



## Memorandum

TO: Jim Merrill, Superintendent  
Jim Hartmann, County Manager

FROM: Christina Lighthall, Senior Director for WCPSS Long-Range Planning  
Michelle Venditto, Wake County Director of Budget and Management Services

CC: Laura Evans, Senior Director for WCPSS Student Assignment

DATE: February 6, 2017

SUBJECT: Enrollment Projections for WCPSS Operating and Capital Planning

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Staffs of Wake County Budget and Management Services, Wake County Planning, and WCPSS have completed an update of WCPSS student enrollment projections. The student enrollment projections are used in the development of WCPSS' operating budget and subsequent school allotments for the 2017-18 school year and the update of the 7-year capital program.

### Report on Prior Year Projection

The 2016-17 membership of 159,549 represents a net gain of 2,369 (or about 1.51%) over the 2015-16 membership of 157,180 as reported by NC DPI; and 301 more than last year's projection of 159,248.

### Overview

The student enrollment projections for the WCPSS operating budget reflect a one-year estimate to plan for the 2017-2018 school year. Student enrollment projections for capital purposes have a multi-year impact; thus, a long-term projection takes into consideration varying rates of growth over time.

### Methodology

The enrollment projections are based on residential development data collected from county and municipal planners and the evaluation of prior enrollment trends. Staff and consultants from Numerix LLC and ORED have reviewed membership history and demographic and economic trends to refine enrollment projections.

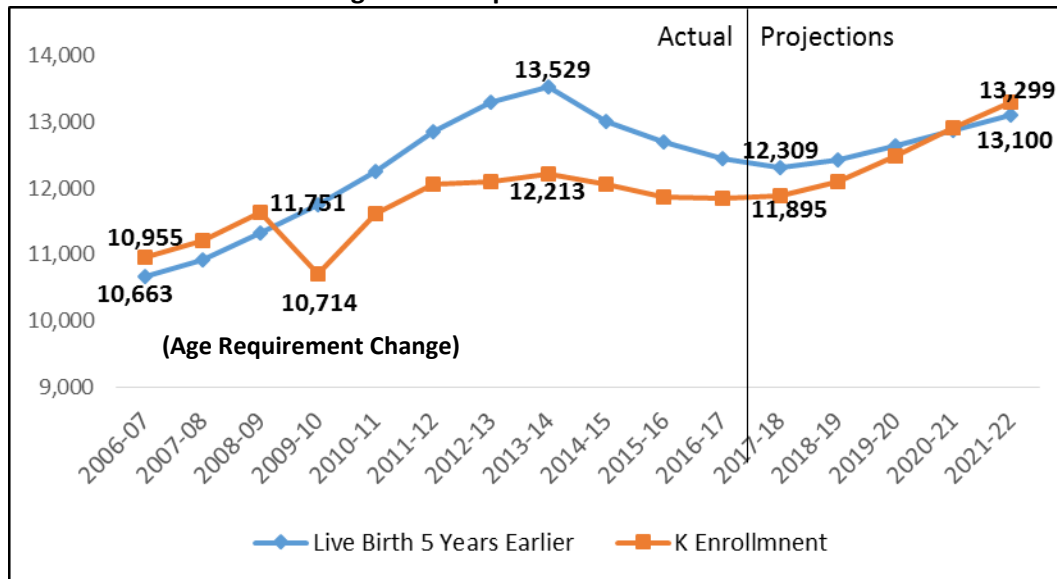
For the current enrollment projection update, staff has paid particular attention to future resident live birth rates (LBR), changing market shares related to charter schools and home schooling, as well as the

continued impact of recent trends in Kindergarten enrollment sizes. The student enrollment projections have been adjusted accordingly.

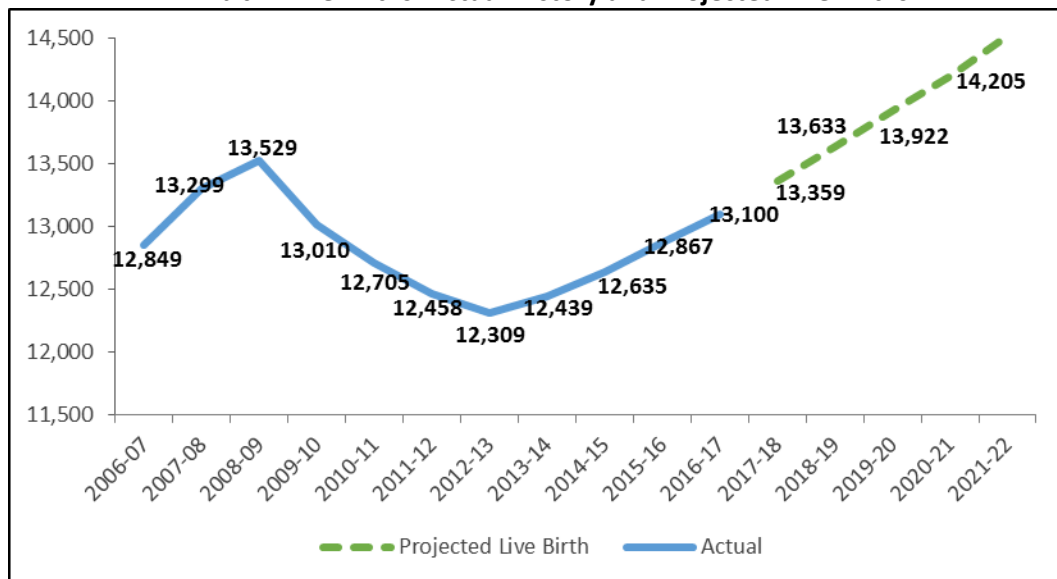
### Population Changes

One indicator factored into the student enrollment model is “Resident Live Births”, which declined between 2009 and 2012, but has seen an upward trend. Staff is using a conservative approach to project future births through 2020 (Exhibit 2). The decreased number of births from 2009 to 2012 continues to impact Kindergarten enrollments and corresponding survival ratios used to predict future grade level enrollment. When developing projections in 2012, it was believed that kindergarten student population was moving away before enrolling in school and not necessarily enrolling in charter school, private school, or home school, as WCPSS’ market share had not decreased. With data reflecting a decrease in WCPSS market share, it suggests that families are taking advantage of growth in other options.

**Exhibit 1: Kindergarten Compared to Live Births Five Years Prior**

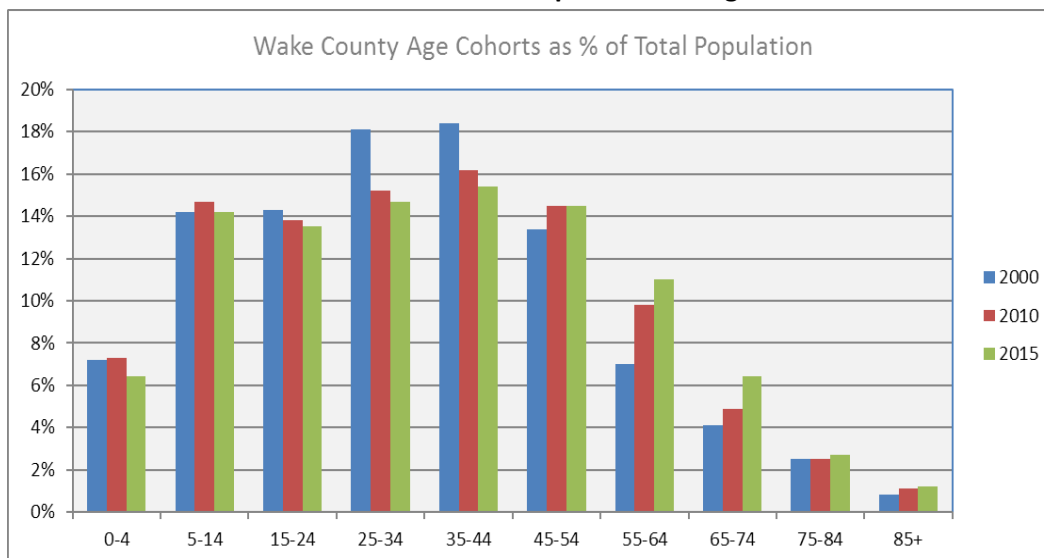


**Exhibit 2: Live Births: Actual History and Projected Live Births**



U.S. Census data indicates the general population of Wake County is aging. Examining the change in distribution of select age cohorts shows an increase in share of total population for ages 45 and over measured between 2010 and 2015. For instance, the population between the ages of 55 and 64 accounted for about 7% of the population in 2010. By 2015, this age group accounted for about 11% of the total population. For comparison, the share of population for ages 5 through 14 has remained about the same at just over 14% over the same time period.

**Exhibit 3: General Population Changes**

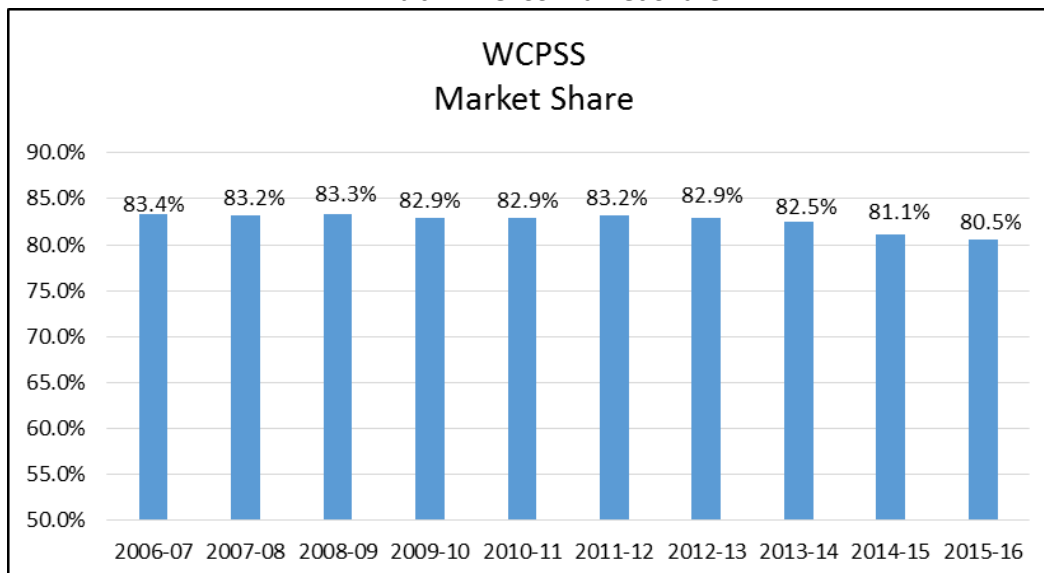


Source: US Census

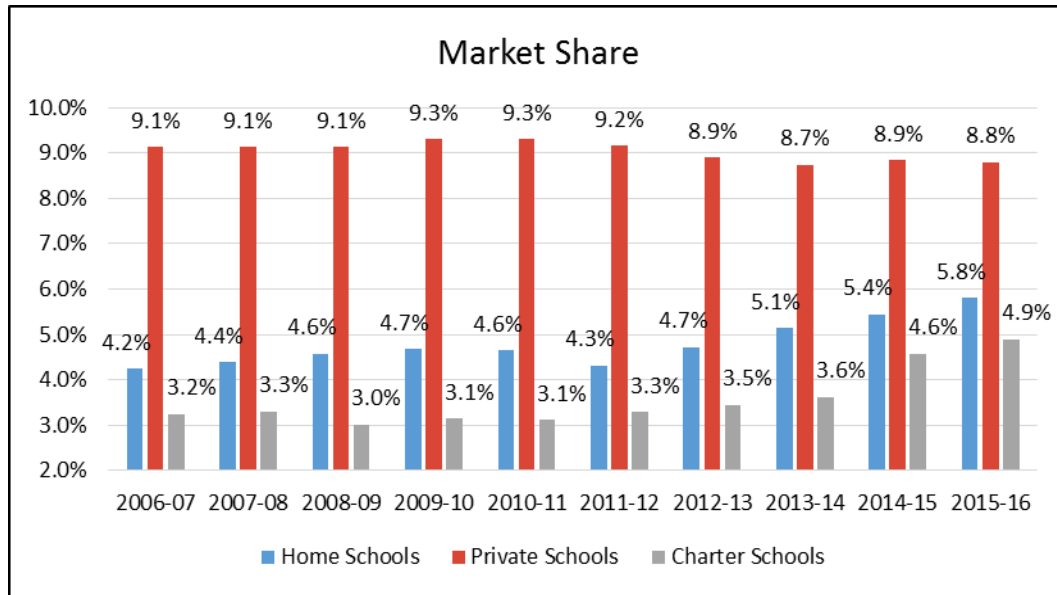
### Market Share

The group collects and analyzes prior year enrollment data for charter, private and home schools, as reported by the State. A review of the market share indicates that WCPSS' market share decreased by 2.4 percentage points between school years 2012-2013 and 2015-2016 (82.9% – 80.5%) (Exhibit 4). This reflects a 7,389 student increase in charter, private and home schooling. Prior to 2012, the WCPSS market share had held at approximately 83 percent since 2005.

**Exhibit 4: WCPSS Market Share**



**Exhibit 5: Other Market Shares**



Note: 2013-14 - 2015-16 data is based on WCPSS Month-2 ADM; years prior are 20<sup>th</sup> day membership  
Private and Home schools data compiled from the North Carolina Division of Non-Public Education website. Data released Spring of current year. Charter schools data from WCPSS Fall billing of charter school students.

In developing our 2017-2018 projections, options were explored to include the impacts of the alternatives to WCPSS. Private school and home schooling are changing in their percentage of the market share, respectively decreasing and increasing; no assumption was incorporated into the projection. Charter schools, are increasing in number of students with the presence of online virtual schools. For school year 2011-2012, the cap for charter schools was lifted and new charters were available to the Wake community. In order to account for the growth in charter schools, the model assumes the loss of approximately 1,000 students, primarily in grades K, 6, and 9, to charter schools. The impact from charter schools will change from year to year as new schools open or close and existing schools expand enrollment capacity. The enrollment group believes charters may explain the lack of growth in Kindergarten cohorts more than initially thought, as the number of charters grow.

#### New Charter Schools

##### Opened in 2014-2015:

- Cardinal Charter
- Dynamic Community Charter (Closed in Summer 2015)
- Envision Science Academy
- Wake Forest Charter Academy

##### Opened in 2015-2016:

- PAVE Charter School
- Two Virtual Charter Schools

##### Opened in 2016-2017:

- Central Wake Charter High School

##### Opening in 2017-2018:

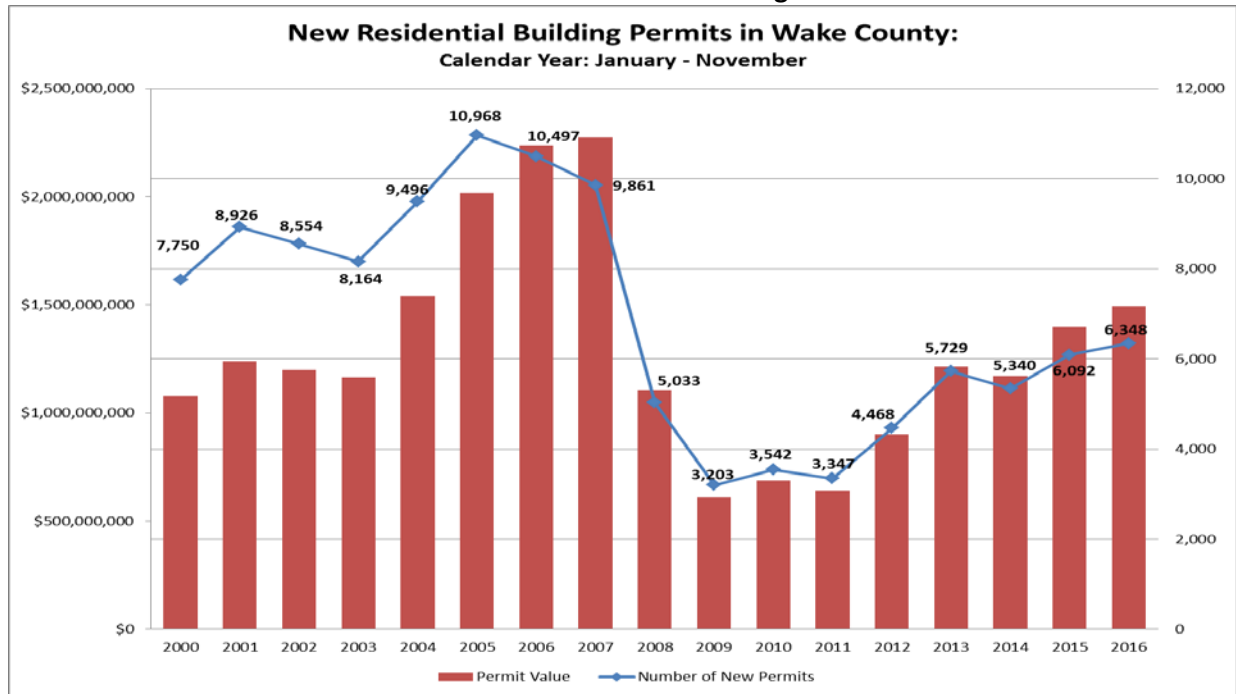
- Two new charter schools are scheduled

## Economic Climate

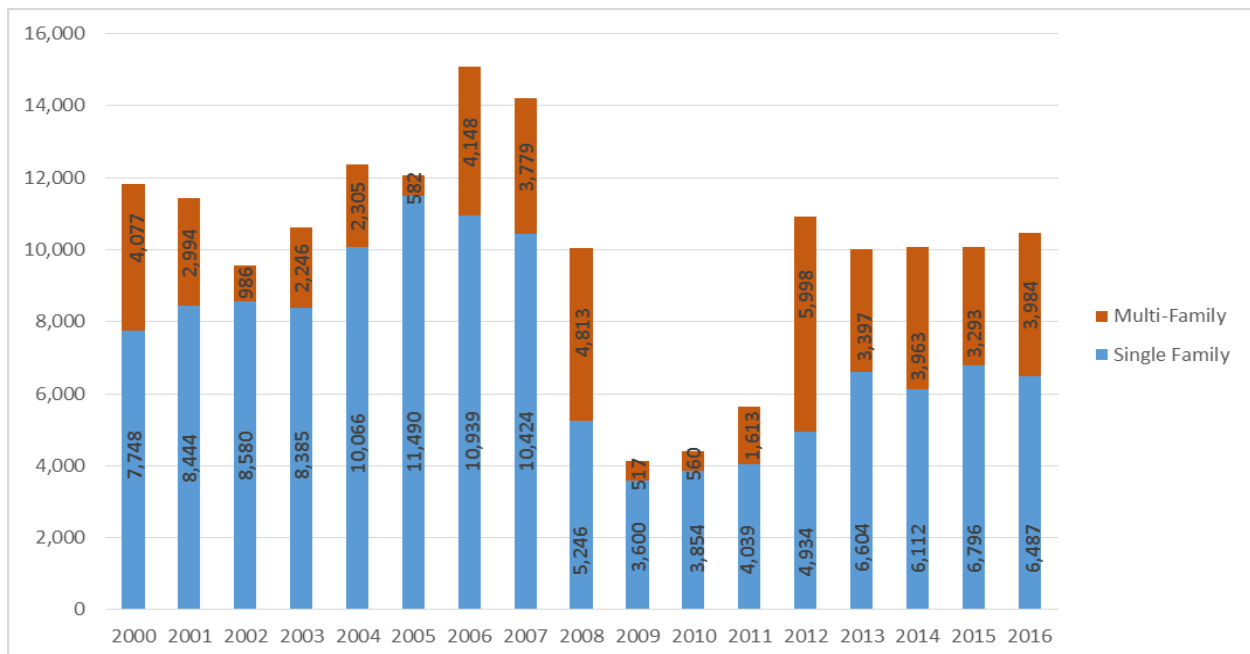
The team has continued to assess economic indicators such as building permits and unemployment rates to aid in the development of long-term student enrollment projections.

New residential building permit data (Exhibits 6 & 7) in Wake County reflects a 4.2 percent increase over the period January-November 2016 over 2015. The value of the new residential permits in January-November 2016 is 6.8 percent greater than the same time period in 2015.

**Exhibit 6: New Residential Building Permits**



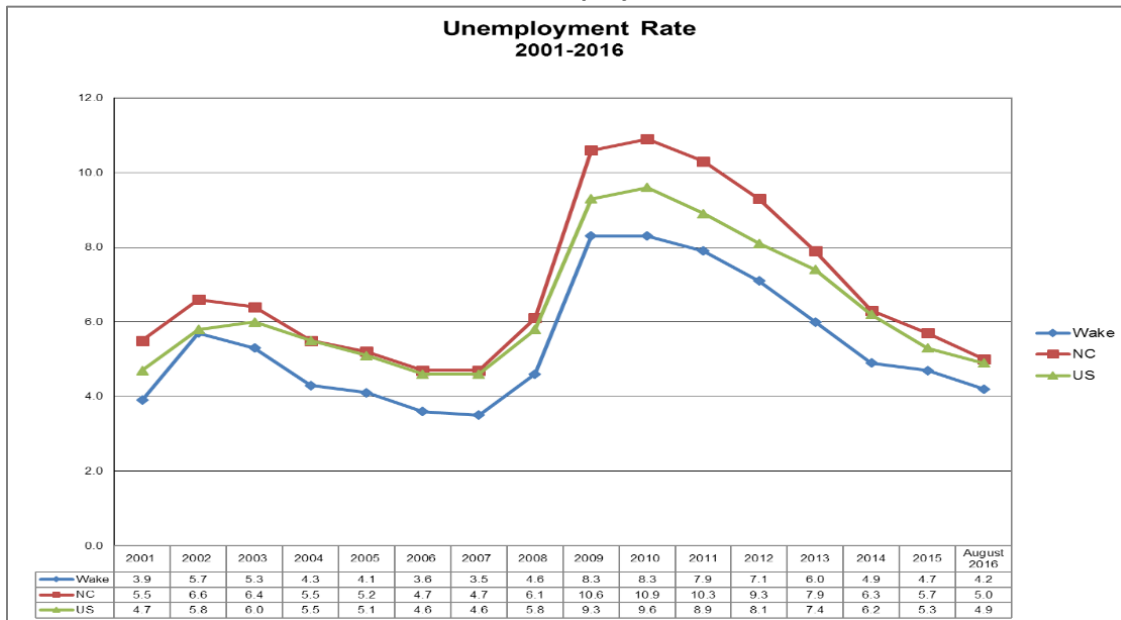
**Exhibit 7: Multi-Family vs. Single Family Building Permits**



## Unemployment

Recent data released by the Employment Security Commission indicates that unemployment in Wake County continues to decline, at one percentage point lower than the state average (Exhibit 8). This economic indicator serves to support a strong economy in Wake which will result in population growth. Current estimates are at 4.2%, the lowest rate since 2007.

**Exhibit 8: Unemployment Rate**

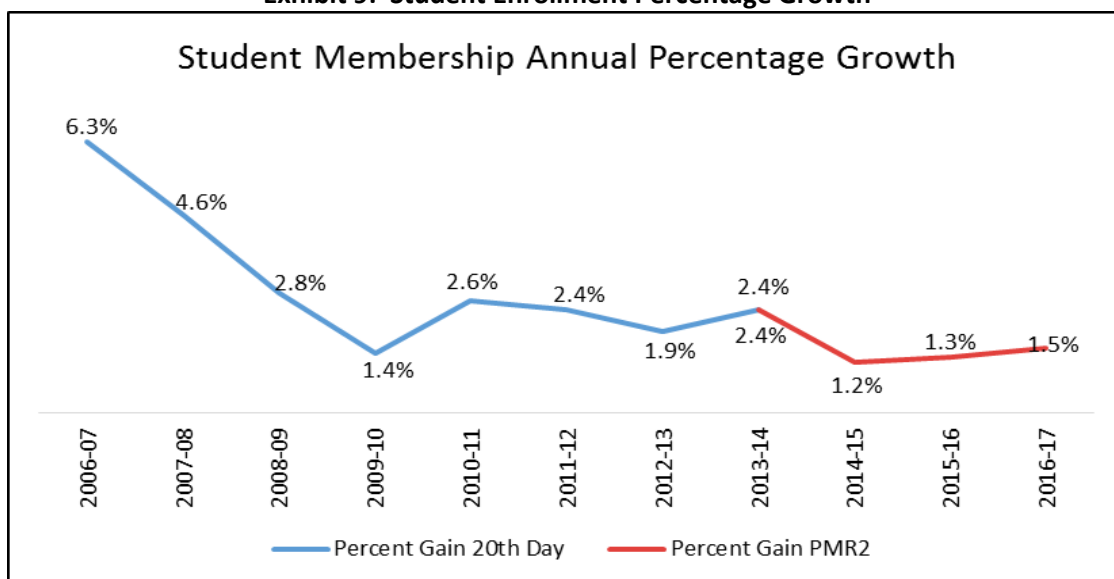


Source: US Dept. of Labor, Bureau of Labor Statistics

## Projections

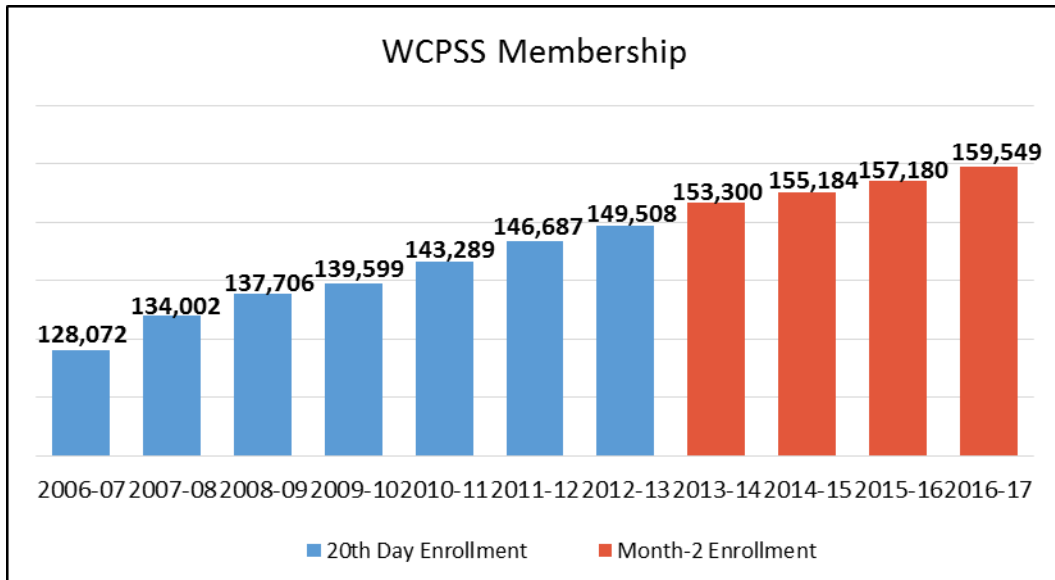
Yearly student enrollment growth, on a percentage basis, is consistent with the last few years at 1.5% (Exhibit 9). At the same time, enrollment is at an all-time high of 159,549 students (Exhibit 10), WCPSS is the largest school district in the State of North Carolina, and the 15<sup>th</sup> largest school district nationwide. Student increases are projected to exceed 2,000 each year.

**Exhibit 9: Student Enrollment Percentage Growth**



Note: In 2013, reported student enrollment changed from 20<sup>th</sup> day to month 2 ADM 2 (40th day), aligning with the base number that the State uses for LEA allotments.

**Exhibit 10: Historical Student Enrollment**



The 2016 student enrollment percentage growth led staff to reexamine the proposed percentage growth for future enrollment. Staff reviewed the decline in resident live births from 2009 to 2012 and the lack of growth in actual kindergarten enrollment from 2010 to 2016 as a percentage of resident live births from five years prior. Even with economic recovery and in-migration, staff has concluded the impact of decline in resident live births and actual kindergarten enrollment will have an impact on projected student enrollment.

Projections continue to reflect an increase in resident live births beginning in 2013 and expect an increase in kindergarten and elementary enrollment to follow. Though the increase in resident live births corresponds to an increase in Kindergartener numbers five years later, this connection is now being impacted by increasing enrollment in non-WCPSS school systems. Staff has revised earlier projections to account for a more realistic annual growth percentage based on a more modest economic recovery and the fact that enrollment growth was less than anticipated.

Enrollment growth is still projected, but is more moderate than previous forecasts. The enrollment projection for next school year is 161,755 students, which is growth of 2,206 students (1.38%) over the 2016-2017 student enrollment (Exhibit 11).

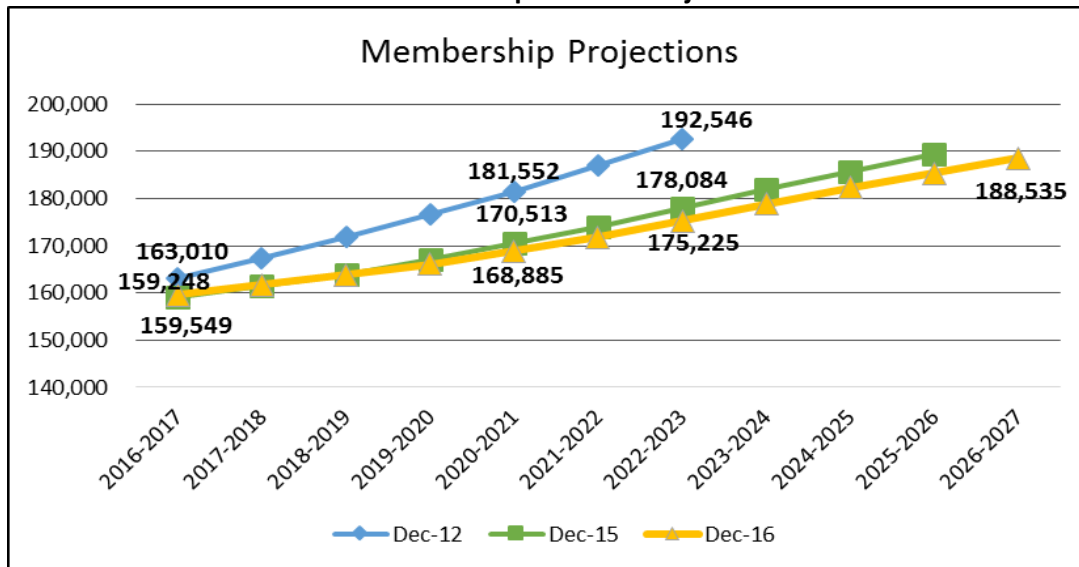
**Exhibit 11: Student Enrollment Projections**

School Year Starting	-1%	Mid-Point	1%	Number of Additional Students	% Growth
2012	148,013	<b>149,508</b>	151,003	2,851	1.96%
2013	151,767	<b>153,300</b>	154,833	3,570	2.38%
2014	153,632	<b>155,184</b>	156,736	1,884	1.23%
2015	155,608	<b>157,180</b>	158,752	1,996	1.29%
2016	157,954	<b>159,549</b>	161,144	2,369	1.51%
2017	160,137	<b>161,755</b>	163,373	2,206	1.38%
2018	162,271	<b>163,910</b>	165,549	2,155	1.33%
2019	164,452	<b>166,113</b>	167,774	2,203	1.34%
2020	167,196	<b>168,885</b>	170,574	2,772	1.67%
2021	170,074	<b>171,792</b>	173,510	2,907	1.72%
2022	173,473	<b>175,225</b>	176,977	3,434	2.00%
2023	177,029	<b>178,817</b>	180,605	3,592	2.05%
2024	180,490	<b>182,313</b>	184,136	3,496	1.96%
2025	183,477	<b>185,330</b>	187,183	3,017	1.65%
2026	186,650	<b>188,535</b>	190,420	3,205	1.73%

Comparison of Projections

The updated enrollment projections are lower than those developed for CIP 2013. December 2012 projections expected WCPSS to achieve 175,000 students by 2018 while the December 2016 projections expect that to happen in 2022. The projections have been updated to account for changes in demographic trends, the impact of increasing market shares, and slow economic recovery.

**Exhibit 12: Comparison of Projections**





## Conclusion

Student enrollment projections for the 2017-2018 school year reflect the comparatively slow enrollment growth experienced in the past year. The building program projections continue to reflect the impact of a recovering economy, the 2009 Kindergarten adjustment, and charter schools.

Highlights of assumptions used in generating the membership forecast:

- 13,100 Resident Live Births (RLB) in Wake County for 2016.
- The current RLB upward trend for Wake County will continue. The average annual RLB growth rate for the 2016 to 2021 period is projected to be 2.07%.
- A conservative increase in net in-migration over the forecast window.
- Charter schools and other non-WCPSS systems will continue to impact membership.

Highlights of results of the 2016-17 membership forecast:

- The forecast for 2017-18 predicts a gain of 2,206 K-12 students totaling 161,755. The corresponding annual growth rate is 1.38%.
- The predicted gain over the next ten years is 28,986 K-12 students with an average annual growth rate of 1.68%.

If you have any questions about the methodology or would like additional information on the projections, we welcome an opportunity to review the attached materials in greater detail.

## **ADDENDUM**

### **Addendum #1**

<b>Charter Schools Impacting WCPSS Membership</b>			
<b>LEA</b>	<b>Charter Name (Open as of 2016-17)</b>	<b>Opened</b>	<b>Grades</b>
92B	Exploris Middle School	30-JUN-97	K-8
92D	Magellan Charter	30-JUN-97	3-8
92E	Sterling Montessori Academy	28-JUN-97	K-8
92F	Franklin Academy	30-JUN-98	K-12
92G	East Wake Academy	30-JUN-98	K-12
92K	Raleigh Charter High School	30-JUN-99	9-12
92L	Torchlight Academy	30-JUN-99	K-6
92M	PreEminent Charter School	30-JUN-00	K-8
92N	Quest Academy	30-JUN-99	K-8
92P	Southern Wake Academy	28-JUN-00	6-12
92Q	Hope Charter Leadership Academy*	30-JUN-01	K-5
92R	Casa Esperanza Montessori	30-JUN-03	K-8
92S	Endeavor Charter	01-JUL-08	K-8
92T	Triangle Math and Science Academy	01-JUL-12	K-12
92U	Longleaf School of the Arts	01-JUL-13	9-12
92V	Wake Forest Charter Academy	01-JUL-14	K-6
92W	Cardinal Charter	01-JUL-14	K-8
92X	Dynamic Community Charter**	01-JUL-14	6-12
92Y	Envision Science Academy	01-JUL-14	K-8
93J	PAVE Southeast Raleigh Charter School	01-JUL-15	K-8
00A	NC Connections Academy***	Fall 2015	K-12
00B	NC Virtual Academy***	Fall 2015	K-12
93L	Central Wake Charter High School	01-JUL-16	9-12

*\*Risk of Closure*

*\*\*State Closed*

*\*\*\* Virtual Schools*

## Addendum #2

### Distribution of Wake County Student Population in Public and Non-Public Systems: Market Share

October 2016

Academic Year	Private Schools	Home Schools	Charter Schools	WCPSS 20th Day	K-12 Totals	Private Schools	Home Schools	Charter Schools	WCPSS	Total
2000-2001	12,006	3,131	2,334	97,691	115,162	10.4%	2.7%	2.0%	84.8%	100%
2001-2002	12,615	4,490	2,964	101,432	121,501	10.4%	3.7%	2.4%	83.5%	100%
2002-2003	13,267	5,042	3,471	104,461	126,241	10.5%	4.0%	2.7%	82.7%	100%
2003-2004	12,951	5,374	3,962	108,969	131,256	9.9%	4.1%	3.0%	83.0%	100%
2004-2005	13,375	5,801	4,531	114,068	137,775	9.7%	4.2%	3.3%	82.8%	100%
2005-2006	13,525	6,361	4,997	120,504	145,387	9.3%	4.4%	3.4%	82.9%	100%
2006-2007	14,021	6,516	4,985	128,072	153,594	9.1%	4.2%	3.2%	83.4%	100%
2007-2008	14,696	7,059	5,319	134,002	161,076	9.1%	4.4%	3.3%	83.2%	100%
2008-2009	15,123	7,571	4,990	137,706	165,390	9.1%	4.6%	3.0%	83.3%	100%
2009-2010	15,689	7,890	5,299	139,599	168,477	9.3%	4.7%	3.1%	82.9%	100%
2010-2011	16,084	8,033	5,398	143,289	172,804	9.3%	4.6%	3.1%	82.9%	100%
2011-2012	16,135	7,600	5,798	146,687	176,220	9.2%	4.3%	3.3%	83.2%	100%
2012-2013	16,048	8,507	6,229	149,508	180,292	8.9%	4.7%	3.5%	82.9%	100%
2013-2014*	16,249	9,559	6,733	153,300	185,841	8.7%	5.1%	3.6%	82.5%	100%
2014-2015*	16,932	10,407	8,755	155,184	191,278	8.9%	5.4%	4.6%	81.1%	100%
2015-2016*	17,240	11,356	9,577	157,180	195,353	8.8%	5.8%	4.9%	80.5%	100%
2016-2017*	Yet to be released		10,739							

#### \*WCPSS PowerSchool 2nd Month ADM

Private and Home schools data compiled from the North Carolina Division of Non-Public Education website. Data released Spring of current school year. Home and Private Schools data collection may not reflect 20th day enrollment. Charter schools data from WCPSS September billing of charter school students.

## Addendum #3

### Market Share Descriptive Statistics

October 2016

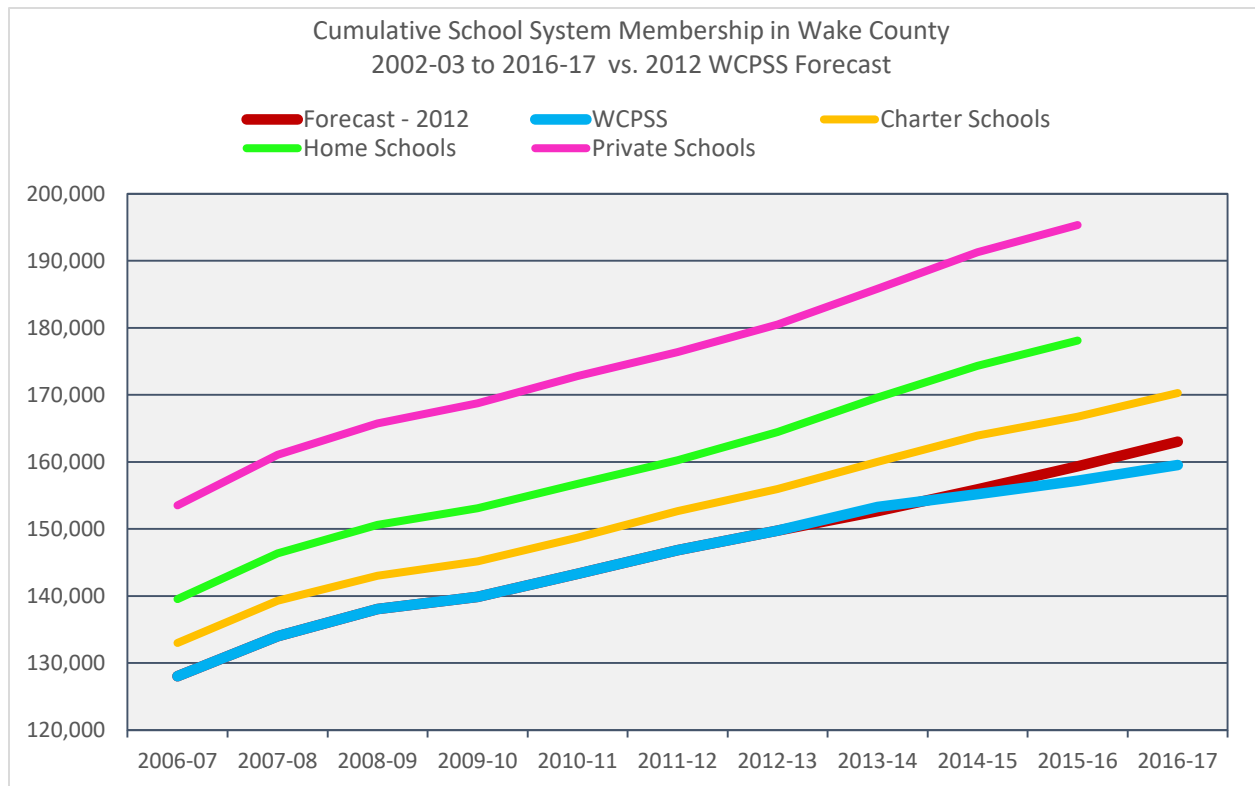
Academic Year	Private Schools			Home Schools			Charter Schools			WCPSS		
	Enrollment	Growth	% Growth	Enrollment	Growth	% Growth	Enrollment	Growth	% Growth	Enrollment	Growth	% Growth
2000-2001	12,006			3,131			2,334			97,691		
2001-2002	12,615	609	5.1%	4,490	1,359	43.4%	2,964	630	27.0%	101,432	3,741	3.8%
2002-2003	13,267	652	5.2%	5,042	552	12.3%	3,471	507	17.1%	104,461	3,029	3.0%
2003-2004	12,951	(316)	-2.4%	5,374	332	6.6%	3,962	491	14.1%	108,969	4,508	4.3%
2004-2005	13,375	424	3.3%	5,801	427	7.9%	4,531	569	14.4%	114,068	5,099	4.7%
2005-2006	13,525	150	1.1%	6,361	560	9.7%	4,997	466	10.3%	120,504	6,436	5.6%
2006-2007	14,021	496	3.7%	6,516	155	2.4%	4,985	(12)	-0.2%	128,072	7,568	6.3%
2007-2008	14,696	675	4.8%	7,059	543	8.3%	5,319	334	6.7%	134,002	5,930	4.6%
2008-2009	15,123	427	2.9%	7,571	512	7.3%	4,990	(329)	-6.2%	137,706	3,704	2.8%
2009-2010	15,689	566	3.7%	7,890	319	4.2%	5,299	309	6.2%	139,599	1,893	1.4%
2010-2011	16,084	395	2.5%	8,033	143	1.8%	5,398	99	1.9%	143,289	3,690	2.6%
2011-2012	16,135	51	0.3%	7,600	(433)	-5.4%	5,798	400	7.4%	146,687	3,398	2.4%
2012-2013	16,048	(87)	-0.5%	8,507	907	11.9%	6,229	431	7.4%	149,508	2,821	1.9%
2013-2014*	16,249	201	1.3%	9,559	1,052	12.4%	6,733	504	8.1%	153,300	3,792	2.5%
2014-2015*	16,932	683	4.2%	10,407	848	8.9%	8,755	2,022	30.0%	155,184	1,884	1.2%
2015-2016*	17,240	308	1.8%	11,356	949	9.1%	9,577	822	9.4%	157,180	1,996	1.3%
2016-17*	Yet to be released			Yet to be released			10,739	1,162	12.1%		(155,184)	-100.0%

#### \*WCPSS PowerSchool 2nd Month ADM

Private and Home schools data compiled from the North Carolina Division of Non-Public Education website. Data released Spring of current school year. Home and Private Schools data collection may not reflect 20th day enrollment. Charter schools data from WCPSS September billing of charter school students.

## Additional Information requested by the WCPSS Board of Education

### Request #1 – Cumulative Membership



## **Request #2 - Wake County Student Charter Enrollment**

<b>Wake County Charter Schools</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Cardinal Charter			629	871	1,027
Casa Esperanza	364	375	421	427	452
Dynamic Community			58	Revoked	
East Wake Academy	793	794	792	808	809
Endeavor	461	460	486	477	469
Envision			225	359	530
Exploris	199	201	393	396	404
Franklin Academy	1,175	1,181	1,184	1,179	1,163
Hope Elementary	114	114	119	121	123
Longleaf		98	199	271	283
Magellan	395	399	401	400	397
PAVE				121	210
PreEminent Charter	582	595	561	620	598
Quest	141	136	143	138	131
Raleigh Charter	516	531	543	544	546
Southern Wake	289	223	274	327	404
Sterling	458	461	465	471	483
Torchlight Academy	408	507	451	518	517
Triangle Math & Science	244	326	428	435	734
Wake Forest			421	482	519
<b>Sub-total Wake County Charter Schools</b>	<b>6,139</b>	<b>6,401</b>	<b>8,193</b>	<b>8,965</b>	<b>9,799</b>

<b>Outside Wake County Charter Schools</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Research Triangle High	83	149	203	318	288
Voyager	23	30	34	33	36
Woods Charter	21	23	25	21	26
Falls Lake		17	20	27	28
Research Triangle Charter	27	26	9	20	20
Youngsville				30	34
NC Virtual Academy				162	187
Kestrel Heights	29	45	41	35	22
Anderson Creek			1	1	
Carter	3	2	2	3	2
Central Park School			1	4	8
Cross Creek	1			1	
Crossnore Academy	2				
Excelsior				5	10
Expedition			2	3	3
Flemington				1	1
Gaston College Prep				2	

## **Request #2 - Wake County Student Charter Enrollment**

<b>Outside Wake County Charter Schools</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>
Global Scholars Academy	1	2		1	1
Grandfather Academy	2	3	2	2	
Hawbridge	1	1	1		2
Healthy Start				2	2
Institute Development Young Leaders		3		3	1
Maureen Joy Charter	4	4	2	3	2
Neuse	17	10	4	8	12
Orange Charter School		0	1	2	
Oxford				2	2
PACE Academy	4	13	3	Revoked	
Phoenix			1		
Reaching All Minds			2	1	
River Mill		1	1		
Rocky Mount Preparatory		1	1		
Sallie B Howard	3			3	3
Vance			1	1	2
Washington			1		
Williams formerly Crossnore Academy					1
Willow Oak		1	4	2	2
<b>Sub-total Outside Wake County Charter Schools</b>	<b>221</b>	<b>331</b>	<b>362</b>	<b>696</b>	<b>695</b>
<b>TOTAL</b>	<b>6,360</b>	<b>6,732</b>	<b>8,555</b>	<b>9,661</b>	<b>10,494</b>
<b>Cumulative Growth since 2012</b>		<b>372</b>	<b>2,195</b>	<b>3,301</b>	<b>4,134</b>
Budget Report per WCPSS September Billings	<b>6,229</b>	<b>6,733</b>	<b>8,755</b>	<b>9,577</b>	<b>10,739</b>
Difference	-131	1	200	-84	245

**Request #3 – Population in Wake Compared to US**

Wake County Age (in Years) Groupings Percent of Total of Population										
Year	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
2000	7%	14%	14%	18%	18%	13%	7%	4%	3%	1%
2010	7%	15%	14%	15%	16%	15%	10%	5%	3%	1%
2015	6%	14%	14%	15%	15%	15%	11%	6%	3%	1%
United States Age Groupings Percent of Total of Population										
Year	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
2000	7%	15%	14%	14%	16%	13%	9%	7%	4%	2%
2010	7%	13%	14%	13%	13%	15%	12%	7%	4%	2%
2015	6%	13%	14%	14%	13%	13%	13%	9%	4%	2%

Rounded percentages may not total 100%.

**Wake Comparison to United States**

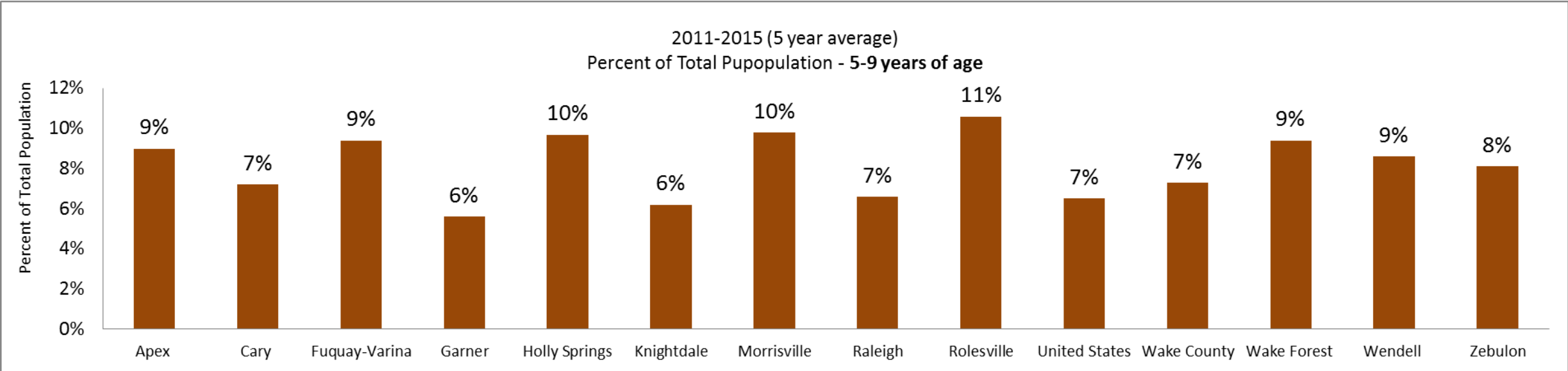
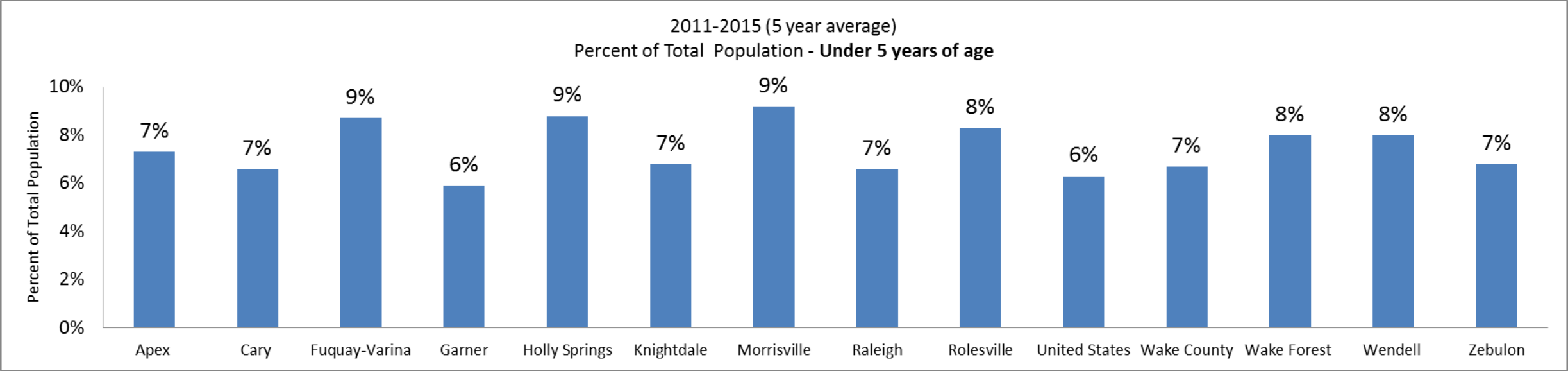
In 2015 Wake County was relatively younger than the country as a whole.

The greater variation occurred among working age adults 25-54 years old, especially between ages 35-54. Wake County was 2 percentage points higher in 35-44 and 45-54 years old age groups than the nation.

Like Wake during the last 15 years, nationally seniors ages 55-64 recorded the highest increase (4 percentage points) in the percent of total population.

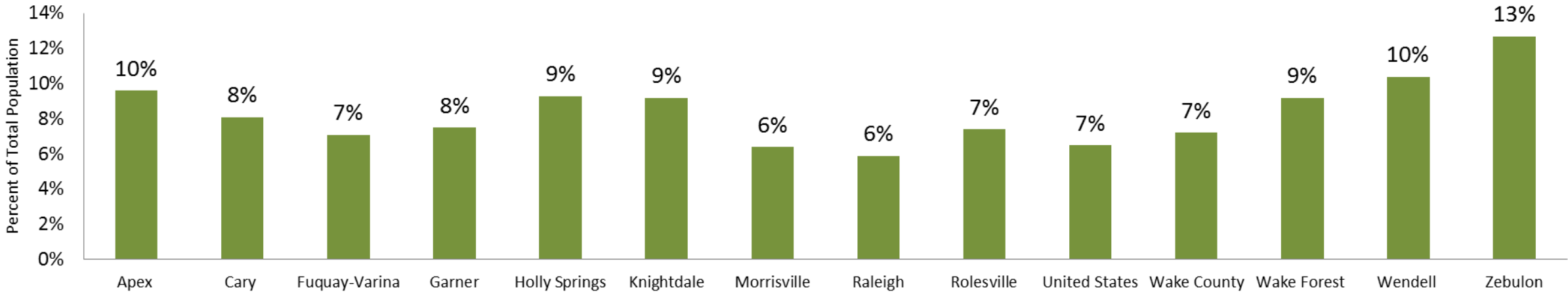
**Request #4 - 2011-2015 Youth - Percent of Total Population by Municipality**

The Census Bureau released 2011-2015 Population Estimates later in December 2016. Here’s an update on percent of total population for youth in Wake Municipalities, Wake County and the United States.





2011-2015 (5 year average)  
Percent of Total Population - 10-14 years of age



2011-2015 (5 year average)  
Percent of Total Population - 15-17 years of age

