who are Black	11.29	593.2	11.49	500.7
Percent of children (0-2; 3-4) who are Hispanic	50.65	1644.4	50.09	1380.2