



# ECE Data for Workgroup 1

APA Draft 5-16-18

## **ECE DATA FOR WORKGROUP 1 ..... I**

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## *Providers and Quality Distribution*

### **Key “Take Aways” Concerning Providers and Quality**

Key points to remember from this section.

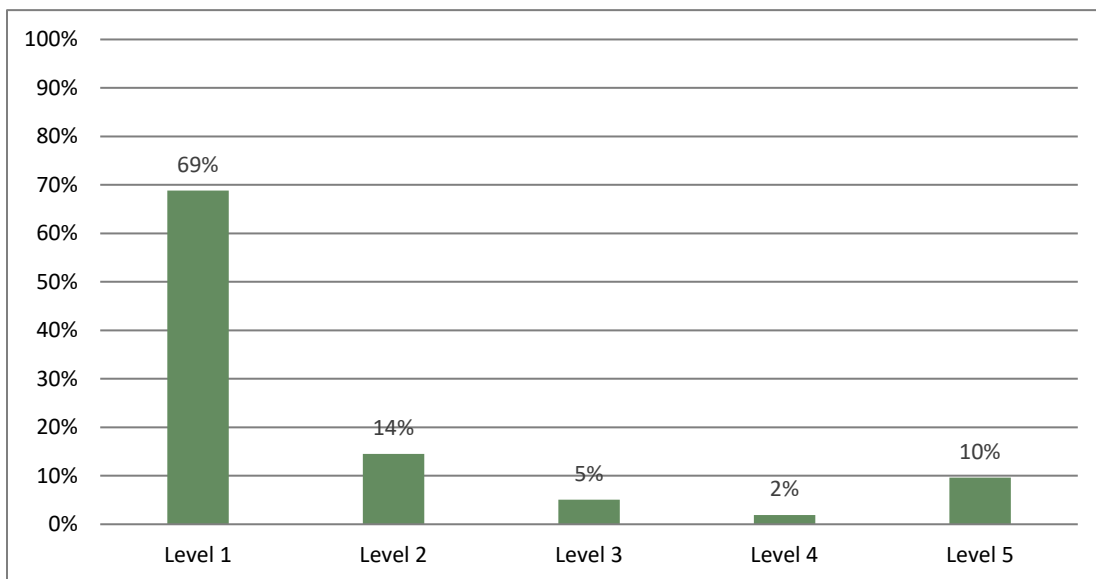
- Currently, not all ECE sites have elected to participate in the EXCELS program.
- A number of ECE sites are accredited by external organizations.
- The number of EXCELS rated and Accredited sites are a limited number of sites in each district.
- The number of highly rated EXCELS sites is even more limited, though that number is growing.
- The quality of ECE Providers must be taken into consideration when discussing capacity and slots available.
- ROI studies of ECE programming have found that significant returns on the investment only accrue to those children that attend high quality preschools.

**TABLE 5: PROGRAMS SERVING FOUR-YEAR-OLDS, WITH PUBLISHED EXCELS RATINGS  
OR ACCREDITATION, BY DISTRICT**

	EXCELS Published Sites	Accredited Sites	Accredited and <u>Not</u> EXCELS Published	Total Sites in EXCELS or Accredited	EXCELS or Accredited sites as a percentage of all sites
<b>Allegany</b>	16	6	2	18	26%
<b>Anne Arundel</b>	85	42	7	92	16%
<b>Baltimore City</b>	370	35	8	378	56%
<b>Baltimore</b>	219	36	13	232	23%
<b>Calvert</b>	36	11	0	36	22%
<b>Caroline</b>	13	4	0	13	15%
<b>Carroll</b>	40	18	3	43	22%
<b>Cecil</b>	32	2	0	32	29%
<b>Charles</b>	31	12	1	32	13%
<b>Dorchester</b>	10	3	0	10	21%
<b>Frederick</b>	77	29	6	83	21%
<b>Garrett</b>	9	7	1	10	50%
<b>Harford</b>	63	17	5	68	21%
<b>Howard</b>	121	30	7	128	34%
<b>Kent</b>	4	2	2	6	32%
<b>Montgomery</b>	169	139	48	217	19%
<b>Prince George's</b>	122	37	8	130	13%
<b>Queen Anne's</b>	12	6	1	13	15%
<b>Saint Mary's</b>	12	3	3	15	7%
<b>Somerset</b>	15	7	0	15	41%
<b>Talbot</b>	14	8	3	17	28%
<b>Washington</b>	36	12	1	37	17%
<b>Wicomico</b>	33	10	3	36	28%
<b>Worcester</b>	15	11	4	19	44%
<b>TOTALS</b>	<b>1,554</b>	<b>487</b>	<b>126</b>	<b>1680</b>	<b>23%</b>

*Source: Data from MSDE Maryland EXCELS files 4/17/15, licensing data 2014-15 and accreditation data 2014-15.*

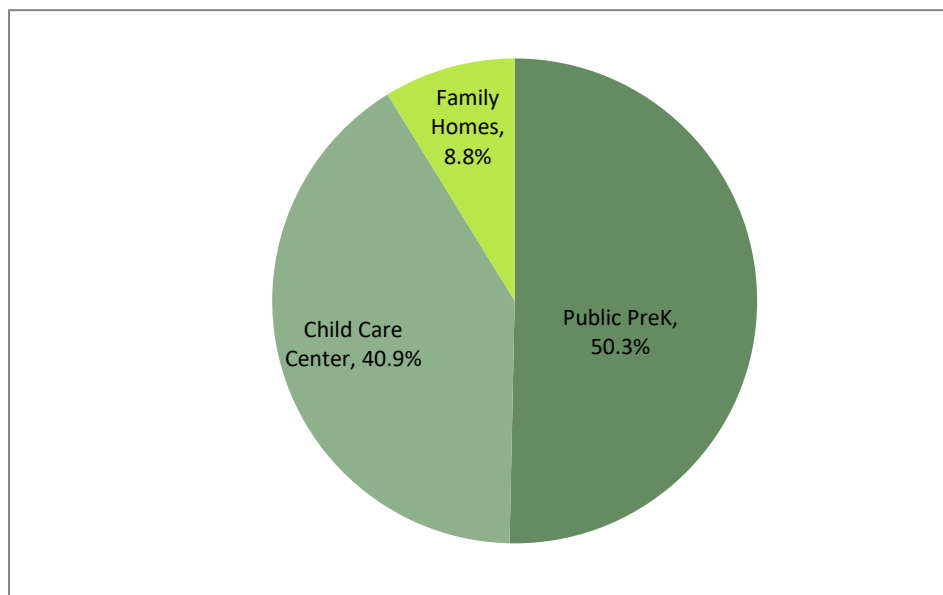
**FIGURE 6: DISTRIBUTION OF EXCELS-RATED PREKINDERGARTEN PROGRAMS, BY EXCELS LEVEL**



Source: Data from MSDE, EXCELS division.

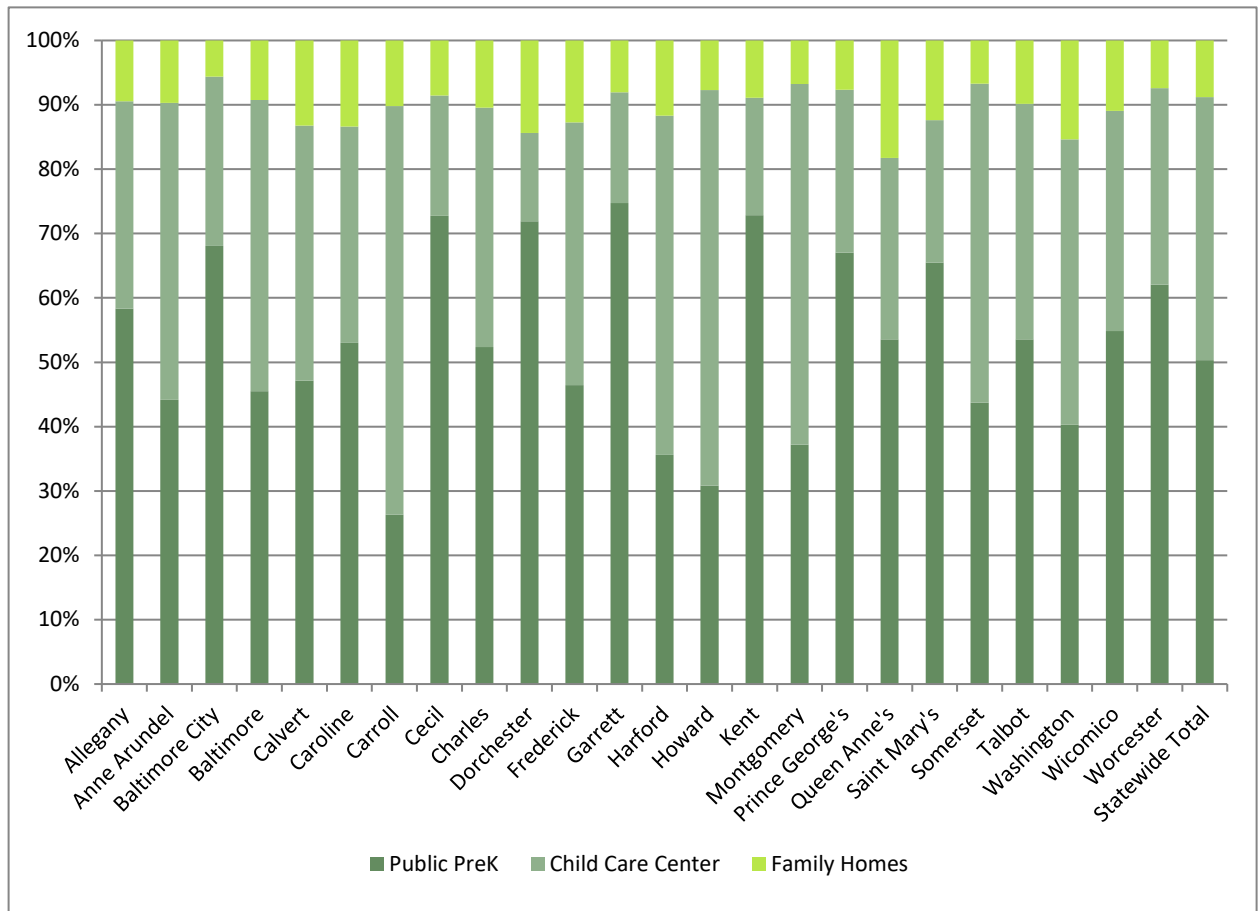
### Other Important Information on the Existing System of Providers in 2014-15

**FIGURE 1: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN ENROLLMENT, BY PROVIDER TYPE**



Source: MSDE Enrollment data 2014-15.

**FIGURE 2: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN ENROLLMENT, BY PROVIDER TYPE, BY DISTRICT**



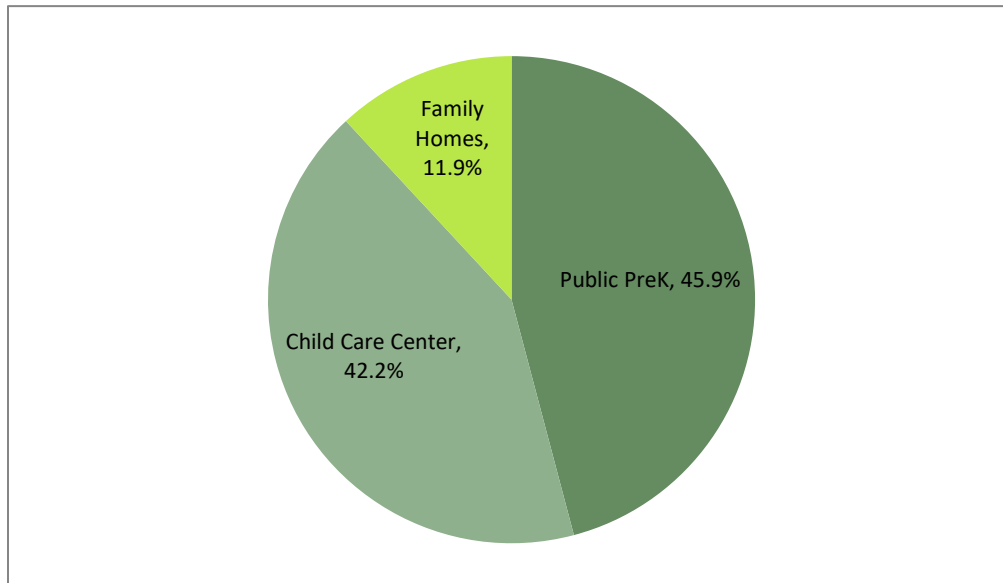
Source: MSDE Enrollment data 2014-15.

**TABLE 3: ESTIMATED FOUR-YEAR-OLD CAPACITY IN PREKINDERGARTEN PROGRAMS,  
BY PROVIDER TYPE, BY DISTRICT**

	Public PreK	Child Care Center	Utilization Rate - Centers	Family Home	Utilization Rate - Homes	Totals
<b>Allegany</b>	467	276	94%	65	116%	<b>808</b>
<b>Anne Arundel</b>	1,928	1809	111%	598	71%	<b>4334</b>
<b>Baltimore City</b>	4,597	2409	74%	615	61%	<b>7621</b>
<b>Baltimore</b>	3,244	3616	89%	985	67%	<b>7845</b>
<b>Calvert</b>	352	363	82%	127	78%	<b>842</b>
<b>Caroline</b>	279	122	145%	84	84%	<b>485</b>
<b>Carroll</b>	324	793	99%	168	75%	<b>1285</b>
<b>Cecil</b>	639	169	97%	102	74%	<b>909</b>
<b>Charles</b>	778	589	94%	234	66%	<b>1601</b>
<b>Dorchester</b>	210	50	80%	53	79%	<b>313</b>
<b>Frederick</b>	975	1038	83%	362	74%	<b>2375</b>
<b>Garrett</b>	148	32	105%	13	124%	<b>193</b>
<b>Harford</b>	724	1189	90%	345	69%	<b>2258</b>
<b>Howard</b>	858	1913	89%	356	60%	<b>3127</b>
<b>Kent</b>	136	37	91%	21	80%	<b>194</b>
<b>Montgomery</b>	3,311	5342	93%	1017	59%	<b>9670</b>
<b>Prince George's</b>	4,841	2611	70%	977	57%	<b>8429</b>
<b>Queen Anne's</b>	222	139	84%	88	86%	<b>449</b>
<b>Saint Mary's</b>	771	326	80%	193	75%	<b>1291</b>
<b>Somerset</b>	193	304	72%	35	85%	<b>531</b>
<b>Talbot</b>	230	163	96%	59	71%	<b>452</b>
<b>Washington</b>	514	640	88%	235	83%	<b>1389</b>
<b>Wicomico</b>	532	416	80%	130	81%	<b>1078</b>
<b>Worcester</b>	358	165	107%	46	92%	<b>570</b>
<b>Statewide Total</b>	<b>26,631</b>	<b>24,511</b>	<b>-</b>	<b>6,908</b>	<b>-</b>	<b>58,050</b>

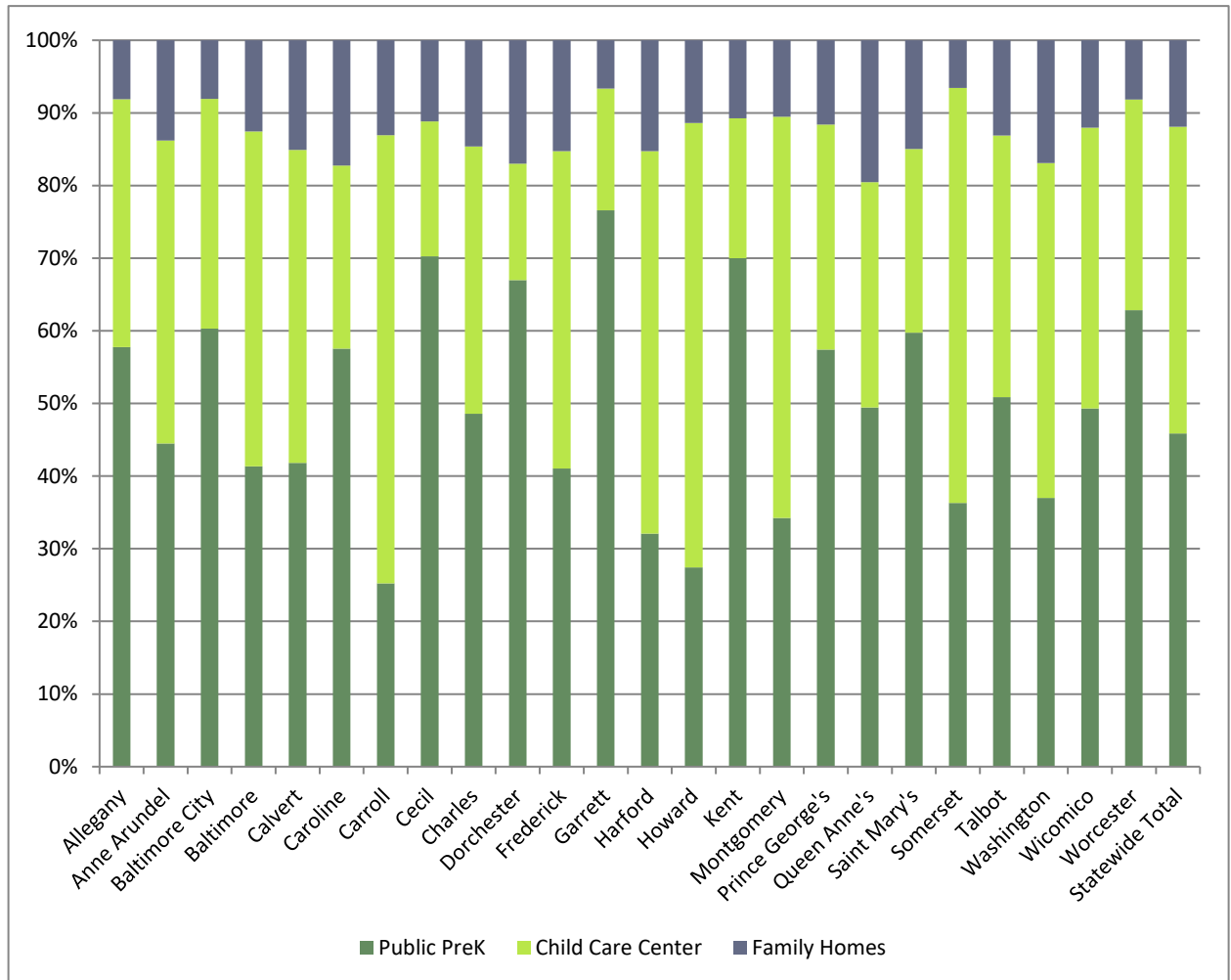
Source: MSDE Enrollment data 2014-15.

*FIGURE 3: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN CAPACITY, BY PROVIDER TYPE*



*Source: MSDE Enrollment data 2014-15.*

**FIGURE 4: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN CAPACITY, BY PROVIDER TYPE, BY DISTRICT**



Source: Data from MSDE.

**TABLE 4: PRIVATE PROGRAMS SERVING FOUR-YEAR-OLDS, BY DISTRICT, BY PROVIDER TYPE**

	Child Care Centers	Family Homes	Total
<b>Allegany</b>	19	51	<b>70</b>
<b>Anne Arundel</b>	158	427	<b>585</b>
<b>Baltimore City</b>	191	484	<b>675</b>
<b>Baltimore</b>	291	735	<b>1,026</b>
<b>Calvert</b>	47	114	<b>161</b>
<b>Caroline</b>	8	80	<b>88</b>
<b>Carroll</b>	63	137	<b>200</b>
<b>Cecil</b>	24	85	<b>109</b>
<b>Charles</b>	56	199	<b>255</b>
<b>Dorchester</b>	10	38	<b>48</b>
<b>Frederick</b>	102	292	<b>394</b>
<b>Garrett</b>	9	11	<b>20</b>
<b>Harford</b>	70	256	<b>326</b>
<b>Howard</b>	117	257	<b>374</b>
<b>Kent</b>	4	15	<b>19</b>
<b>Montgomery</b>	416	715	<b>1,131</b>
<b>Prince George's</b>	312	684	<b>996</b>
<b>Queen Anne's</b>	12	75	<b>87</b>
<b>Saint Mary's</b>	38	178	<b>216</b>
<b>Somerset</b>	9	28	<b>37</b>
<b>Talbot</b>	16	44	<b>60</b>
<b>Washington</b>	46	171	<b>217</b>
<b>Wicomico</b>	34	95	<b>129</b>
<b>Worcester</b>	12	31	<b>43</b>
<b>TOTAL</b>	<b>2,064</b>	<b>5,202</b>	<b>7,266</b>
<b>Percent</b>	<b>28.4%</b>	<b>71.6%</b>	

Source: MSDE Enrollment data 2014-15.

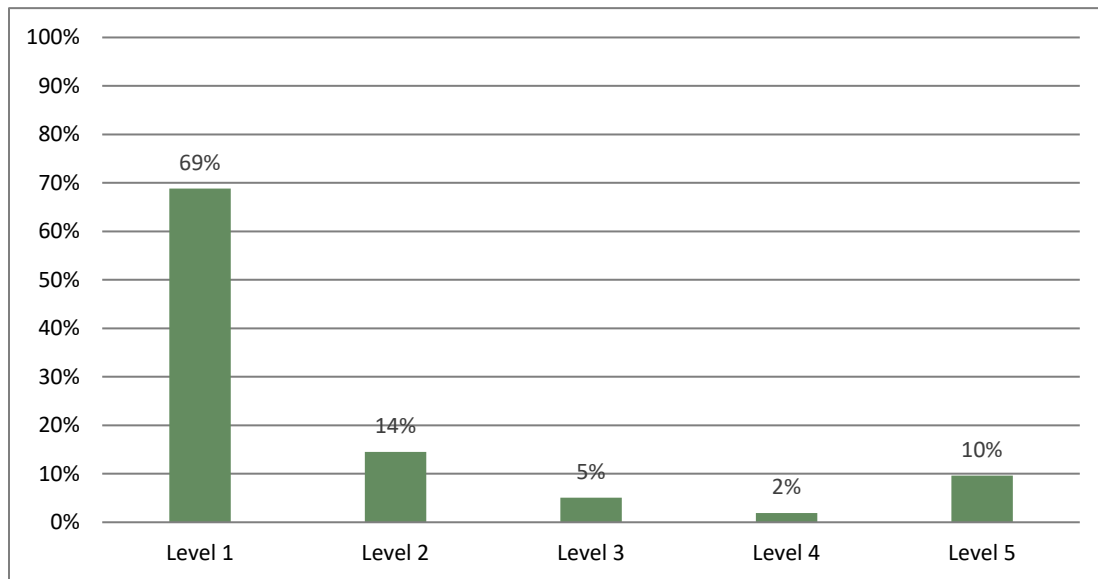
### Provider Quality Distribution

**TABLE 5: PROGRAMS SERVING FOUR-YEAR-OLDS, WITH PUBLISHED EXCELS RATINGS OR ACCREDITATION, BY DISTRICT**

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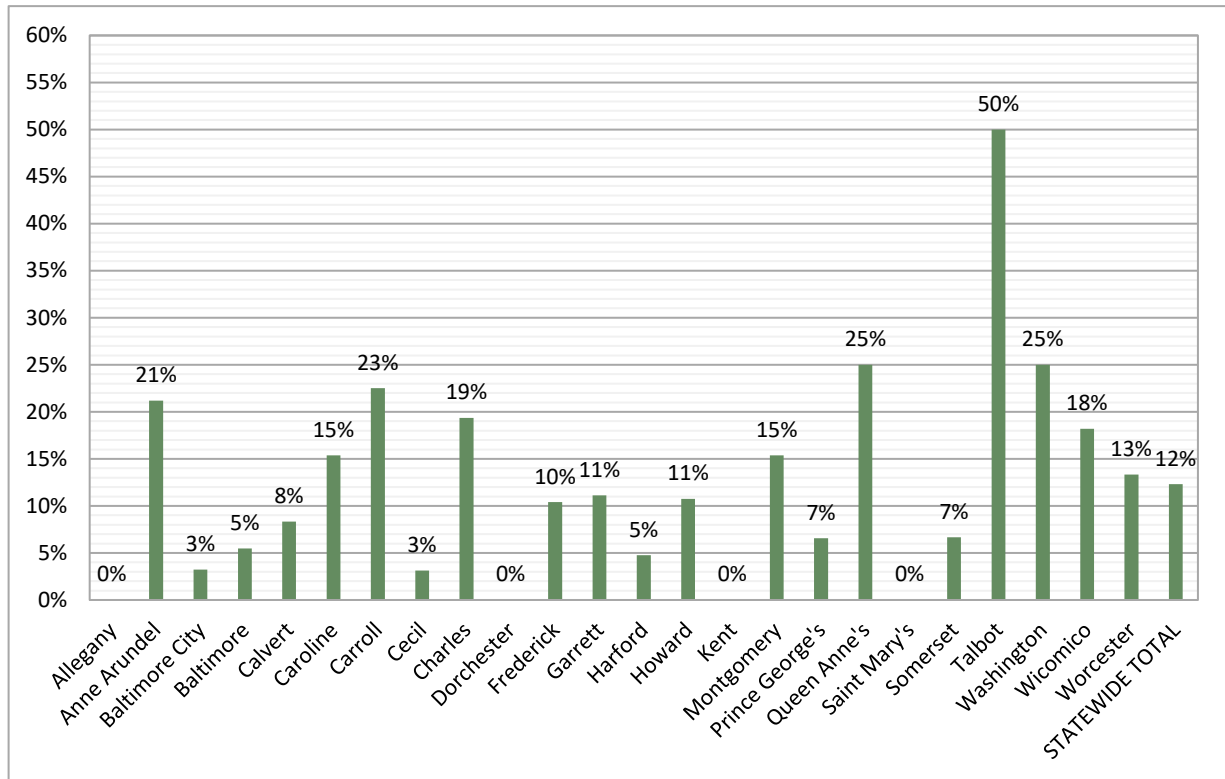
Source: Data from MSDE Maryland EXCELS files 4/17/15, licensing data 2014-15 and accreditation data 2014-15.

**FIGURE 6: DISTRIBUTION OF EXCELS-RATED PREKINDERGARTEN PROGRAMS, BY EXCELS LEVEL**



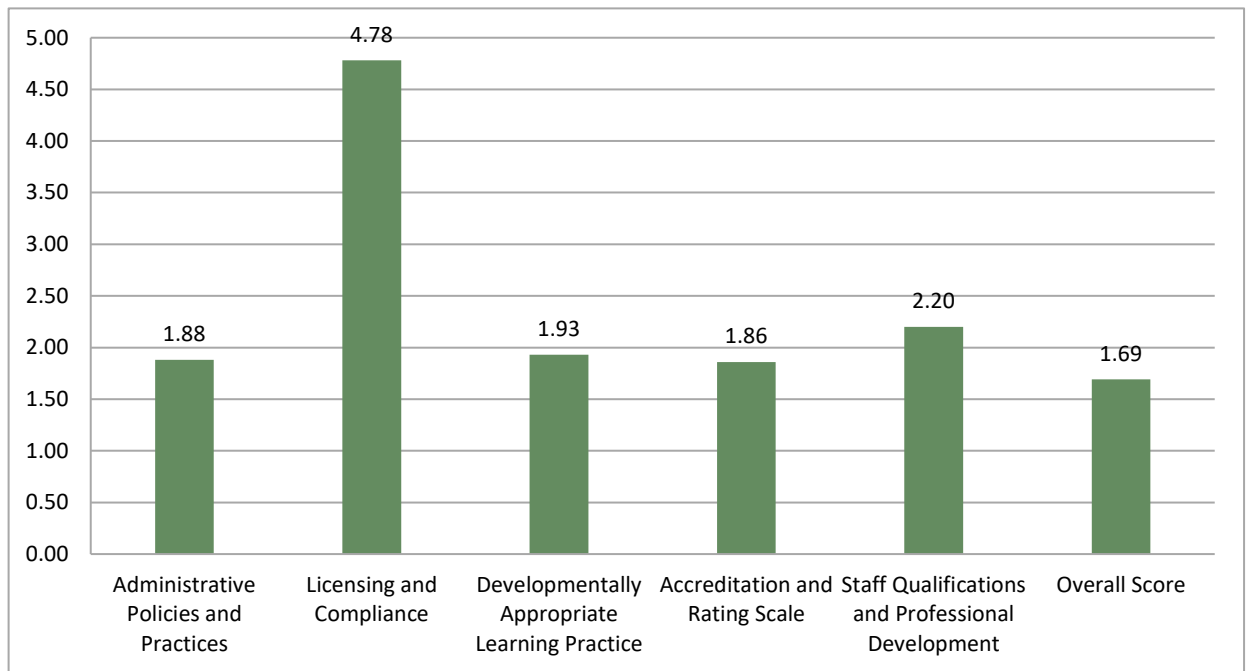
*Source: Data from MSDE, EXCELS division.*

**FIGURE 8: PERCENTAGE OF ALL EXCELS-RATED PREKINDERGARTEN PROGRAMS  
RATED LEVEL 5, BY DISTRICT**



Source: Data from MSDE.

*FIGURE 9: AVERAGE EXCELS LEVEL, BY EXCELS ELEMENT, STATEWIDE*



*Source: Data from MSDE.*

**TABLE 9: AVERAGE EXCELS LEVELS OF PREKINDERGARTEN PROVIDERS, BY EXCELS  
ELEMENT, BY DISTRICT**

	Administrative Policies and Practices	Licensing and Compliance	Developmentally Appropriate Learning Practice	Accreditation and Rating Scale	Staff Qualifications and Professional Development	Overall Score
<b>Allegany</b>	1.8	4.8	1.5	1.6	1.6	1.4
<b>Anne Arundel</b>	2.6	4.9	3.0	2.6	2.9	2.4
<b>Baltimore City</b>	1.4	4.8	1.4	1.4	1.7	1.3
<b>Baltimore</b>	1.6	4.7	1.6	1.6	1.9	1.5
<b>Calvert</b>	2.1	4.9	2.2	2.0	2.8	1.8
<b>Caroline</b>	2.3	5.0	2.6	2.5	2.8	2.2
<b>Carroll</b>	3.0	4.9	2.8	2.7	3.4	2.5
<b>Cecil</b>	1.5	4.5	1.5	1.6	1.7	1.4
<b>Charles</b>	2.2	4.6	2.2	2.2	2.8	2.0
<b>Dorchester</b>	1.7	5.0	2.0	1.6	2.3	1.4
<b>Frederick</b>	2.0	5.0	2.1	2.0	2.4	1.8
<b>Garrett</b>	3.1	4.1	3.2	3.1	2.9	2.6
<b>Harford</b>	1.6	4.8	1.6	1.6	1.8	1.4
<b>Howard</b>	1.7	4.6	1.8	1.7	2.0	1.6
<b>Kent</b>	1.8	5.0	1.5	1.8	1.8	1.5
<b>Montgomery</b>	2.4	4.8	2.5	2.3	2.7	2.1
<b>Prince George's</b>	1.7	4.9	1.7	1.7	2.2	1.5
<b>Queen Anne's</b>	2.8	4.3	2.8	2.8	3.1	2.5
<b>Saint Mary's</b>	1.6	4.2	1.4	1.3	2.3	1.1
<b>Somerset</b>	1.6	5.0	1.9	2.0	2.1	1.6
<b>Talbot</b>	3.5	5.0	3.6	3.3	3.6	3.3
<b>Washington</b>	2.9	5.0	2.8	2.4	3.1	2.4
<b>Wicomico</b>	2.3	4.8	2.5	2.2	2.9	2.1
<b>Worcester</b>	2.5	5.0	2.5	2.3	2.8	2.1
<b>AVERAGE</b>	<b>1.88</b>	<b>4.78</b>	<b>1.93</b>	<b>1.86</b>	<b>2.20</b>	<b>1.69</b>
<b>Minimum</b>	1.40	4.10	1.40	1.30	1.60	1.08
<b>Maximum</b>	3.50	5.00	3.60	3.30	3.60	3.29

*Source: Data from MSDE.*

## *Capacity and Gap: Four-Year-Olds*

### Key “Take Aways” from the Examination of Slots for Four-Year-Olds

Key points to remember from this section.

- Currently, Maryland nearly has the capacity to serve 80 percent of its four-year-old children.
- Unfortunately, this is only possible by have many children attend lower rated preschools. As mentioned earlier some preschool sites have not signed up to participate in the EXCELS rating program and many sites that have signed up and been rated have received lower ratings.
- Further, not all programs offered full day ECE programming.
- The capacity and gap picture changes dramatically when the question turns to serving a high percentage of four-year-olds in high-quality, full-day programs.
  - In the APA ECE study, the definition of high quality programs adopted was those ECE sites earning an EXCELS rating of 5 and those earning an accreditation from an approved outside organization. This was a strict definition of high quality.
  - Under this definition, to serve 60 percent of the four-year-old population required an additional 12,600 slots. To serve 80 percent of the population would require an additional 27,700 slots.
- To meet the projected increase in demand for the high-quality, full-day programs requires two simultaneous policy efforts.
  - The first is an effort to incent providers to move up the EXCELS rating scale. These efforts include support for staff training and the purchase of materials and equipment for lower rated providers.
  - The second effort is to provide tuition support for families so that they can send their children to more highly rated programs. How to structure that support is the subject of the final section of this data collection.

TABLE 12: ESTIMATED ADDITIONAL CAPACITY REQUIRED TO SERVE 80, 90, AND 100 PERCENT OF MARYLAND'S FOUR-YEAR-OLD POPULATION

Setting	Four-Year-Old Capacity		
Public Programs	26,631		
Licensed Private Programs	31,419		
<b>Total 4-year-old Capacity, Public or Licensed Private Programs</b>	<b>58,085</b>		
Percent of Four-Year-Old Population	80%	90%	100%
<b>4-Year-Old Population</b>	60,364	67,910	75,455
<b>Unmet 4-Year-Old Need</b>	<b>2,314</b>	<b>9,859</b>	<b>17,405</b>

Source: APA Consulting calculations, based on MSDE data.

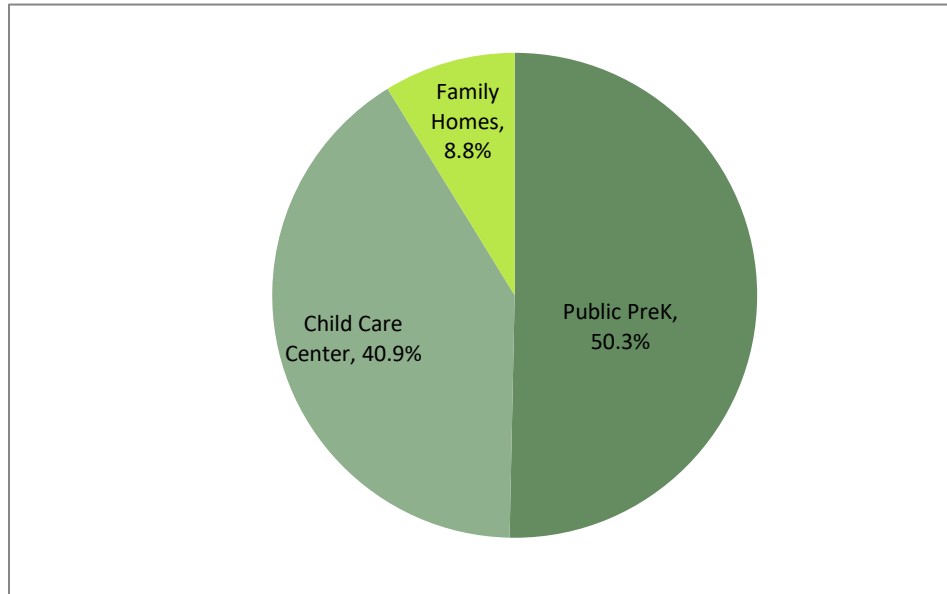
TABLE 13: ESTIMATED ADDITIONAL CAPACITY REQUIRED TO SERVE 60, 70 AND 80 PERCENT OF FOUR-YEAR-OLD POPULATION IN PUBLIC PREKINDERGARTEN, ACCREDITED COMMUNITY PROGRAMS, OR EXCELS LEVEL 5 PRIVATE PREKINDERGARTEN PROGRAMS

Setting	Four-Year-Old Capacity		
Public Programs	26,631		
Accredited Private Programs	4,413		
EXCELS Level 5 Private Programs	1,607		
<b>Total 4-year-old Capacity, Public, Accredited or EXCELS Level 5</b>	<b>32,651</b>		
Percent of Four-Year-Old Population	60%	70%	80%
<b>4-Year-Old Population</b>	45,273	52,819	60,364
<b>Unmet 4-Year-Old Need</b>	<b>12,622</b>	<b>20,167</b>	<b>27,713</b>

Source: APA Consulting calculations, based on MSDE data.

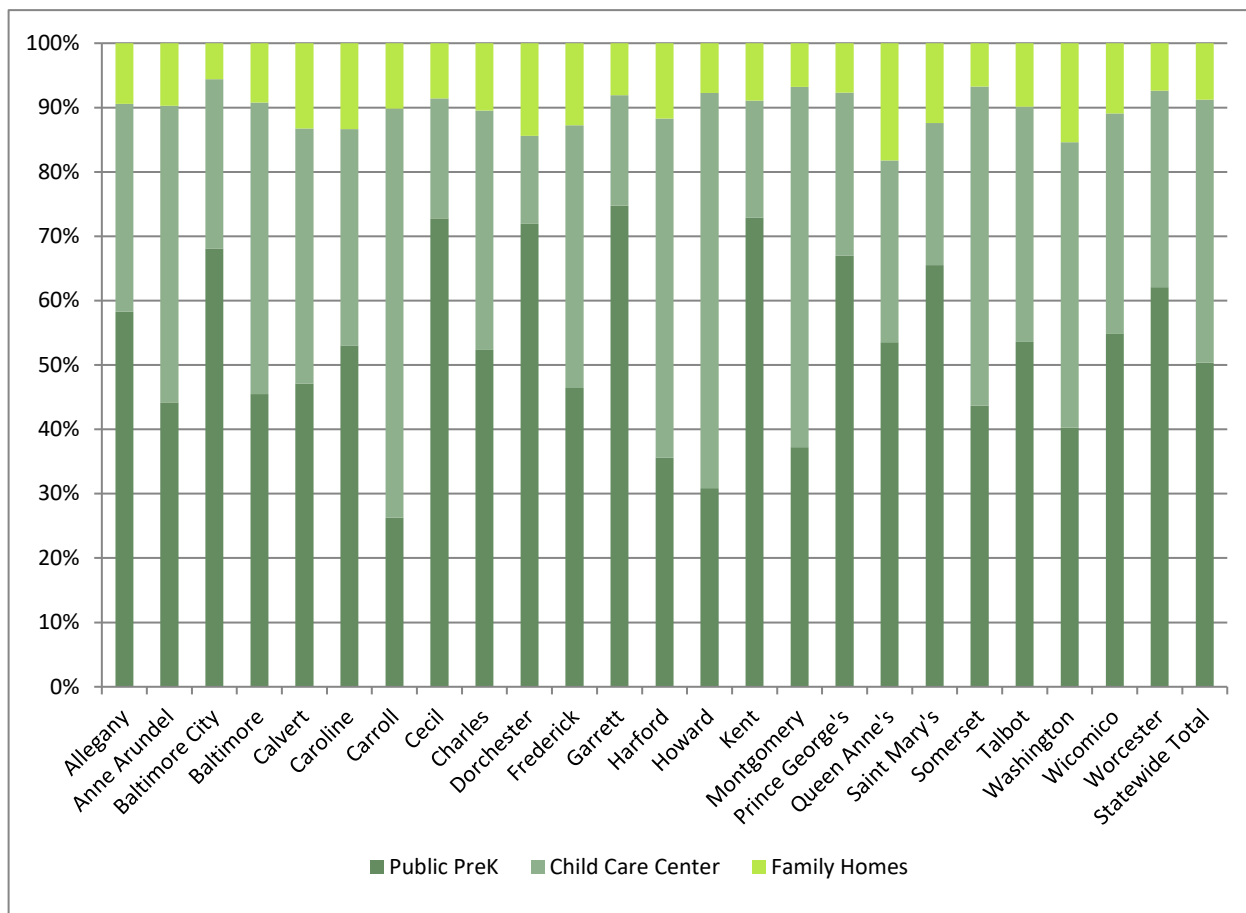
### Other Important Information on Available Slots

*FIGURE 1: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN ENROLLMENT, BY PROVIDER TYPE*



*Source: MSDE Enrollment data 2014-15.*

**FIGURE 2: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN ENROLLMENT, BY PROVIDER TYPE, BY DISTRICT**



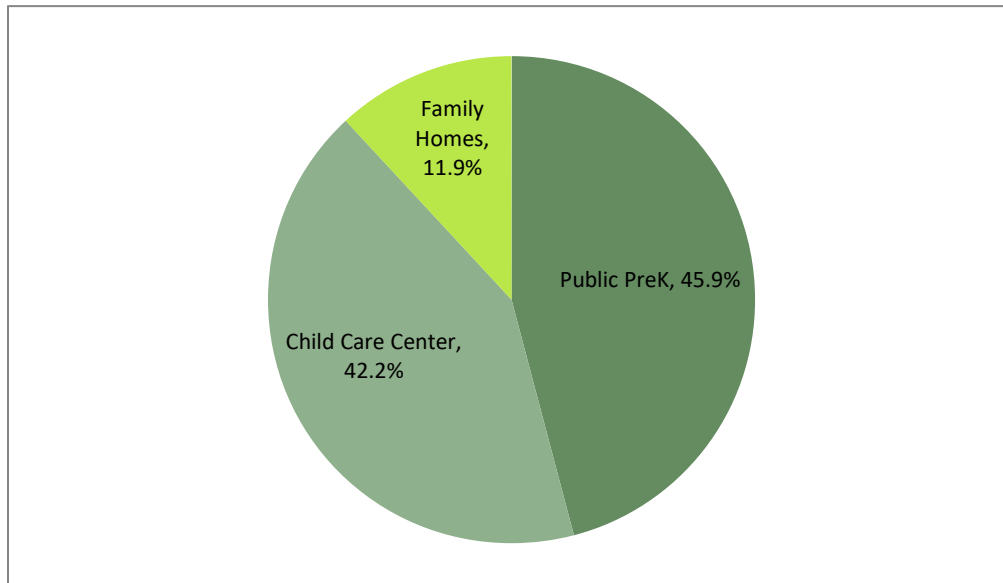
Source: MSDE Enrollment data 2014-15.

**TABLE 3: ESTIMATED FOUR-YEAR-OLD CAPACITY IN PREKINDERGARTEN PROGRAMS,  
BY PROVIDER TYPE, BY DISTRICT**

	Public PreK	Child Care Center	Utilization Rate - Centers	Family Home	Utilization Rate - Homes	Totals
<b>Allegany</b>	467	276	94%	65	116%	<b>808</b>
<b>Anne Arundel</b>	1,928	1809	111%	598	71%	<b>4334</b>
<b>Baltimore City</b>	4,597	2409	74%	615	61%	<b>7621</b>
<b>Baltimore</b>	3,244	3616	89%	985	67%	<b>7845</b>
<b>Calvert</b>	352	363	82%	127	78%	<b>842</b>
<b>Caroline</b>	279	122	145%	84	84%	<b>485</b>
<b>Carroll</b>	324	793	99%	168	75%	<b>1285</b>
<b>Cecil</b>	639	169	97%	102	74%	<b>909</b>
<b>Charles</b>	778	589	94%	234	66%	<b>1601</b>
<b>Dorchester</b>	210	50	80%	53	79%	<b>313</b>
<b>Frederick</b>	975	1038	83%	362	74%	<b>2375</b>
<b>Garrett</b>	148	32	105%	13	124%	<b>193</b>
<b>Harford</b>	724	1189	90%	345	69%	<b>2258</b>
<b>Howard</b>	858	1913	89%	356	60%	<b>3127</b>
<b>Kent</b>	136	37	91%	21	80%	<b>194</b>
<b>Montgomery</b>	3,311	5342	93%	1017	59%	<b>9670</b>
<b>Prince George's</b>	4,841	2611	70%	977	57%	<b>8429</b>
<b>Queen Anne's</b>	222	139	84%	88	86%	<b>449</b>
<b>Saint Mary's</b>	771	326	80%	193	75%	<b>1291</b>
<b>Somerset</b>	193	304	72%	35	85%	<b>531</b>
<b>Talbot</b>	230	163	96%	59	71%	<b>452</b>
<b>Washington</b>	514	640	88%	235	83%	<b>1389</b>
<b>Wicomico</b>	532	416	80%	130	81%	<b>1078</b>
<b>Worcester</b>	358	165	107%	46	92%	<b>570</b>
<b>Statewide Total</b>	<b>26,631</b>	<b>24,511</b>	<b>-</b>	<b>6,908</b>	<b>-</b>	<b>58,050</b>

Source: MSDE Enrollment data 2014-15.

*FIGURE 3: DISTRIBUTION OF FOUR-YEAR-OLD PREKINDERGARTEN CAPACITY, BY PROVIDER TYPE*



*Source: MSDE Enrollment data 2014-15.*

TABLE 10: ESTIMATED POPULATION OF FOUR-YEAR-OLDS, BY DISTRICT

District	Four-Year-Old Population
<b>Allegany</b>	921
<b>Anne Arundel</b>	7,072
<b>Baltimore City</b>	10,440
<b>Baltimore</b>	7,863
<b>Calvert</b>	1,144
<b>Caroline</b>	411
<b>Carroll</b>	2,119
<b>Cecil</b>	1,293
<b>Charles</b>	1,954
<b>Dorchester</b>	411
<b>Frederick</b>	3,077
<b>Garrett</b>	375
<b>Harford</b>	3,158
<b>Howard</b>	3,905
<b>Kent</b>	250
<b>Montgomery</b>	13,010
<b>Prince George's</b>	11,419
<b>Queen Anne's</b>	616
<b>Saint Mary's</b>	1,394
<b>Somerset</b>	326
<b>Talbot</b>	475
<b>Washington</b>	1,888
<b>Wicomico</b>	1,282
<b>Worcester</b>	652
<b>Total State</b>	<b>75,455</b>

Source: Data from MSDE.

## The Availability of Quality Slots for Four-Year-Olds

**TABLE 5: PROGRAMS SERVING FOUR-YEAR-OLDS, WITH PUBLISHED EXCELS RATINGS OR ACCREDITATION, BY DISTRICT**

	EXCELS Published Sites	Accredited Sites	Accredited and Not EXCELS Published	Total Sites in EXCELS or Accredited	EXCELS or Accredited sites as a percentage of all sites
<b>Allegany</b>	16	6	2	18	26%
<b>Anne Arundel</b>	85	42	7	92	16%
<b>Baltimore City</b>	370	35	8	378	56%
<b>Baltimore</b>	219	36	13	232	23%
<b>Calvert</b>	36	11	0	36	22%
<b>Caroline</b>	13	4	0	13	15%
<b>Carroll</b>	40	18	3	43	22%
<b>Cecil</b>	32	2	0	32	29%
<b>Charles</b>	31	12	1	32	13%
<b>Dorchester</b>	10	3	0	10	21%
<b>Frederick</b>	77	29	6	83	21%
<b>Garrett</b>	9	7	1	10	50%
<b>Harford</b>	63	17	5	68	21%
<b>Howard</b>	121	30	7	128	34%
<b>Kent</b>	4	2	2	6	32%
<b>Montgomery</b>	169	139	48	217	19%
<b>Prince George's</b>	122	37	8	130	13%
<b>Queen Anne's</b>	12	6	1	13	15%
<b>Saint Mary's</b>	12	3	3	15	7%
<b>Somerset</b>	15	7	0	15	41%
<b>Talbot</b>	14	8	3	17	28%
<b>Washington</b>	36	12	1	37	17%
<b>Wicomico</b>	33	10	3	36	28%
<b>Worcester</b>	15	11	4	19	44%
<b>TOTALS</b>	<b>1,554</b>	<b>487</b>	<b>126</b>	<b>1680</b>	<b>23%</b>

*Source: Data from MSDE Maryland EXCELS files 4/17/15, licensing data 2014-15 and accreditation data 2014-15.*

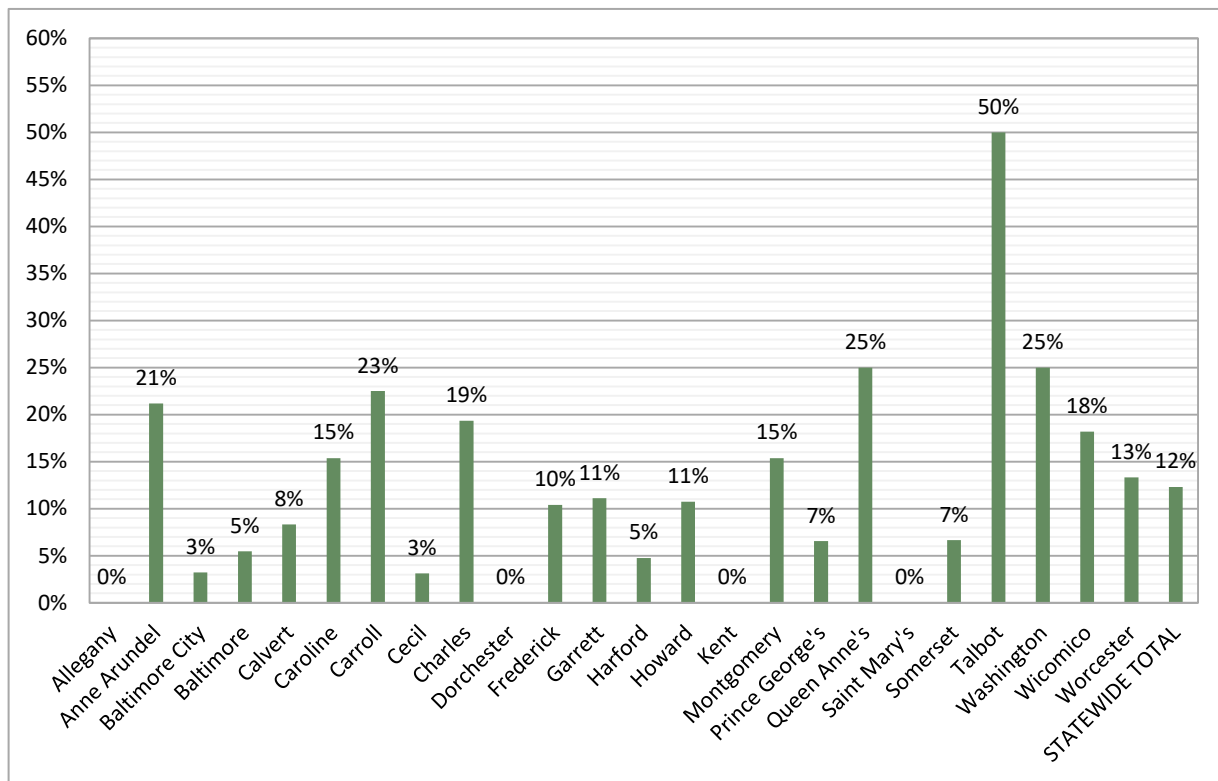
**TABLE 6: FOUR-YEAR-OLD CAPACITY IN EXCELS PUBLISHED PROGRAMS OR ACCREDITED PROGRAMS, BY DISTRICT**

	EXCELS Published	Accredited and <u>Not</u> EXCELS Published	Total Capacity in EXCELS or Accredited*	EXCELS or Accredited Capacity as a Percentage of Total Capacity
<b>Allegany</b>	161	27	187	55%
<b>Anne Arundel</b>	519	173	692	29%
<b>Baltimore City</b>	654	342	996	33%
<b>Baltimore</b>	1,197	372	1569	34%
<b>Calvert</b>	97	0	97	20%
<b>Caroline</b>	122	0	122	59%
<b>Carroll</b>	207	21	228	24%
<b>Cecil</b>	101	0	101	37%
<b>Charles</b>	200	3	203	25%
<b>Dorchester</b>	31	0	31	30%
<b>Frederick</b>	370	78	448	32%
<b>Garrett</b>	8	9	17	37%
<b>Harford</b>	417	103	521	34%
<b>Howard</b>	667	289	956	42%
<b>Kent</b>	6	20	25	44%
<b>Montgomery</b>	1,210	848	2,058	32%
<b>Prince George's</b>	451	143	594	17%
<b>Queen Anne's</b>	34	27	62	27%
<b>Saint Mary's</b>	86	47	133	26%
<b>Somerset</b>	72	0	72	21%
<b>Talbot</b>	68	43	110	50%
<b>Washington</b>	288	21	310	35%
<b>Wicomico</b>	133	241	374	68%
<b>Worcester</b>	101	56	157	74%
<b>TOTAL*</b>	<b>7,200</b>	<b>2,862</b>	<b>10,061</b>	<b>32%</b>

Source: Data from MSDE Maryland EXCELS files 4/17/15, licensing data 2014-15 and accreditation data 2014-15.

\*Note: Capacity data based on enrollment reports from licensing visits. Excludes 413 programs for which no licensing data was available.

**FIGURE 8: PERCENTAGE OF ALL EXCELS-RATED PREKINDERGARTEN PROGRAMS  
RATED LEVEL 5, BY DISTRICT**



Source: Data from MSDE.

**TABLE 8: EXCELS LEVEL 5, ACCREDITED, AND PUBLIC PREKINDERGARTEN PROGRAMS  
SERVING FOUR-YEAR-OLDS, AND CAPACITY, BY DISTRICT**

	EXCELS Level 5		Accredited ( <u>not</u> EXCELS Level 5)		Public Prekindergarten	Total	Total as % of all Capacity
	Sites	Four- Year- Old Capacity	Sites	Four- Year-old Capacity	Four-Year-Old Capacity		
<b>Allegany</b>	0	0	6	69	467	536	66%
<b>Anne Arundel</b>	18	173	15	288	1,928	2,389	55%
<b>Baltimore City</b>	12	31	13	440	4,597	5,068	67%
<b>Baltimore</b>	12	217	20	443	3,244	3,904	50%
<b>Calvert</b>	3	5	7	60	352	417	50%
<b>Caroline</b>	2	0	2	24	279	303	62%
<b>Carroll</b>	9	86	7	60	324	470	37%
<b>Cecil</b>	1	0	0	0	639	639	70%
<b>Charles</b>	6	58	6	46	778	882	55%
<b>Dorchester</b>	0	0	0	0	210	210	67%
<b>Frederick</b>	8	93	16	170	975	1,237	52%
<b>Garrett</b>	1	0	3	10	148	158	82%
<b>Harford</b>	3	22	11	191	724	937	41%
<b>Howard</b>	13	326	15	425	858	1,608	51%
<b>Kent</b>	0	0	2	20	136	156	80%
<b>Montgomery</b>	26	233	93	1316	3,311	4,860	50%
<b>Prince George's</b>	8	33	19	301	4,841	5,175	61%
<b>Queen Anne's</b>	3	6	3	30	222	258	57%
<b>Saint Mary's</b>	0	0	5	60	771	831	64%
<b>Somerset</b>	1	1	1	65	193	259	49%
<b>Talbot</b>	7	53	3	43	230	325	72%
<b>Washington</b>	9	174	2	22	514	710	51%
<b>Wicomico</b>	6	56	4	253	532	841	78%
<b>Worcester</b>	2	42	6	78	358	477	84%
<b>TOTAL</b>	<b>150</b>	<b>1,607</b>	<b>259</b>	<b>4,413</b>	<b>26,631</b>	<b>32,651</b>	<b>56%</b>

*Source: APA Consulting calculations, based on MSDE data.*

**TABLE 11: ESTIMATED UNMET NEED FOR FOUR-YEAR-OLD PREKINDERGARTEN SLOTS,  
BY DISTRICT**

	Estimated Four-Year- Old Capacity	Estimated Four-Year- Old Population	Estimated Unmet Need	Capacity as Percentage of Population
<b>Allegany</b>	808	921	113	88%
<b>Anne Arundel</b>	4334	7,072	2,738	61%
<b>Baltimore City</b>	7621	10,440	2,819	73%
<b>Baltimore</b>	7845	7,863	18	100%
<b>Calvert</b>	842	1,144	302	74%
<b>Caroline</b>	485	411	-74	118%
<b>Carroll</b>	1285	2,119	834	61%
<b>Cecil</b>	909	1,293	383	70%
<b>Charles</b>	1601	1,954	353	82%
<b>Dorchester</b>	313	411	98	76%
<b>Frederick</b>	2375	3,077	701	77%
<b>Garrett</b>	193	375	181	52%
<b>Harford</b>	2258	3,158	900	72%
<b>Howard</b>	3127	3,905	778	80%
<b>Kent</b>	194	250	56	78%
<b>Montgomery</b>	9670	13,010	3,340	74%
<b>Prince George's</b>	8429	11,419	2,990	74%
<b>Queen Anne's</b>	449	616	167	73%
<b>Saint Mary's</b>	1291	1,394	103	93%
<b>Somerset</b>	531	326	-205	163%
<b>Talbot</b>	452	475	23	95%
<b>Washington</b>	1389	1,888	499	74%
<b>Wicomico</b>	1078	1,282	204	84%
<b>Worcester</b>	570	652	83	87%
<b>Statewide Total</b>	<b>58,050</b>	<b>75,455</b>	<b>17,405</b>	<b>77%</b>

*Source: APA calculations, based on MSDE data.*

**TABLE 12: ESTIMATED ADDITIONAL CAPACITY REQUIRED TO SERVE 80, 90, AND 100 PERCENT OF MARYLAND'S FOUR-YEAR-OLD POPULATION**

Setting	Four-Year-Old Capacity		
<b>Public Programs</b>	26,631		
<b>Licensed Private Programs</b>	31,419		
<b>Total 4-year-old Capacity, Public or Licensed Private Programs</b>	<b>58,085</b>		
Percent of Four-Year-Old Population	80%	90%	100%
<b>4-Year-Old Population</b>	60,364	67,910	75,455
<b>Unmet 4-Year-Old Need</b>	<b>2,314</b>	<b>9,859</b>	<b>17,405</b>

Source: APA Consulting calculations, based on MSDE data.

**TABLE 13: ESTIMATED ADDITIONAL CAPACITY REQUIRED TO SERVE 60, 70 AND 80 PERCENT OF FOUR-YEAR-OLD POPULATION IN PUBLIC PREKINDERGARTEN, ACCREDITED COMMUNITY PROGRAMS, OR EXCELS LEVEL 5 PRIVATE PREKINDERGARTEN PROGRAMS**

Setting	Four-Year-Old Capacity		
<b>Public Programs</b>	26,631		
<b>Accredited Private Programs</b>	4,413		
<b>EXCELS Level 5 Private Programs</b>	1,607		
<b>Total 4-year-old Capacity, Public, Accredited or EXCELS Level 5</b>	<b>32,651</b>		
Percent of Four-Year-Old Population	60%	70%	80%
<b>4-Year-Old Population</b>	45,273	52,819	60,364
<b>Unmet 4-Year-Old Need</b>	<b>12,622</b>	<b>20,167</b>	<b>27,713</b>

Source: APA Consulting calculations, based on MSDE data.

**TABLE 42: ADDITIONAL FUNDING REQUIRED TO SERVE 60, 70 OR 80 PERCENT OF FOUR-YEAR-OLDS IN HIGH-QUALITY PREKINDERGARTEN, AFTER ACCOUNTING FOR EXISTING FUNDING, BY COUNTY**

District	60 Percent Coverage	70 Percent Coverage	80 Percent Coverage
<b>Allegany</b>	\$3,842,544	\$5,039,119	\$6,235,695
<b>Anne Arundel</b>	\$20,172,008	\$26,453,608	\$32,735,208
<b>Baltimore City</b>	\$36,365,283	\$47,689,498	\$59,013,714
<b>Baltimore</b>	\$36,359,463	\$47,681,866	\$59,004,269
<b>Calvert</b>	\$3,900,063	\$5,114,549	\$6,329,036
<b>Caroline</b>	\$2,297,083	\$3,012,399	\$3,727,715
<b>Carroll</b>	\$5,812,536	\$7,622,571	\$9,432,605
<b>Cecil</b>	\$4,395,347	\$5,764,065	\$7,132,784
<b>Charles</b>	\$7,492,832	\$9,826,114	\$12,159,395
<b>Dorchester</b>	\$1,504,852	\$1,973,466	\$2,442,080
<b>Frederick</b>	\$10,993,829	\$14,417,327	\$17,840,825
<b>Garrett</b>	\$943,855	\$1,237,774	\$1,531,692
<b>Harford</b>	\$10,312,401	\$13,523,702	\$16,735,002
<b>Howard</b>	\$14,202,924	\$18,625,740	\$23,048,557
<b>Kent</b>	\$938,697	\$1,231,009	\$1,523,321
<b>Montgomery</b>	\$44,388,579	\$58,211,263	\$72,033,948
<b>Prince George's</b>	\$40,001,392	\$52,457,898	\$64,914,403
<b>Queen Anne's</b>	\$2,099,538	\$2,753,338	\$3,407,138
<b>Saint Mary's</b>	\$6,137,173	\$8,048,299	\$9,959,426
<b>Somerset</b>	\$2,450,159	\$3,213,143	\$3,976,127
<b>Talbot</b>	\$2,124,376	\$2,785,910	\$3,447,445
<b>Washington</b>	\$6,387,327	\$8,376,353	\$10,365,378
<b>Wicomico</b>	\$5,057,706	\$6,632,685	\$8,207,664
<b>Worcester</b>	\$2,727,665	\$3,577,065	\$4,426,465
<b>Statewide Totals</b>	<b>\$270,907,633</b>	<b>\$355,268,761</b>	<b>\$439,629,890</b>

Source: APA calculations based on MSDE data

## ***Capacity and Gap: Three-Year-Olds***

### **Key “Take Aways” on the Capacity and Gap for Three-Year-Olds**

Key points to remember from this section.

- The key in this section was the estimate of low income three-year-old.
- Currently, Maryland and its school districts serve three-year-olds that show that they have special needs.
- Again, for three-year-olds it is a question of access to high quality programs and the availability of those slots that is the critical question.

### **An Estimate of the Cost of Providing High Quality Early Childhood Education to Low-Income Three-Year-Olds**

The APA study team had the data that could be used to generate this estimate. Several figures and underlying assumptions were needed in the process of generating the cost estimate for serving low-income three-year-olds. They include the following.

- The number of three-year-olds in the state. The study team used the same sources and procedures that were used to generate the number four-year-olds used in the prekindergarten report. For this cost estimate we have created the three-year-old count in the same manner using census data. The statewide estimated count for three-year-olds was 76,635.
- An estimate of the percentage of the total number of children that come from families with low incomes. There are several ways of deriving this percentage and there are several counts on which it could be based. For the purpose of this estimate, the study team used the statewide average of the school-based FRPMs (free and reduced priced meals) count. On a statewide basis, 29.4 percent of the State’s children are FRPMs eligible. Applying this percentage results in a figure of 22,531 low-income, three-year-old children.
- At this point, it is typical to remove the percentage of the students from families that would choose *not* to send their children to preschool or childcare. Statewide for all students, the figure used in the four-year-old cost analysis was 26 percent. For the sub-population of low-income families, we would expect a smaller percentage of families opting out of the opportunity. The study team selected a factor of 10 percent that would opt out of the service opportunity. This results in a figure of 20,278 low-income, three-year-old children likely to participate.
- The next factor that must be taken into consideration is the distribution of children across types of Early Childhood Education (ECE) sites. The choices include public schools, centers, family homes and Head Start sites. The study team applied the same distribution across these four types of sites as was found in the distribution of the general population. Forty-eight percent of the population would attend a public school program, 42 percent of the population would attend a center-based program, four percent would attend a program in a family home and six percent would attend a Head Start program. Since Head Start

programs are funded independently, children attending these programs were removed from the funding analysis. This results in a figure of 19,061 likely to participate.

- The final factor taken into consideration is the quality ratings used by the State, EXCELS. In the analysis of four-year-old prekindergarten students, only those children attending public-school prekindergarten programs or those attending private preschool which have received a rating of EXCELS Level 5 or have outside accreditation are eligible for state support. The estimate of this number is 11,437 children attending public or private settings that meet the high quality criteria. This figure represents 60 percent of likely to participate, low-income, three-year-old children excluding Head Start.

***Funding Required To Serve 60 or 80 Percent of Low Income Three-Year-Olds in High Quality Programs***

District	Estimated Three-Year-Old, Low Income Count	Estimated 60 Percent Three-Year-Old, Low Income Count	Estimated 80 Percent Three-Year-Old, Low Income Count	Estimated Cost for Current (60 Percent) Coverage	Estimated Cost for 80 Percent Coverage
<b>Allegany</b>	289	173	231	\$2,040,586	\$2,720,782
<b>Anne Arundel</b>	1,572	943	1,258	\$11,117,501	\$14,823,334
<b>Baltimore City</b>	2,432	1,459	1,945	\$17,195,951	\$22,927,934
<b>Baltimore</b>	2,569	1,541	2,055	\$18,166,567	\$24,222,089
<b>Calvert</b>	269	161	215	\$1,903,019	\$2,537,358
<b>Caroline</b>	190	114	152	\$1,340,010	\$1,786,681
<b>Carroll</b>	444	267	355	\$3,141,127	\$4,188,169
<b>Cecil</b>	316	190	253	\$2,236,747	\$2,982,330
<b>Charles</b>	535	321	428	\$3,785,657	\$5,047,542
<b>Dorchester</b>	105	63	84	\$743,884	\$991,845
<b>Frederick</b>	757	454	605	\$5,349,851	\$7,133,135
<b>Garrett</b>	71	43	57	\$504,415	\$672,553
<b>Harford</b>	733	440	586	\$5,181,713	\$6,908,951
<b>Howard</b>	1,002	601	801	\$7,082,184	\$9,442,912
<b>Kent</b>	67	40	54	\$476,392	\$635,189
<b>Montgomery</b>	3,205	1,923	2,564	\$22,660,442	\$30,213,922
<b>Prince George's</b>	2,601	1,561	2,081	\$18,395,846	\$24,527,794
<b>Queen Anne's</b>	150	90	120	\$1,057,233	\$1,409,643
<b>Saint Mary's</b>	424	254	339	\$2,998,464	\$3,997,952
<b>Somerset</b>	159	96	127	\$1,126,016	\$1,501,355
<b>Talbot</b>	155	93	124	\$1,092,898	\$1,457,198
<b>Washington</b>	460	276	368	\$3,250,672	\$4,334,229
<b>Wicomico</b>	349	210	280	\$2,471,122	\$3,294,829
<b>Worcester</b>	208	125	166	\$1,469,935	\$1,959,914
<b>Statewide Totals</b>	<b>19,061</b>	<b>11,437</b>	<b>15,249</b>	<b>\$134,788,230</b>	<b>\$179,717,640</b>

Source: APA calculations based on MSDE data.

## ***Components of a Matrix Used for State Aid Distribution Factoring in Cost and Family Income***

### **Key “Take Aways” for an Aid Distribution System Providing Tuition Assistance**

Denver Preschool Program (DPP) example illustrates how it can be accomplished. APA will illustrate how this matrix was used in planning for the implementation of the DPP.

<b>Cost of Quality Matrix</b>								
	Income Tier	1	2	3	4	5	6	7
	Percent FPL	<100	100-185	186-225	226-240	241-300	301-340	341+
	Percent of total cost	100%	85%	65%	55%	45%	30%	15%
Full Day	Quality 0	\$5,145.00	\$4,373.25	\$3,344.25	\$2,829.75	\$2,315.25	\$1,543.50	\$771.75
	Quality 1	\$5,917.00	\$5,029.45	\$3,846.05	\$3,254.35	\$2,662.65	\$1,775.10	\$887.55
	Quality 2	\$6,805.00	\$5,784.25	\$4,423.25	\$3,742.75	\$3,062.25	\$2,041.50	\$1,020.75
	Quality 3	\$7,826.00	\$6,652.10	\$5,086.90	\$4,304.30	\$3,521.70	\$2,347.80	\$1,173.90
	Quality 4	\$9,000.00	\$7,650.00	\$5,850.00	\$4,950.00	\$4,050.00	\$2,700.00	\$1,350.00
Half Day	Quality 0	\$3,087.00	\$2,623.95	\$2,006.55	\$1,697.85	\$1,389.15	\$926.10	\$463.05
	Quality 1	\$3,550.20	\$3,017.67	\$2,307.63	\$1,952.61	\$1,597.59	\$1,065.06	\$532.53
	Quality 2	\$4,083.00	\$3,470.55	\$2,653.95	\$2,245.65	\$1,837.35	\$1,224.90	\$612.45
	Quality 3	\$4,695.60	\$3,991.26	\$3,052.14	\$2,582.58	\$2,113.02	\$1,408.68	\$704.34
	Quality 4	\$5,400.00	\$4,590.00	\$3,510.00	\$2,970.00	\$2,430.00	\$1,620.00	\$810.00

It is also worth noting up front that the income distributions by county can vary significantly from the Maryland state distribution, which will significantly alter the flow of aid to counties and school districts. Denver did not have to contend with this added level of complexity since it is only one county and school district, though the school district is an independent taxing authority.

## Available Data for a Maryland State Matrix

### **Census Data for the State**

	Maryland		
	Estimate	Percent of Total	Margin of Error
Total:	2,165,438		+/-8,230
Less than \$10,000	112,268	5.18%	+/-4,628
\$10,000 to \$14,999	71,318	3.29%	+/-3,949
\$15,000 to \$19,999	68,787	3.18%	+/-3,700
\$20,000 to \$24,999	76,380	3.53%	+/-4,521
\$25,000 to \$29,999	75,003	3.46%	+/-3,992
\$30,000 to \$34,999	82,465	3.81%	+/-4,565
\$35,000 to \$39,999	78,438	3.62%	+/-4,549
\$40,000 to \$44,999	81,351	3.76%	+/-4,365
\$45,000 to \$49,999	78,953	3.65%	+/-3,919
\$50,000 to \$59,999	151,333	6.99%	+/-5,514
\$60,000 to \$74,999	219,157	10.12%	+/-8,152
\$75,000 to \$99,999	288,306	13.31%	+/-8,080
\$100,000 to \$124,999	230,902	10.66%	+/-6,609
\$125,000 to \$149,999	158,172	7.30%	+/-6,137
\$150,000 to \$199,999	196,925	9.09%	+/-6,119
\$200,000 or more	195,680	9.04%	+/-5,189
Source: U.S. Census Bureau, 2014 American Community Survey 1-Year Estimates Distribution of median family income			

### Census Data for Selected Districts

	Anne Arundel County, Maryland			Baltimore city, Maryland		
	Estimate	Percent of Total	Margin of Error	Estimate	Percent of Total	Margin of Error
Total:	203,775		+/-2,331	238,897		+/-3,190
Less than \$10,000	6,484	3.18%	+/-1,255	31,740	13.29%	+/-2,058
\$10,000 to \$14,999	4,589	2.25%	+/-1,113	16,507	6.91%	+/-1,717
\$15,000 to \$19,999	4,851	2.38%	+/-1,373	13,710	5.74%	+/-1,723
\$20,000 to \$24,999	4,962	2.44%	+/-979	12,376	5.18%	+/-1,366
\$25,000 to \$29,999	5,000	2.45%	+/-1,137	13,320	5.58%	+/-1,938
\$30,000 to \$34,999	5,027	2.47%	+/-1,208	13,364	5.59%	+/-1,734
\$35,000 to \$39,999	4,778	2.34%	+/-1,189	12,834	5.37%	+/-1,663
\$40,000 to \$44,999	7,122	3.50%	+/-1,371	9,279	3.88%	+/-1,556
\$45,000 to \$49,999	9,701	4.76%	+/-1,639	10,399	4.35%	+/-1,348
\$50,000 to \$59,999	11,774	5.78%	+/-1,785	17,771	7.44%	+/-1,669
\$60,000 to \$74,999	20,363	9.99%	+/-2,083	22,169	9.28%	+/-2,315
\$75,000 to \$99,999	32,103	15.75%	+/-2,669	25,109	10.51%	+/-2,207
\$100,00 0 to \$124,99 9	23,204	11.39%	+/-1,703	14,289	5.98%	+/-1,937
\$125,00 0 to \$149,99 9	17,856	8.76%	+/-2,059	8,453	3.54%	+/-1,125
\$150,00 0 to \$199,99 9	25,103	12.32%	+/-2,357	9,012	3.77%	+/-1,145
\$200,00 0 or more	20,858	10.24%	+/-2,139	8,565	3.59%	+/-1,246

**Cost of a Quality Preschool Program in Maryland by Setting and Quality Level**

Cost of Quality Results: Cost Per Child by dosage and setting			
	<b>CENTERS</b>		
	<b>Check Level 3</b>	<b>Check Level 4</b>	<b>Check Level 5</b>
<b>FD/FY</b>	\$9,294	\$11,321	\$12,334
<b>school-day</b>	\$7,900	\$9,622	\$10,484
<b>half-day</b>	\$3,950	\$4,811	\$5,242
	<b>HOMES (preschoolers only)</b>		
	<b>Check Level 3</b>	<b>Check Level 4</b>	<b>Check Level 5</b>
<b>FD/FY</b>	\$8,492	\$11,057	\$11,838
<b>school-day</b>	\$7,218	\$9,398	\$10,063
<b>half-day</b>	\$3,609	\$4,699	\$5,031
	<b>SCHOOLS</b>		
	<b>Check Level 5 with median salaries</b>	<b>Check Level 5 5% above median</b>	
<b>FD/FY</b>	na	na	
<b>school-day</b>	\$12,111	\$12,663	
<b>half-day</b>	\$6,056	\$6,331	

## ***Distribution of Funding Responsibility***

### **Funding Model 1**

#### ***Model 1: State-Local Share***

To determine an appropriate allocation between state and local funding responsibilities, the study team proposes using the same equalized allocation used in Maryland's foundation, (or total program), funding. This is determined by the following formula:

$$\text{Total Program Revenue} - \text{Local Effort (local share)} = \text{State Aid (State share)}$$

Under this formula the local effort or share is determined by multiplying a district's total wealth by a uniform statewide foundation mill rate established in statute. The State's share is the difference between total revenue per student (foundation or total program amount) minus the local share. Districts with a higher total wealth pay a greater share of the total revenue amount than those with less total wealth. Because this is an established and equalized sharing of costs between local districts and the State, the study team uses the same percentages for determining the State and local shares of the increased costs of the proposed prekindergarten expansion.

The State and local shares used in this analysis have been modified in three ways from the shares used in the foundation (Total Program) calculation. First, in two districts, Talbot and Worcester, the local wealth is great enough that the local share calculation (total wealth times the statewide mill rate) results in a local share amount that exceeds the total foundation amount, resulting in a negative state share. To address this, the study team set the local share to 100 percent and the state share to zero percent in these two districts. Second, in the foundation program the State guarantees that each district will receive a minimum amount of State aid equal to 15 percent of the foundation amount.<sup>1</sup> No minimum State aid amount is assumed for the calculations completed here. Finally, the State aid amount in the foundation formula is adjusted by a Geographical Cost of Education Index (GCEI) to account for geographic difference in costs across districts. No GCEI adjustment is made here. However, as a matter of policy, the State could elect to apply both a minimum State aid guarantee and the GCEI to the revenue calculations proposed here.

Table 43, below, shows the results of this allocation, with the local share of funding required by each school district at each of the three participation rates.

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<sup>1</sup> In FY 2015 the minimum State aid guarantee affected only Talbot and Worcester counties.

**TABLE 43: LOCAL CONTRIBUTION REQUIRED UNDER MODEL 1, TO SERVE 60, 70, OR 80 PERCENT OF FOUR-YEAR-OLDS IN HIGH-QUALITY PREKINDERGARTEN, BY COUNTY**

District	60 Percent Coverage (Local Contribution)	70 Percent Coverage (Local Contribution)	80 Percent Coverage (Local Contribution)
<b>Allegany</b>	\$1,193,125	\$1,564,666	\$1,936,208
<b>Anne Arundel</b>	\$12,490,226	\$16,379,705	\$20,269,183
<b>Baltimore City</b>	\$10,458,710	\$13,715,571	\$16,972,432
<b>Baltimore</b>	\$18,192,155	\$23,857,225	\$29,522,295
<b>Calvert</b>	\$1,864,495	\$2,445,103	\$3,025,710
<b>Caroline</b>	\$690,590	\$905,641	\$1,120,693
<b>Carroll</b>	\$2,720,285	\$3,567,386	\$4,414,488
<b>Cecil</b>	\$1,727,557	\$2,265,521	\$2,803,485
<b>Charles</b>	\$3,000,729	\$3,935,161	\$4,869,593
<b>Dorchester</b>	\$567,839	\$744,665	\$921,492
<b>Frederick</b>	\$4,667,619	\$6,121,124	\$7,574,629
<b>Garrett</b>	\$620,903	\$814,253	\$1,007,603
<b>Harford</b>	\$4,805,859	\$6,302,412	\$7,798,965
<b>Howard</b>	\$8,043,185	\$10,547,848	\$13,052,510
<b>Kent</b>	\$773,081	\$1,013,820	\$1,254,558
<b>Montgomery</b>	\$30,765,741	\$40,346,248	\$49,926,756
<b>Prince George's</b>	\$15,823,986	\$20,751,604	\$25,679,222
<b>Queen Anne's</b>	\$1,239,934	\$1,626,052	\$2,012,170
<b>Saint Mary's</b>	\$2,760,808	\$3,620,529	\$4,480,249
<b>Somerset</b>	\$750,896	\$984,727	\$1,218,557
<b>Talbot</b>	\$2,124,376	\$2,785,910	\$3,447,445
<b>Washington</b>	\$2,251,539	\$2,952,672	\$3,653,805
<b>Wicomico</b>	\$1,481,570	\$1,942,933	\$2,404,297
<b>Worcester</b>	\$2,727,665	\$3,577,065	\$4,426,465
<b>Local Total</b>	<i>\$131,742,872</i>	<i>\$172,767,841</i>	<i>\$213,792,810</i>
<b>State Total</b>	<i>\$139,164,762</i>	<i>\$182,500,921</i>	<i>\$225,837,080</i>
<b>State and Local Total</b>	<b>\$270,907,633</b>	<b>\$355,268,761</b>	<b>\$439,629,890</b>

*Source: APA calculations based on MSDE data.*

While the funding split between state and local varies by each county, when looking at the total funding numbers, the State pays 51 percent of totals costs and local school districts pay 49 percent of total costs.

Under this model, the study team recommended disbursements to public prekindergarten sites and high-quality (EXCELS Level 5 and accredited) private prekindergarten providers be made through the local school districts. Under this structure the State share would be passed through the school

district to the providers, creating a streamlined process for providers who would then receive funding from a single source.

The benefits of this model are:

- It is relatively easy to administer and to budget.
- Provider funding is based on provider quality levels, which are determined via a well-respected QRIS, Maryland EXCELS.
- Funding allocations are aligned with Maryland's current K-12 funding system.
- Public and private providers are funded through a single system.
- Prekindergarten costs are shared between the State and school districts, encouraging both jurisdictions to support the prekindergarten expansion.

## Funding Model 2

### ***Model 2: State-Local-Family Share***

The second model builds on Model 1, but adds contributions from families participating in high-quality prekindergarten, based on means testing. Adding a means tested family contribution into the sources of revenue creates two complications: First, from a modeling point of view, there is a need to estimate household income distributions by county and apply those distributions to the estimated number of four-year-olds in each county. Second, from an administration point of view, there would be a need for family income verification in order to accurately determine the individual family contribution.

Regarding the need for family income verification, while it is clear that household income must be verified for this funding model to work, it is unclear which level of government should be responsible for the verification. For the purposes of creating this model, the study team assumes that local school districts would conduct the verifications, and that the resulting family contributions would flow to the school districts to offset the costs of the local contribution.

Regarding the need to obtain estimates of household income distributions by county, the study team used two U.S. Census sources to obtain income distributions by county: (1) the American Community Survey (ACS) 2014 Estimated Household Income Table for Maryland Counties and (2) a similar Table for 2009, for the smallest eight counties in the State (for which 2014 data was not available). (The estimate of the number of four-year-olds by county is taken from Table 10 in Section II of the APA ECE report.)

The study team selected four income categories for this model: (1) Under \$74,999 (approximately 300 percent of FPL for a family of four), (2) \$75,000 to \$99,999, (3) \$100,000 to \$149,999, and (4) \$150,000 and above. As shown in Table 44, below, just over 50 percent of Maryland four-year-olds fall into the lowest income tier, 13 percent fall into Tier 2, 18 percent are in Tier 3, and 18 percent fall into the highest income tier.

**TABLE 44: ESTIMATED NUMBER OF FOUR-YEAR-OLDS AT DIFFERENT HOUSEHOLD INCOME LEVELS, BY COUNTY**

District	Number of 4-Year-Olds	Number of 4-Year-Olds in Households Below 300% of FPL (approx. \$74,999)	Number of 4-Year-Olds in Households \$75,000 – \$99,999	Number of 4-Year-Olds in Households \$100,000 – \$149,999	Number of 4-Year-Olds in Households Above \$150,000
<b>Allegany</b>	921	703	83	106	28
<b>Anne Arundel</b>	7,072	2,938	1,114	1,425	1,595
<b>Baltimore City</b>	10,440	7,581	1,097	994	768
<b>Baltimore</b>	7,863	4,255	1,064	1,374	1,170
<b>Calvert</b>	1,144	457	162	275	250
<b>Caroline</b>	411	253	76	68	14
<b>Carroll</b>	2,119	918	329	422	451
<b>Cecil</b>	1,293	792	140	244	117
<b>Charles</b>	1,954	820	302	442	391
<b>Dorchester</b>	411	278	62	48	24
<b>Frederick</b>	3,077	1,361	465	697	554
<b>Garrett</b>	375	264	57	39	16
<b>Harford</b>	3,158	1,473	480	638	568
<b>Howard</b>	3,905	1,229	532	857	1,287
<b>Kent</b>	250	146	42	37	24
<b>Montgomery</b>	13,010	4,996	1,628	2,522	3,863
<b>Prince George's</b>	11,419	5,902	1,588	2,192	1,737
<b>Queen Anne's</b>	616	252	110	152	102
<b>Saint Mary's</b>	1,394	631	201	311	250
<b>Somerset</b>	326	235	38	33	21
<b>Talbot</b>	475	245	81	85	63
<b>Washington</b>	1,888	1,274	225	230	160
<b>Wicomico</b>	1,282	835	169	187	90
<b>Worcester</b>	652	385	98	98	71
<b>Totals</b>	<b>75,455</b>	<b>38,223</b>	<b>10,143</b>	<b>13,475</b>	<b>13,615</b>

*Source: For the 16 largest counties plus the City of Baltimore, Household Income Distribution was obtained from the U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates. For the 8 smallest counties, Household Income Distribution was obtained from Public Use Microdata Areas (PUMAs) that provide most detail from the 2009 American Community Survey (ACS) for which current year demographic-economic data is available.*

Maryland has shown a commitment to fully fund prekindergarten for families whose household income is under 300 percent of FPL (approximately \$74,999 or below, for a family of four). For this reason, this model assumes that no family contribution would be required from this group of families. There is no direct guidance in the literature or in practice for setting the level of tuition required of families whose household income is above 300 percent of FPL. Therefore, for the purposes of this model, families with combined household incomes between \$75,000 and \$99,999 are required to pay around 10 percent of the cost of high-quality prekindergarten (\$10,484, based on the cost of quality for an EXCELS Level 5 child care center). Families with combined household incomes between \$100,000 and \$149,999 are required to pay 33 percent of the cost. Finally,

families with combined household incomes above \$150,000 are required to pay 66 percent of the cost.

In order to calculate the total family contribution under each of the three scenarios (60, 70 and 80 percent of population served), it is necessary to estimate the number of four-year-olds who would participate from each income level. The study team believes there are strong incentives for families from the higher income households (above 300 percent) to participate in prekindergarten as even the highest earners would receive a subsidy for prekindergarten. However, it is unlikely that all four-year-olds would participate at these levels. With this in mind, the study team has built the following family participation rates into the estimates for those families above 300 percent of FPL: In the 60 percent scenario, 65 percent of higher-income families participate. In the 70 percent scenario, 75 percent of higher-income families participate. And finally, in the 80 percent scenario, 85 percent of higher-income families participate.

Table 45 shows the results of this model, identifying the total family contribution for each county, and the revised local contribution, net of this family contribution.

**TABLE 45: FAMILY CONTRIBUTION AND REVISED LOCAL CONTRIBUTION REQUIRED UNDER MODEL 2 TO SERVE 60, 70, OR 80 PERCENT OF FOUR-YEAR-OLDS IN HIGH-QUALITY PREKINDERGARTEN, BY COUNTY**

District	60% Coverage		70% Coverage		80% Coverage	
	Revised Local Contribution	Family Contribution	Revised Local Contribution	Family Contribution	Revised Local Contribution	Family Contribution
<b>Allegany</b>	\$770,944	\$422,181	\$1,077,534	\$487,132	\$1,384,125	\$552,083
<b>Anne Arundel</b>	\$1,388,576	\$11,101,649	\$3,570,109	\$12,809,595	\$5,751,642	\$14,517,541
<b>Baltimore City</b>	\$4,041,876	\$6,416,833	\$6,311,532	\$7,404,038	\$8,581,188	\$8,391,244
<b>Baltimore</b>	\$9,144,771	\$9,047,384	\$13,417,936	\$10,439,289	\$17,691,101	\$11,831,195
<b>Calvert</b>	\$16,835	\$1,847,660	\$313,187	\$2,131,916	\$609,539	\$2,416,171
<b>Caroline</b>	\$424,558	\$266,033	\$598,681	\$306,961	\$772,804	\$347,889
<b>Carroll</b>	(\$468,635)	\$3,188,920	(\$112,136)	\$3,679,523	\$244,363	\$4,170,126
<b>Cecil</b>	\$561,057	\$1,166,499	\$919,560	\$1,345,960	\$1,278,063	\$1,525,422
<b>Charles</b>	\$54,721	\$2,946,008	\$535,921	\$3,399,239	\$1,017,122	\$3,852,471
<b>Dorchester</b>	\$311,316	\$256,524	\$448,677	\$295,989	\$586,038	\$335,454
<b>Frederick</b>	\$308,287	\$4,359,332	\$1,091,126	\$5,029,998	\$1,873,964	\$5,700,665
<b>Garrett</b>	\$425,830	\$195,072	\$589,170	\$225,084	\$752,509	\$255,095
<b>Harford</b>	\$506,201	\$4,299,657	\$1,341,269	\$4,961,143	\$2,176,336	\$5,622,629
<b>Howard</b>	(\$10,832)	\$8,054,017	\$1,254,751	\$9,293,096	\$2,520,334	\$10,532,176
<b>Kent</b>	\$552,554	\$220,527	\$759,366	\$254,454	\$966,177	\$288,381
<b>Montgomery</b>	\$6,686,415	\$24,079,326	\$12,562,411	\$27,783,838	\$18,438,406	\$31,488,349
<b>Prince George's</b>	\$2,044,892	\$13,779,095	\$4,852,649	\$15,898,955	\$7,660,406	\$18,018,816
<b>Queen Anne's</b>	\$367,155	\$872,780	\$618,998	\$1,007,053	\$870,842	\$1,141,327
<b>Saint Mary's</b>	\$805,525	\$1,955,283	\$1,364,432	\$2,256,096	\$1,923,340	\$2,556,909
<b>Somerset</b>	\$556,169	\$194,728	\$760,041	\$224,686	\$963,913	\$254,644
<b>Talbot</b>	\$1,594,459	\$529,917	\$2,174,468	\$611,443	\$2,754,476	\$692,968
<b>Washington</b>	\$867,143	\$1,384,395	\$1,355,293	\$1,597,379	\$1,843,442	\$1,810,363
<b>Wicomico</b>	\$542,221	\$939,349	\$859,070	\$1,083,864	\$1,175,918	\$1,228,379
<b>Worcester</b>	\$2,121,422	\$606,243	\$2,877,553	\$699,512	\$3,633,685	\$792,780
<b>Family Total</b>		\$98,129,411		\$113,226,244		\$128,323,076
<b>Revised Local</b>	\$33,613,460		\$59,541,597		\$85,469,734	
<b>State Total</b>	\$139,164,762		\$182,500,921		\$225,837,080	
<b>Family, State, and Local Total</b>		\$270,907,633		\$355,268,761		\$439,629,890

*Source: APA calculations*

While the funding split between state, local, and family varies by each county, when looking at the total funding numbers, the state pays 51 percent of totals costs, local school districts pay 12 percent, and family contributions make up 36 percent.

Under this model, local school districts would be responsible for verifying family income and collecting the family contribution. As in Model 1, state funds would flow through the school districts, and then the school districts would be responsible for disbursing the family contribution, the state contribution, and the local contribution, directly to the high-quality prekindergarten provider. In this way, the provider does not have to collect tuition directly from families and they would receive funding from one single source (the school district).

The benefits of this model include the following:

- The system is relatively easy to administer, once family income information is available.
- Provider funding is based on provider quality levels, which are determined via a well-respected QRIS, Maryland EXCELS.
- Funding allocations are aligned with Maryland's current K-12 funding system.
- Families contribute according to their ability to pay, with a significant number of families receiving prekindergarten services for free.
- Costs are shared between the State, local school districts, and participating families, encouraging all stakeholders to support the prekindergarten expansion.