

# **ORANGE COUNTY, NC SCHOOLS ADEQUATE PUBLIC FACILITIES ORDINANCE**

**PREPARED BY A STAFF COMMITTEE: PLANNING DIRECTORS,  
SCHOOL REPRESENTATIVES, TECHNICAL ADVISORY COMMITTEE  
(SAPFOTAC)**

**(PURSUANT TO PROVISIONS OF A MEMORANDUM OF  
UNDERSTANDING ADOPTED IN 2002 & 2003)  
(ORDINANCES ADOPTED IN JULY 2003)**

## **Annual Report 2020**

**(BASED ON NOVEMBER 2019 DATA)**

**CERTIFIED BY THE BOCC ON MAY X, 2020**

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## 2020 SAPFOTAC Executive Summary

### I. Base Memorandum of Understanding

#### A. Level of Service .....(No Change).....Pg. 1

	<i>Chapel Hill/Carrboro School District</i>	<i>Orange County School District</i>
<i>Elementary</i>	105%	105%
<i>Middle</i>	107%	107%
<i>High</i>	110%	110%

#### B. Building Capacity and Membership .....(Change).....Pg. 2

	<i>Chapel Hill/Carrboro School District</i>			<i>Orange County School District</i>		
	Capacity	Membership	Increase from Prior Year	Capacity	Membership	Increase from Prior Year
<i>Elementary</i>	5664	5363	(108)	3361	3232	27
<i>Middle</i>	2944	3044	111	2166	1763	(16)
<i>High</i>	3875	3940	8	2439	2397	48

#### C. Membership Date – November 15.....(No Change).....Pg.17

### II. Annual Update to SAPFO System

#### A. Capital Investment Plan (CIP) .....(No Change).....Pg. 18

#### B. Student Membership Projection Methodology .....(No Change).....Pg. 19 The average of 3, 5, and 10 year history/cohort survival, linear and arithmetic projection models.

#### C. Student Membership Projections .....(Change).....Pg. 29

#### Analysis of 5 Years of Projections for 2019-2020 School Year – Chapel Hill/Carrboro City Schools

(The first column for each year includes the student membership projection made for 2019-2020 in that given year. The second column for each year includes the number of students the projection was off compared to actual membership. An “L” indicates the projection was low compared to the actual, whereas an “H” indicates the projection was high compared to the actual.)

		Year Projection Made for 2019-2020 Membership									
	Actual 2019 Membership	2014-2015		2015-2016		2016-2017		2017-2018		2018-2019	
<b>Elementary</b>	5363	5839	H476	5634	H271	5658	H295	5467	H104	5448	H85
<b>Middle</b>	3044	3058	H14	2995	L49	2977	L67	2936	L108	2962	L82
<b>High</b>	3940	3979	H39	3857	L83	3864	L76	3930	L10	3948	H8

### Analysis of 5 Years of Projections for 2019-2020 School Year – Orange County Schools

(The first column for each year includes the student membership projection made for 2019-2020 in that given year. The second column for each year includes the number of students the projection was off compared to actual membership. An “L” indicates the projection was low compared to the actual, whereas an “H” indicates the projection was high compared to the actual.)

		Year Projection Made for 2019-2020 Membership									
	Actual 2019 Membership	2014-2015		2015-2016		2016-2017		2017-2018		2019-2020	
Elementary	3232	3227	L5	3332	H100	3230	L2	3154	L78	3213	L19
Middle	1763	1848	H85	1846	H83	1824	H61	1794	H31	1790	H27
High	2397	2579	H182	2559	H162	2474	H77	2416	H19	2348	L49

#### D. Student Membership Growth Rate .....(Change).....Pg. 38

Projected Average Annual Growth Rate Over Next 10 Years										
Year Projection Made:	Chapel Hill/Carrboro School District					Orange County School District				
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Elementary	0.92%	0.91%	0.36%	0.56%	0.65%	0.80%	0.51%	0.58%	0.91%	0.84%
Middle	0.82%	0.95%	0.21%	0.19%	-0.07%	0.67%	0.36%	0.13%	0.28%	0.37%
High	0.93%	0.72%	0%	0.16%	0.03%	0.56%	0.22%	-0.10%	0.21%	0.21%

#### E. Student / Housing Generation Rate .....(No Change).....Pg. 41

## SCHOOL ADEQUATE PUBLIC FACILITIES ORDINANCE STATUS

(based on future year Student Membership Projections)

### CHAPEL HILL/CARRBORO SCHOOL DISTRICT

#### Elementary School Level

- A. Does not currently exceed 105% LOS standard (current LOS is 94.7%).
- B. The projected growth rate at this level is expected to increase and remain positive over the next 10 years (average ~0.65% per year compared to 0.33% over the past 10 years).
- C. Similar to last year, projections are not showing a need for an additional Elementary School in the 10-year projection period.

#### Middle School Level

- A. Does not currently exceed 107% LOS standard (current LOS is 103.4%).
- B. The projected growth rate at this level is expected to decrease over the next 10 years (average ~-0.07% compared to an average of 0.85% over the past 10 years).
- C. Similar to last year, projections are not showing a need for an additional Middle School in the 10-year projection period.

#### High School Level

- A. Does not currently exceed the 110% LOS standard (current LOS is 101.7%).
- B. The projected growth rate at this level is expected to decrease over the next 10 years (average ~0.03% compared to 0.82% over the past 10 years).



- C. Similar to last year, projections are not showing a need to expand Carrboro High School from the initial capacity of 800 students to the ultimate capacity of 1,200 students in the 10-year projection period.

### **ORANGE COUNTY SCHOOL DISTRICT**

#### **Elementary School Level**

- A. Does not currently exceed 105% LOS standard (current LOS is 96.2%).
- B. The projected growth rate at this level is expected to increase and remain positive over the next 10 years (average ~0.84% compared to 0.15% over the past 10 years).
- C. Similar to last year, projections are not showing a need for an additional Elementary School in the 10-year projection period.

#### **Middle School Level**

- A. Does not currently exceed 107% LOS standard (current LOS is 81.4%).
- B. The projected growth rate at this level is expected to decrease, but remain positive over the next 10 years (average ~0.37% compared to 1.08% over the past 10 years).
- C. Similar to last year, projections are not showing a need for an additional Middle School in the 10-year projection period.

#### **High School Level**

- A. Does not currently exceed 110% LOS standard (current LOS is 98.3%).
- B. The projected growth rate at this level is expected to decrease, but remain positive over the next 10 years (average ~ 0.21% compared to 0.5% over the past 10 years).
- C. Similar to last year, projections are not showing a need to expand Cedar Ridge High School from the initial capacity of 1,000 students to 1,500 students in the 10-year projection period.

### **ADDITIONAL INFORMATION**

The Schools Adequate Public Facilities Ordinance (SAPFO) student projections illustrate when the adopted level of service capacities are forecasted to be met and/or exceeded in anticipation of CIP planning and the construction of a new school. Both school districts continue planning efforts to renovate and expand existing facilities to address school capacity needs in a more feasible way. Additional capacity resulting from school renovations and expansions will be added to the projection models in stages, once funding is approved, versus the addition of greater capacity when a new school is constructed and completed. The renovation and expansion to existing facilities may delay construction of new schools further into the future. This process will pose some challenges to SAPFO compared to the existing process which indicates in advance when a completely new school is needed. Decisions on the timing of reconstruction (i.e. capacity additions) funding would be directly linked to the SAPFO model at the appropriate time.

SAPFO student projections for this year are not showing a need for new school construction or expansion in the 10-year projection period for both school districts due to slowing student growth rates. However, planned residential development in the near future may increase student membership and accelerate school construction and expansion needs into the 10-year projection period. Although capacity and construction needs are not identified this year, both school districts face a large backlog of school capital maintenance and renovation projects that need to

be addressed. Given that student projections are not showing an immediate need for school construction in the 10-year period, this may provide the time for both school districts to commence and/or complete these projects in order to address ongoing needs.

### Changes in Average Class Size

In 2018, the North Carolina General Assembly unveiled House Bill 90 which allows for a phasing-in process to address the decrease in class size averages over the next three school years. Based on House Bill 90, average class sizes for kindergarten to third grade will face a decrease from 1:20 to 1:19 for the 2019-2020 school year, 1:19 to 1:18 for the 2020-2021 school year, and 1:18 to 1:17 for the 2021-2022 school year. Reductions in class size averages may create elementary school capacity issues for the 2021-2022 school year. In order to address these impacts in time, the Schools Joint Action Committee (SJAC) continues to review elementary school capacity (including Pre-K impacts) and determine how to implement the school capacity changes into the SAPFO annual report and 10-year student membership and building capacity projections sheets. **This section will be updated following the School and BOCC meetings in February.**

### Charter and Private Schools

Currently, there are two Charter Schools located in the Town of Hillsborough. Charter student membership for these two schools is as follows:

	Eno River Academy	The Expedition School
School Year	Number of Students	Number of Students
2017-18	542	326
2018-19	655 (+113)	355 (+29)
2019-20	xxx	365 (+10)

Charter and private schools are not included as part of the SAPFO Annual Report and, as a result, their membership and capacity numbers are not monitored or included in future projections. SAPFO projections are used for projecting only public school construction needs. However, the SAPFO Technical Advisory Committee does monitor charter and private schools and their effect on student enrollment in both school districts. If a charter or private school were to close and a spike were to be realized in school enrollment, the student projections would likely accelerate the need for additional capacity in future years, but likely still within an appropriate time for CIP planning. Charter Schools are also monitored by the Department of Public Institution (DPI) which provides pupil information, based on data received from Charter Schools located in Orange County, to the County for funding purposes. The County budgeted for charter schools as follows:

	Chapel Hill-Carrboro City Schools	Orange County Schools
Fiscal Year	Number of Students	Number of Students
2017-18	162	617
2018-19	155 (-7)	769 (+152)
2019-20	169 (+14)	843 (+74)

Although charter and private schools numbers are not collected for SAPFO purposes, impacts due to enrollment at these schools are accounted for in SAPFO process with the annual reporting of student membership and growth rates contained in the 10-year student projections.

### **Future Residential Development**

Following the economic downturn, there has been an increase in approved and undeveloped residential projects in Orange County. Currently, there are over four thousand proposed single family and multifamily housing units approved, but undeveloped in the CHCCS district. In addition, there are over a thousand proposed residential units approved, but undeveloped in the OCS district. Proposed growth is not included in the SAPFO projection system until actual students begin enrollment. The Certificate of Adequate Public Schools (CAPS) test is conducted during the approval process at a certain stage. Once students are enrolled in a school year, through annual reporting of student membership numbers, 10-year student projections can be updated to display future capacity needs in time to efficiently plan for future school construction requests. Staff and the SAPFO Technical Advisory Committee continue to monitor and evaluate the demand and growth of residential development throughout Orange County as well as its effect on student membership rates.

Below is a list of larger residential projects and the potential number of students from these projects which may have impact to the schools in the short term. Please note, a CAPS has not been issued for any of the proposed projects in the City of Mebane.. The City of Mebane is not a party to the SAPFO agreement and therefore does not require that CAPS (Certificate of Adequate Public Schools) be issued prior to development approvals. As a result, the potential number of students is based on unit type and bedroom count estimates.

<b>Residential Project</b>	<b>Jurisdiction</b>	<b>Proposed Total Units</b>	<b>Potential Number of Students</b>
<b>Collins Ridge Phase 1</b>	Hillsborough	672	Elementary: 84 Middle: 45 High: 57
<b>Forest Ridge</b>	Hillsborough	233	Elementary: 36 Middle: 19 High: 26
<b>Weaver Grove</b>	Chapel Hill	235	Elementary: Middle: High:
<b>Carraway Village</b>	Chapel Hill	400	Elementary: 28 Middle: 10 High: 14
<b>The Meadows</b>	Mebane	256	Elementary: 60 Middle: 31 High: 34
<b>Stagecoach Corner</b>	Mebane	35	Elementary: 9 Middle: 5 High: 6
<b>Bowman Village/ Bowman Place</b>	Mebane	177	Elementary: 48 Middle: 23 High: 30

<b>Residential Project</b>	<b>Jurisdiction</b>	<b>Proposed Total Units</b>	<b>Potential Number of Students</b>
<b>The Townes of Oakwood Square</b>	Mebane	88	Elementary: 5 Middle: 4 High: 5
<b>Northeast Village (Havenstone Phase 1 &amp; 2)</b>	Mebane	169	Elementary: 46 Middle: 22 High: 29
<b>The Retreat at Lake Michael</b>	Mebane	43	Elementary: 12 Middle: 6 High: 7

## **Orange County, NC School Adequate Public Facilities Ordinance**

### **Introduction**

The Schools Adequate Public Facilities Ordinance (SAPFO) and its Memorandum of Understanding are ordinances and agreements, respectively. Supporting documents are anticipated to be dynamic to incorporate the annual changing conditions of membership, capacity and student projections that may affect School Capital Investment Plan (CIP) timing. This formal annual report will be forthcoming to all of the Schools Adequate Public Facilities Ordinance partners each year as new information is available.

This updated information is used in the schools capital needs process of the Capital Investment Plan (Process 1) and within elements of the Schools Adequate Public Facilities Ordinance Certificate of Adequate Public Schools (CAPS) spreadsheet system (Process 2).

This report and any comments from the Schools Adequate Public Facilities Ordinance partners will be considered in the first half of each year by the Board of County Commissioners at a regular or special meeting. The various elements of the report are then “certified” and formally considered in the process of the upcoming Capital Investment Plan. The Certificate of Adequate Public Schools system is updated after November 15 when data is received from the school districts with actual membership and pre-certified capacity (i.e. CIP capacity or prior “joint action” capacity changes).

The Schools Adequate Public Facilities Ordinance and Memorandum of Understanding have dynamic aspects. The derivation of the baseline and update to the variables will continue in the future as a variety of school related issues are fine-tuned by technical and policy groups.

The primary facet of this report includes the creation of mathematical projections for student memberships by school levels (Elementary, Middle and High) and by School Districts (Chapel Hill/Carrboro and Orange County). This information is found in Section II, Subsections B, C, D, and E.

In summary, this report serves as an update to the dynamic conditions of student membership and school capacity which affect future projected needs considered in Capital Investment Planning.

Interested parties may make their comments known to the Board of County Commissioners prior to their review of the report and school CIP completion or ask questions of the SAPFOTAC members.

**Schools Adequate Public Facilities Ordinance Partners**

**ANNUAL REPORT AS OUTLINED IN**

**Schools Adequate Public Facilities Ordinance Memorandum**

**of Understanding (SAPFO MOU)**

**SECTION 1d**

**RESPECTFULLY SUBMITTED**

**TO SCHOOLS ADEQUATE PUBLIC FACILITIES**

**ORDINANCE PARTNERS**

<b>Chapel Hill/Carrboro School District SAPFO</b>	<b>Orange County School District SAPFO</b>
Board of County Commissioners	Board of County Commissioners
Carrboro Board of Aldermen	Hillsborough Board of Commissioners
Chapel Hill Town Council	
Chapel Hill/Carrboro School Board	Orange County School Board

**Planning Directors/School Representatives**  
**Technical Advisory Committee**  
**(aka SAPFOTAC)**

**Town of Carrboro**  
**Trish McGuire, Planning Director**  
**301 West Main Street**  
**Carrboro, NC 27510**

**Town of Chapel Hill**  
**Judy Johnson, Interim Planning and Development Services Director**  
**405 Martin Luther King, Jr. Blvd.**  
**Chapel Hill, North Carolina 27514**

**Town of Hillsborough**  
**Margaret Hauth, Planning Director**  
**P.O. Box 429**  
**Hillsborough, NC 27278**

**Orange County Planning Department**  
**Craig Benedict, Planning Director**  
**Ashley Moncado, Special Projects Planner**  
**Gary Donaldson, Director of Finance and Administrative Services**  
**131 W. Margaret Lane**  
**P.O. Box 8181**  
**Hillsborough, NC 27278**

**Orange County School District**  
**Monique Felder, Superintendent**  
**200 E. King Street**  
**Hillsborough, NC 27278**

**Chapel Hill-Carrboro School District**  
**Patrick Abele, Assistant Superintendent for Support Services**  
**Catherine Mau, Coordinator of Student Enrollment**  
**750 Merritt Mill Road**  
**Chapel Hill, NC 2751**

## I. Base Memorandum of Understanding

### A. Level of Service

1. ***Responsible Entity for Suggesting Change*** – Change can only be effectuated by amendment to Memorandum of Understanding (MOU) by all SAPFO partners.
2. ***Definition*** – Level of Service (LOS) means the amount (level) of students that can be accommodated (serviced) at a certain school system grade group [i.e., Elementary level (K-5), Middle Level (6-8), High School Level (9-12)].

3. ***Standard for:***

Chapel Hill/Carrboro School District			Orange County School District		
Elementary	Middle	High School	Elementary	Middle	High School
105%	107%	110%	105%	107%	110%

***Standard for:***

4. ***Analysis of Existing Conditions:***

**Chapel Hill/Carrboro School District**

These standards are acceptable at this time.

***Analysis of Existing Conditions:***

**Orange County School District**

These standards are acceptable at this time.

5. ***Recommendation:***

**Chapel Hill/Carrboro School District**

No change from above standard.

***Recommendation:***

**Orange County School District**

No change from above standard.



## B. Building Capacity and Membership

1. ***Responsible Entity for Suggesting Change*** – The Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) will receive requested changes that are CIP related and adopted in the prior year. CIP capacity changes will be updated along with actual membership received in November of each year. Other changes will be sent to a ‘Joint Action Committee’ of the BOCC and Board of Education, as noted in the MOU, who will make recommendations and forward changes (on the specific forms with justification) to the full Board of County Commissioners for review and action. These non-CIP changes would be updated in the upcoming November CAPS system recalibration and included in the SAPFOTAC report.
2. ***Definition*** – “For purposes of this Memorandum, "building capacity" will be determined by reference to State guidelines and the School District guidelines (consistent with CIP School Construction Guidelines/policies developed by the School District and the Board of County Commissioners) and will be determined by a joint action of the School Board and the Orange County Board of Commissioners. As used herein the term "building capacity" refers to permanent buildings. Mobile classrooms and other temporary student accommodating classroom spaces are not permanent buildings and may not be counted in determining the school districts building capacity.”

### 3. ***Standard for:***

#### **Chapel Hill/Carrboro School District**

The original certified capacity for each of the schools was certified by the respective superintendent and incorporated in the initialization of the CAPS system (Chapel Hill Carrboro School District April 29, 2002 - Base) Capacity changes were made each year as follows:

**2003:** Increase of 619 at Rashkis Elementary.  
**2004:** No changes at Elementary, Middle, or High School levels.

### ***Standard for:***

#### **Orange County School District**

The original certified capacity for each of the schools was certified by the respective superintendent and incorporated in the initialization of the CAPS system (Orange County School District April 30, 2002 - Base) Capacity changes were made each year as follows:

**2003:** No net increase in capacity at Elementary level. No changes at Middle School level.  
 Increase of 1,000 at Cedar Ridge High School.

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**2005:** No changes at Elementary, Middle, or High School levels.

**2006:** No changes at Elementary, Middle, or High School levels.

**2007:** An increase of 800 at the High School level with the opening of Carrboro High School.

**2008:** An increase of 323 at the Elementary School level due to the opening of Morris Grove Elementary School and the implementation of the 1:21 class size ratio in grades K-3

**2009:** No changes at Elementary, Middle, or High School levels.

**2010:** An increase in capacity of 40 students at the High School level with Phoenix Academy High School becoming official high school within the district

**2011:** No changes at Elementary, Middle, or High School levels.

**2012:** No changes at Elementary, Middle, or High School levels.

**2013:** An increase in capacity of 585 students due to the opening of Northside Elementary School.

**2014:** An increase in capacity of 104 students due to the opening of the Culbreth Middle School addition.

**2015:** No changes at Elementary, Middle, or High School levels.

**2016:** No changes at Elementary, Middle, or High School levels.

**2004:** No net increase in capacity at Elementary level. No changes at Middle or High School levels.

**2005:** An increase in capacity of 100 at Hillsborough Elementary with the completion of renovations.

**2006:** An increase in capacity of 700 at the Middle School level with the completion of Gravelly Hill Middle School and an increase of 15 at the High School level with the temporary location of Partnership Academy Alternative School. An increase of 2 at the Elementary level due to a change in the capacity calculation for each grade at each school.

**2007:** No changes at Elementary, Middle, or High School levels.

**2008:** A decrease of 228 at the Elementary School level due to the implementation of the 1:21 class size ratio in grades K-3 and an increase of 25 at the High School level with the completion of the new Partnership Academy Alternative School.

**2009:** No changes at Elementary, Middle, or High School levels.

**2010:** No changes at Elementary, Middle, or High School levels.

**2011:** No changes at Elementary, Middle, or High School levels.

**2012:** No changes at Elementary or Middle School levels. A decrease of 119 at High School

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**2017:** A decrease in capacity of 165 students due to the implementation of the 1:20 class size ratio in grades K-3.

**2018:** No changes at Elementary, Middle or High School levels.

**2019:** No changes at Elementary, Middle, or High School levels.

level as a result of a N.C. Department of Public Instruction (DPI) study.

**2013:** No changes at Elementary, Middle, or High School levels.

**2014:** No changes at Elementary, Middle, or High School levels.

**2015:** No changes at Elementary, Middle, or High School levels.

**2016:** No changes at Elementary, Middle, or High School levels.

**2017:** A decrease in capacity of 333 students due to the implementation of the 1:20 class size ratio in grades K-3.

**2018:** No changes at Elementary, Middle, or High School levels.

**2019:** No changes at Elementary, Middle, or High School levels.

#### ***4. Analysis of Existing Conditions:***

##### **Chapel Hill/Carrboro School District**

The Schools Facilities Task Force developed a system to calculate capacity. Any changes year to year will be monitored, reviewed, and recorded by the SAPFOTAC on approved forms distributed to SAPFO partners and certified upon approval by the Board of County Commissioners each year.

The requested 2019-20 capacity is noted on Attachment I.B.4

#### ***5. Recommendation:***

#### ***Analysis of Existing Conditions:***

##### **Orange County School District**

The Schools Facilities Task Force developed a system to calculate capacity. Any changes year to year will be monitored, reviewed, and recorded by the SAPFOTAC on approved forms distributed to SAPFO partners and certified upon approval by the Board of County Commissioners each year.

The requested 2019-20 capacity is noted on Attachment I.B.3

#### ***Recommendation:***

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**Chapel Hill/Carrboro School District**

Accept school capacities at all levels, as reported by CHCCS and shown in Attachment I.B.4.

**Orange County School District**

Accept school capacities at all levels, as reported by OCS and shown in Attachment I.B.3.

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**Attachment I.B.1 Orange County School Capacity (Elementary, Middle, & High)**  
 (2018-19)  
 (Page 1 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Orange County Schools

**SAPFO CAPS Year:** November 15, 2018 - November 14, 2019

**Capacity and Membership Submittal Date:** November 15, 2018

Elementary School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership
Cameron Park	70,812	565	565	565	502	502		597
Central	52,492	455	455	455	428	428		267
Efland Cheeks	64,316	497	497	497	455	455		467
Grady Brown	74,016	544	544	544	490	490		462
Hillsborough	51,106	471	471	471	420	420		435
New Hope	100,164	586	586	586	526	526		589
Pathways	85,282	576	576	576	540	540		388
<b>Total</b>	<b>498,188</b>	<b>3,694</b>	<b>3,694</b>	<b>3,694</b>	<b>3,361</b>	<b>3,361</b>		<b>3,205</b>


**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.


**Justification:**


**Capacity Certification:**

 11-16-18  
 Superintendent Date

**Membership Certification:**

 11-16-18  
 Superintendent Date

 12/18/18  
 BOCC Chair Date

 12/18/18  
 BOCC Chair Date

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**Attachment I.B.1 Orange County School Capacity (Elementary, Middle, & High)**  
 (2018-19)  
 (Page 2 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Orange County Schools

**SAPFO CAPS Year:** November 15, 2018 - November 14, 2019

**Capacity and Membership Submittal Date:** November 15, 2018

Middle School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership
A.L. Stanback	136,000	740	740	740	740	740		649
C.W. Stanford	107,620	726	726	726	726	726		649
Gravelly Hill	123,000	700	700	700	700	700		481
<b>Total</b>	<b>366,620</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>		<b>1,779</b>

**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**


**Capacity Certification:**

 11-16-18  
 Superintendent Date

**Membership Certification:**

 11-16-18  
 Superintendent Date

 12/08/18  
 BOCC Chair Date

 12/08/18  
 BOCC Chair Date

**Attachment I.B.1 Orange County School Capacity (Elementary, Middle, & High)**  
 (2018-19)  
 (Page 3 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Orange County Schools

**SAPFO CAPS Year:** November 15, 2018 - November 14, 2019

**Capacity and Membership Submittal Date:** November 15, 2018

High School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership
Orange	213,509	1,399	1,399	1,399	1,399	1,399		1,290
Cedar Ridge	206,900	1,000	1,000	1,000	1,000	1,000		1,018
Partnership	6,600	40	40	40	40	40		41
<b>Total</b>	<b>427,009</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>		<b>2,349</b>

**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC. 2. The 2012-2013 capacity numbers for Orange High School (1,399) is based on a capacity analysis and facilities study completed by the Department of Public Instruction in August 2012.


**Justification:**

**Capacity Certification:**

 11/16/18  
 Superintendent Date

**Membership Certification:**

 11/16/18  
 Superintendent Date

 Date  
 BOCC Chair Date

Section I

**Attachment I.B.2 Chapel Hill/Carrboro School Capacity (Elementary, Middle, & High)**  
(2018-19)  
(Page 1 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Chapel Hill-Carrboro City Schools

**SAPFO CAPS Year:** November 15, 2018 - November 14, 2019

**Capacity and Membership Submittal Date:** November 15, 2018

Elementary School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Carrboro	60,832	533	533	533	518	518		487
Ephesus	66,952	448	448	448	436	436		440
Estes Hills	56,299	527	527	527	516	516		473
Glenwood	50,764	423	538	423	412	412		484
FP Graham	66,689	538	423	538	522	522		615
McDougle	98,000	564	564	564	548	548		540
Rashkis	95,729	585	585	585	568	568		454
Scroggs	90,980	575	585	575	558	558		470
Seawell	52,896	466	585	466	450	450		503
Morris Grove	90,221	585	575	585	568	568		555
Northside	99,500	585	466	585	568	568		450
<b>Total</b>	<b>828,862</b>	<b>5,829</b>	<b>5,829</b>	<b>5,829</b>	<b>5,664</b>	<b>5,664</b>		<b>5,471</b>

**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**

**Capacity Certification:**

Pamela Bald 11/20/18  
Superintendent Date

**Membership Certification:**

Pamela Bald 11/20/18  
Superintendent Date

Penny R. A. 12/18/18  
BOCC Chair Date

Penny R. A. 12/18/18  
BOCC Chair Date



### School APFO Capacity, Membership and Change Request Form

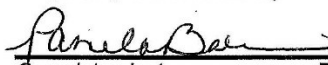
<b>School District:</b> Chapel Hill-Carrboro City Schools
<b>SAPFO CAPS Year:</b> November 15, 2018 - November 14, 2019
<b>Capacity and Membership Submittal Date:</b> November 15, 2018

Middle School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Culbreth	122,467	670	774	774	774	774		736
McDougle	136,221	732	732	732	732	732		683
Phillips	109,498	706	706	706	706	706		654
Smith	128,764	732	732	732	732	732		860
<b>Total</b>	<b>496,950</b>	<b>2,840</b>	<b>2,944</b>	<b>2,944</b>	<b>2,944</b>	<b>2,944</b>		<b>2,933</b>

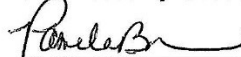
**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

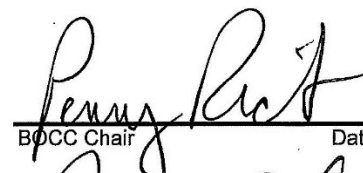
**Justification:**


**Capacity Certification:**

 11/20/18  
 Superintendent Date

**Membership Certification:**

 11/20/18  
 Superintendent Date

 12/18/18  
 BOCC Chair Date

 12/18/18  
 BOCC Chair Date

### School APFO Capacity, Membership and Change Request Form

<b>School District:</b> Chapel Hill-Carrboro City Schools
<b>SAPFO CAPS Year:</b> November 15, 2018 - November 14, 2019
<b>Capacity and Membership Submittal Date:</b> November 15, 2018

High School	Square Feet	2014-2015 Requested Capacity	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Chapel Hill	241,111	1,520	1,520	1,520	1,520	1,520		1,527
East Chapel Hill	259,869	1,515	1,515	1,515	1,515	1,515		1,493
Carrboro	148,023	800	800	800	800	800		877
Phoenix Acad.	5,207	40	40	40	40	40		35
<b>Total</b>	<b>654,210</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>		<b>3,932</b>

**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**

**Capacity Certification:**

*Barbara Bala* 11/26/18  
Superintendent Date

**Membership Certification:**

*Barbara Bala* 11/26/18  
Superintendent Date

*Penny Ruff* 12/18/18  
BOCC Chair Date

*Penny Ruff* 12/18/18  
BOCC Chair Date

**Attachment I.B.3 Orange County School Capacity (Elementary, Middle, & High)**  
(2019-20)  
(Page 1 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Orange County Schools

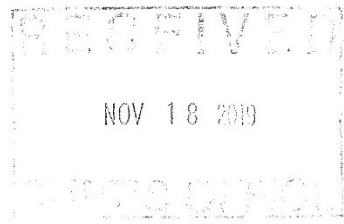
**SAPFO CAPS Year:** November 15, 2019 - November 14, 2020

**Capacity and Membership Submittal Date:** November 15, 2019

Elementary School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership
Cameron Park	70,812	565	565	502	502	502		601
Central	52,492	455	455	428	428	428		286
Efland Cheeks	64,316	497	497	455	455	455		499
Grady Brown	74,016	544	544	490	490	490		442
Hillsborough	51,106	471	471	420	420	420		444
New Hope	100,164	586	586	526	526	526		579
Pathways	85,282	576	576	540	540	540		381
<b>Total</b>	<b>498,188</b>	<b>3,694</b>	<b>3,694</b>	<b>3,361</b>	<b>3,361</b>	<b>3,361</b>		<b>3,232</b>

**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**



**Capacity Certification:**

Margaret Elder 11/19/19  
Superintendent Date

**Membership Certification:**

Margaret Elder 11/19/19  
Superintendent Date

[Signature]  
BOCC Chair Date

[Signature]  
BOCC Chair Date

**Attachment I.B.3 Orange County School Capacity (Elementary, Middle, & High)**  
(2019-20)  
(Page 2 of 3)

**School APFO Capacity, Membership and Change Request Form**

**School District:** Orange County Schools

**SAPFO CAPS Year:** November 15, 2019 - November 14, 2020

**Capacity and Membership Submittal Date:** November 15, 2019

Middle School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership
A.L. Stanback	136,000	740	740	740	740	740		653
C.W. Stanford	107,620	726	726	726	726	726		642
Gravelly Hill	123,000	700	700	700	700	700		468
<b>Total</b>	<b>366,620</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>	<b>2,166</b>		<b>1,763</b>

**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

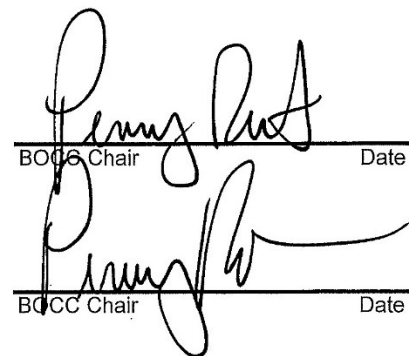
**Justification:**


**Capacity Certification:**

  
Superintendent Date

**Membership Certification:**

  
Superintendent Date

  
BOCC Chair Date

  
BOCC Chair Date

### School APFO Capacity, Membership and Change Request Form

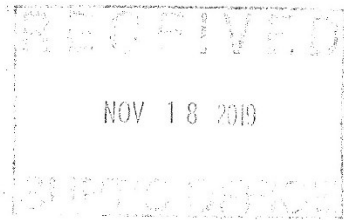
**School District:** Orange County Schools

**SAPFO CAPS Year:** November 15, 2019 - November 14, 2020

**Capacity and Membership Submittal Date:** November 15, 2019

High School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership
Orange	213,509	1,399	1,399	1,399	1,399	1,399		1,296
Cedar Ridge	206,900	1,000	1,000	1,000	1,000	1,000		1,067
Partnership	6,600	40	40	40	40	40		34
<b>Total</b>	<b>427,009</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>	<b>2,439</b>		<b>2,397</b>

**Special Note(s):** 1. For the November 15, 2002 base year the board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC. 2. The 2012-2013 capacity numbers for Orange High School (1,399) is based on a capacity analysis and facilities study completed by the Department of Public Instruction in August 2012.

**Justification:**

**Capacity Certification:**

*Monica Feller* 4/15/15  
 Superintendent Date

**Membership Certification:**

*Monica Feller* 11/15/19  
 Superintendent Date

*Penny R...*  
 BOCC Chair Date

*Penny R...*  
 BOCC Chair Date

### School APFO Capacity, Membership and Change Request Form

**School District:** Chapel Hill-Carrboro City Schools

**SAPFO CAPS Year:** November 15, 2019 - November 14, 2020

**Capacity and Membership Submittal Date:** November 15, 2019

Elementary School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Carrboro	60,832	533	533	518	518	518	*	515
Ephesus	66,952	448	448	436	436	436		389
Estes Hills	56,299	527	527	516	516	516		429
Glenwood	50,764	538	423	412	412	412		456
FP Graham	66,689	423	538	522	522	522		585
McDougle	98,000	564	564	548	548	548		552
Rushles	95,729	585	585	568	568	568		494
Scroggs	90,980	585	575	558	558	558		425
Seawell	52,896	585	466	450	450	450		517
Morris Grove	90,221	575	585	568	568	568		545
Northside	99,500	466	585	568	568	568		456
<b>Total</b>	<b>828,862</b>	<b>5,829</b>	<b>5,829</b>	<b>5,664</b>	<b>5,664</b>	<b>5,664</b>		<b>5,363</b>

**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**

\* Waiting for the Schools Joint Action Committee reductions for class size changes

**Capacity Certification:**

Pamela Bator 11/20/19  
Superintendent Date

**Membership Certification:**

Pamela Bator 11/20/19  
Superintendent Date

Penny Ruhl  
BOCC Chair Date

Penny Ruhl  
BOCC Chair Date

### School APFO Capacity, Membership and Change Request Form

<b>School District:</b> Chapel Hill-Carrboro City Schools
<b>SAPFO CAPS Year:</b> November 15, 2019 - November 14, 2020
<b>Capacity and Membership Submittal Date:</b> November 15, 2019

Middle School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Culbreth	122,467	774	774	774	774	774		800
McDougle	136,221	732	732	732	732	732		692
Phillips	109,498	706	706	706	706	706		748
Smith	128,764	732	732	732	732	732		804
<b>Total</b>	<b>496,950</b>	<b>2,944</b>	<b>2,944</b>	<b>2,944</b>	<b>2,944</b>	<b>2,944</b>		<b>3,044</b>

**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

**Justification:**

**Capacity Certification:**

Pamela Bald 11/20/19  
Superintendent Date

**Membership Certification:**

Pamela Bald 11/20/19  
Superintendent Date

Penny Rut  
BOCC Chair Date

Penny Rut  
BOCC Chair Date

### School APFO Capacity, Membership and Change Request Form

<b>School District:</b> Chapel Hill-Carrboro City Schools
<b>SAPFO CAPS Year:</b> November 15, 2019 - November 14, 2020
<b>Capacity and Membership Submittal Date:</b> November 15, 2019

High School	Square Feet	2015-2016 Requested Capacity	2016-2017 Requested Capacity	2017-2018 Requested Capacity	2018-2019 Requested Capacity	2019-2020 Requested Capacity	Justification Footnote #	Membership (referenced school year)
Chapel Hill	241,111	1,520	1,520	1,520	1,520	1,520		1,514
East Chapel Hill	259,869	1,515	1,515	1,515	1,515	1,515		1,519
Carrboro	148,023	800	800	800	800	800		869
Phoenix Acad.	5,207	40	40	40	40	40		38
<b>Total</b>	<b>654,210</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>	<b>3,875</b>		<b>3,940</b>

**Special Note(s):** 1. For the November 15, 2002 base year the Board accepted the superintendent-certified capacities as part of the School Facilities Task Force review and 2003 Planners and School Representative Technical Advisory Committee Report. These capacities will remain effective until changed by (1) the School CIP or (2) an amended version of this form that is certified by the BOCC.

#### Justification:

#### Capacity Certification:

Pamela Balda 11/20/19  
Superintendent Date

#### Membership Certification:

Pamela Balda 11/20/19  
Superintendent Date

Penny Pad  
BOCC Chair Date

Penny Pad  
BOCC Chair Date



## C. Membership Date

1. ***Responsible Entity for Suggesting Change*** – Change can be effectuated only by amendment to Memorandum of Understanding (MOU) by all SAPFO partners. The Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) may advise if a change in date would improve the reporting or timeliness of the report.
2. ***Definition*** – The date at which student membership is calculated. This date is updated each year and also serves as the basis for projections along with the history from previous years. “For purposes of this Memorandum, the term "school membership" means the actual number of students attending school as of November 15 of each year. The figure is determined by considering the number of students enrolled (i.e. registered, regardless of whether a student is no longer attending school) and making adjustments for withdrawals, dropouts, deaths, retentions and promotions. Students who are merely absent from class on the date membership is determined as a result of sickness or some other temporary reason are included in school membership figures. Each year the School District shall transmit its school membership to the parties to this agreement no later than five (5) school days after November 15.
3. ***Standard for:***

<b>Chapel Hill/Carrboro School District</b>	<b>Standard for:</b> <b>Orange County School District</b>
November 15 of each year	November 15 of each year
4. ***Analysis of Existing Conditions:***  
This will be analyzed in the future years to determine if it is an exemplary date.
5. ***Recommendation:***

<b>Chapel Hill/Carrboro School District</b>	<b>Recommendation:</b> <b>Orange County School District</b>
No change at this time.	No change at this time.

## II. Annual Update to Schools Adequate Public Facilities Ordinance System

### A. Capital Investment Plan (CIP)

1. ***Responsible Entity for Suggesting Change*** – The updating of this section will be conducted by the Board of County Commissioners (BOCC) after review of the CIP requests from the School Districts. Action regarding CIP programs usually occurs during the BOCC budget Public Hearing process in the winter and spring of each year. The development of the CIP considers the conditions noted in the SAPFOTAC report released in the same CIP development year including LOS (level of service), capacity, and membership projections.
2. ***Definition*** – The process and resultant program to determine school needs and provide funding for new school facilities through a variety of funding mechanisms.
3. ***Standard for:***

<b>Chapel Hill/Carrboro School District</b>	<b>Orange County School District</b>
Not Applicable	Not Applicable
4. ***Analysis of Existing Conditions:***

The MOU outlines a system of implementing the SAPFO, including issuing Certificates of Adequate Public Schools (CAPS) to new development if capacity is available. The Requests for CAPS will be evaluated using the most recently adopted Capital Investment Plan. A new Capital Investment Plan is currently under development for approval prior to June 30, 2020.
5. ***Recommendation:***

Not subject to staff review

## Section II

## B. Student Membership Projection Methodology

1. ***Responsible Entity for Suggesting Change*** – This section is reviewed and recommended by the Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) to the BOCC for change, if necessary.
2. ***Definition*** – The method(s) by which student memberships are calculated for future years to determine total membership at each combined school level (Elementary, Middle, and High School) which take into consideration historical membership totals at a specific time (November 15) in the school year. These methods are also known as ‘models’.
3. ***Standard for:***

<b>Chapel Hill/Carrboro School District</b>	<b>Orange County School District</b>
<p>Presently, the <u>average of five models</u> is being used: namely 3, 5, and 10 year history/cohort survival methods, Orange County Planning Department Linear Wave, and Tischler Linear methods. Attachment II.B.1 includes a description of each model.</p>	
4. ***Analysis of Existing Conditions:***

Performance of the models is monitored each year. The value of a projection model is in its prediction of school level capacities at least three years in advance of capacity shortfalls so the annual Capital Investment Plan (CIP) updates can respond proactively with siting, design, and construction. Attachment II.B.1 includes a description of each model. Attachment II.B.3 shows the performance of the models for the 2019-20 school year from the prior year projection.
5. ***Recommendation:***

More than fifteen years of projection results are now available. Analysis on the accuracy of the results is showing that some models have better results in one district while others have better results in the other district. The historic growth rate is recorded by the models, but projected future growth is more difficult to accurately quantify. In all areas of the county, proposed growth is not included in the SAPFO projection system until actual students begin enrollment. The system is updated in November of each year, becoming part of the historical projection base.

## Attachment II.B.I – Student Membership Projection Descriptions

## STUDENT MEMBERSHIP PROJECTIONS

PROJECTION TYPE	DESCRIPTION / CHARACTERISTICS	FORMULA	ASSUMPTIONS
Tischler Linear (OCS & CHCCS)	Mathematical formula; straight line projection	$y = ((c \cdot b)^x) + b$ y=projected population; c=historical annual change; b=base year; x= projection years	Historical growth is reflected in projected growth
OCP Linear Wave (OCS)	Mathematical linear with percent variation among school levels; reflects progressing waves of membership	$BYM + (BY1 - 5(n)) = EYM$ $EYM * \%SL = EYM/SL$ BYM= base year 2nd month membership; BY1=year student membership increment base; EYM=ensuing year membership; n=projection year; %SL=% of total membership per school level (i.e. elementary, middle, high); EYM/SL=ensuing year member by school level	Base year growth reflects 10-year average; increase in BY1 of 5 every other year reflects increases in housing growth; reflects buildout constraints
OCP Linear Wave (CHCCS)	Mathematical linear with percent variation among school levels; reflects progressing waves of membership	$BYM + (BY1 - 15(n)) = EYM$ $EYM * \%SL = EYM/SL$ BYM= base year 2nd month membership; BY1=year student membership increment base; EYM=ensuing year membership; n=projection year; %SL=% of total membership per school level (i.e. elementary, middle, high); EYM/SL=ensuing year member by school level	Base year growth reflects 10-year average; decrease in BY1 of 15 until school year 2010-2011 reflects decreases in housing growth; reflects buildout constraints
3-Year Cohort (OCS & CHCCS)	Mathematical formula that computes the average advancement rate over the previous 3 years for each grade level and then uses each rate to calculate projected membership by school level; an assumed kindergarten membership is based on birth records and/or historical growth rates	$K_n = k_{n-1} + (k_{n-1} * 0.01)$ $n=1$ $a = (\sum G_n / g_{n-1}) / 3$ $n=3$ $b = g_{n-1} (a)$ K=kindergarten membership; n=given school year; G=given grade's membership(other than kindergarten); g= previous grade's membership; a=average advancement rate; b=projected membership	Assumes a 1% annual growth rate for the kindergarten grade level; assumes the same percentage of students in each grade level graduate to the next level each year
5 year Cohort (OCS & CHCCS)	Mathematical formula that computes the average advancement rate over the previous 5 years for each grade level and then uses each rate to calculate projected membership by school level; an assumed kindergarten membership is based on birth records and/or historical growth rates	$K_n = k_{n-1} + (k_{n-1} * 0.01)$ $n=1$ $a = (\sum G_n / g_{n-1}) / 5$ $n=5$ $b = g_{n-1} (a)$ K=kindergarten membership; n=given school year; G=given grade's membership(other than kindergarten); g= previous grade's membership; a=average advancement rate; b=projected membership	Assumes a 1% annual growth rate for the kindergarten grade level; assumes the same percentage of students in each grade level graduate to the next level each year
10 year Cohort (OCS & CHCCS)	Mathematical formula that computes the average advancement rate over the previous 10 years for each grade level and then uses each rate to calculate projected membership by school level; an assumed kindergarten membership is based on birth records and/or historical growth rates	$K_n = k_{n-1} + (k_{n-1} * 0.01)$ $n=1$ $a = (\sum G_n / g_{n-1}) / 10$ $n=10$ $b = g_{n-1} (a)$ K=kindergarten membership; n=given school year; G=given grade's membership(other than kindergarten); g= previous grade's membership; a=average advancement rate; b=projected membership	Assumes a 1% annual growth rate for the kindergarten grade level; assumes the same percentage of students in each grade level graduate to the next level each year

## Section II Attachment II.B.2 – Student Membership Projection Models Performance Analysis (2010-19)

(Page 1 of 4)

**Orange County School District**  
**School Membership 2018-2019 School Year (November 15, 2018)**

	11/15/17 Actual 2017-18	2018 Report Projection for 2018-19	11/15/18 Actual 2018-19	Change between actual Nov 2017 - Nov 2018
<b>Elementary</b>	<b>3183</b>		<b>3205</b>	<b>+ 22</b>
<u>Model</u>			<u>Projection is</u>	
T		3201	L4	
OCP		3200	L5	
10C		3140	L65	
5C		3128	L77	
3C		3139	L66	
<b>AVG</b>		<b>3161</b>	<b>L44</b>	
	11/14/17		11/15/18	
<b>Middle</b>	<b>1730</b>		<b>1779</b>	<b>+ 49</b>
<u>Model</u>			<u>Projection is</u>	
T		1740	L39	
OCP		1739	L40	
10C		1822	H43	
5C		1812	H33	
3C		1814	H35	
<b>AVG</b>		<b>1785</b>	<b>H6</b>	
	11/14/17		11/15/18	
<b>High</b>	<b>2445</b>		<b>2349</b>	<b>- 96</b>
<u>Model</u>			<u>Projection is</u>	
T		2458	H109	
OCP		2460	H111	
10C		2354	H5	
5C		2368	H19	
3C		2340	L9	
<b>AVG</b>		<b>2396</b>	<b>H47</b>	
<b>Totals</b>	11/14/17		11/15/18	
Elementary	3183		3205	
Middle	1730		1779	
High	2445		2349	
	<b>7358</b>		<b>7333</b>	<b>- 25</b>
<u>Model</u>			<u>Projection is</u>	
T		7399	H66	
OCP		7399	H66	
10C		7316	L17	
5C		7308	L25	
3C		7293	L40	
<b>AVG</b>		<b>7342</b>	<b>H9</b>	

H means High  
L means Low

**Orange County School District  
 School Membership 2018-2019 School Year (November 15, 2018)**

**Statistical Findings**

<i>PROJECTION TYPE ABBREVIATIONS</i>	
'TISCHLER' LINEAR (T)	10-YEAR COHORT (10C)
ORANGE COUNTY PLANNING (OCP)	5-YEAR COHORT (5C)
	3-YEAR COHORT (3C)

**Elementary School Level**

- The projections were all low, ranging from 4 students to 77 students below actual membership. On average, the projections were 44 students lower than the actual membership.
- The membership actually increased by 22 students between November 16, 2017 and November 15, 2018.

**Middle School Level**

- Projections were mixed, ranging from 40 students below to 43 students above actual membership. On average, the projections were 6 students higher than the actual membership.
- The membership actually increased by 49 students between November 16, 2017 and November 15, 2018.

**High School Level**

- The majority of projections were high, ranging from 5 students to 111 students above actual membership. One projection was 9 students below actual membership. On average, the projections were 47 students higher than the actual membership.
- The membership actually decreased by 96 students between November 16, 2017 and November 15, 2018.

**TOTAL**

- The totals of all school level projections were mixed, ranging from 40 students below to 66 students above actual membership. On average, the projections were 9 students higher than the actual membership.
- The membership decreased in total by 25 students, which is the sum of +22 at Elementary, +49 at Middle, and -96 at High.

## Section II Attachment II.B.2 – Student Membership Projection Models Performance Analysis (2018-19)

(Page 3 of 4)

**Chapel Hill/Carrboro School District**  
**School Membership 2018-2019 School Year (November 15, 2018)**

	11/15/17 Actual 2017-18	2018 Report Projection for 2018-19	11/15/18 Actual 2018-19	Change between actual Nov 2017 - Nov 2018
<b>Elementary</b>	<b>5522</b>		<b>5471</b>	<b>- 51</b>
<u>Model</u>			<u>Projection is</u>	
T		5556	H85	
OCP		5541	H70	
10C		5496	H25	
5C		5475	H4	
3C		5479	H8	
<b>AVG</b>		<b>5509</b>	<b>H38</b>	
	11/14/17		11/15/18	
<b>Middle</b>	<b>2833</b>		<b>2933</b>	<b>+ 100</b>
<u>Model</u>			<u>Projection is</u>	
T		2850	L83	
OCP		2848	L85	
10C		2926	L7	
5C		2907	L26	
3C		2915	L18	
<b>AVG</b>		<b>2889</b>	<b>L44</b>	
	11/14/17		11/15/18	
<b>High</b>	<b>3927</b>		<b>3932</b>	<b>+ 5</b>
<u>Model</u>			<u>Projection is</u>	
T		3951	H19	
OCP		3938	H6	
10C		3884	L48	
5C		3889	L43	
3C		3912	L20	
<b>AVG</b>		<b>3915</b>	<b>L17</b>	
<b>Totals</b>	11/14/17		11/15/18	
Elementary	5522		5471	
Middle	2833		2933	
High	3927		3932	
	<b>12,282</b>		<b>12,336</b>	<b>+ 54</b>
<u>Model</u>			<u>Projection is</u>	
T		12,357	H21	
OCP		12,327	L9	
10C		12,306	L30	
5C		12,271	L65	

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3C		12,306	L30	
<b>AVG</b>		<b>12,313</b>	<b>L23</b>	

H means High

L means Low



**Chapel Hill/Carrboro School District  
School Membership 2018-2019 School Year (November 15, 2018)**

**Statistical Findings**

<i>PROJECTION TYPE ABBREVIATIONS</i>	
'TISCHLER' LINEAR (T) ORANGE COUNTY PLANNING (OCP)	10-YEAR COHORT (10C) 5-YEAR COHORT (5C) 3-YEAR COHORT (3C)

**Elementary School Level**

- Projections were all high ranging from 4 students to 85 students above actual membership. On average, the projections were 38 students higher than the actual membership.
- The actual membership decreased by 51 students between November 16, 2017 and November 15, 2018.

**Middle School Level**

- Projections were all low, ranging from 7 students to 85 students below actual membership. On average, the projections were 44 students lower than the actual membership.
- The actual membership increased by 100 students between November 16, 2017 and November 15, 2018.

**High School Level**

- Projections were mixed, ranging from 48 students below to 19 students above actual membership. On average, the projections were 17 students lower than the actual membership.
- The actual membership increased by 5 students between November 16, 2017 and November 15, 2018.

**TOTAL**

- The majority of all school level projections were low, ranging from 9 students to 65 students below actual membership. One projection was 21 students above the actual membership. On average, the projections were 23 students lower than the actual membership.
- The membership increased in total by 54 students, which is the sum of -51 at Elementary, +100 at Middle, and +5 at High.

**Orange County School District**  
**School Membership 2019-2020 School Year (November 15, 2019)**

	11/15/18 Actual 2018-19	2019 Report Projection for 2019-20	11/15/19 Actual 2019-20	Change between actual Nov 2018 - Nov 2019
<b>Elementary</b>	<b>3205</b>		<b>3232</b>	<b>+ 27</b>
<u>Model</u>			<u>Projection is</u>	
T		3217	L15	
OCP		3215	L17	
10C		3217	L15	
5C		3197	L35	
3C		3217	L15	
<b>AVG</b>		<b>3213</b>	<b>L19</b>	
	<u>11/14/18</u>		<u>11/15/19</u>	
<b>Middle</b>	<b>1779</b>		<b>1763</b>	<b>- 16</b>
<u>Model</u>			<u>Projection is</u>	
T		1786	H23	
OCP		1773	H10	
10C		1808	H45	
5C		1794	H31	
3C		1788	H25	
<b>AVG</b>		<b>1790</b>	<b>H27</b>	
	<u>11/14/18</u>		<u>11/15/19</u>	
<b>High</b>	<b>2349</b>		<b>2397</b>	<b>+ 48</b>
<u>Model</u>			<u>Projection is</u>	
T		2358	L39	
OCP		2385	L12	
10C		2339	L58	
5C		2339	L58	
3C		2318	L79	
<b>AVG</b>		<b>2348</b>	<b>L49</b>	
<b>Totals</b>	<u>11/14/18</u>		<u>11/15/19</u>	
Elementary	3205		3232	
Middle	1779		1763	
High	<u>2349</u>		<u>2397</u>	
	<b>7333</b>		<b>7392</b>	<b>+ 59</b>
<u>Model</u>			<u>Projection is</u>	
T		7361	L31	
OCP		7373	L19	
10C		7364	L28	
5C		7330	L62	
3C		7323	L69	
<b>AVG</b>		<b>7351</b>	<b>L41</b>	

H means High

**Orange County School District  
School Membership 2019-2020 School Year (November 15, 2019)**

**Statistical Findings**

<i>PROJECTION TYPE ABBREVIATIONS</i>	
'TISCHLER' LINEAR (T)	10-YEAR COHORT (10C)
ORANGE COUNTY PLANNING (OCP)	5-YEAR COHORT (5C)
	3-YEAR COHORT (3C)

**Elementary School Level**

- The projections were all low, ranging from 15 students to 35 students below actual membership. On average, the projections were 19 students lower than the actual membership.
- The membership actually increased by 27 students between November 16, 2018 and November 15, 2019.

**Middle School Level**

- Projections were all high, ranging from 10 students to 45 students above actual membership. On average, the projections were 27 students higher than the actual membership.
- The membership actually decreased by 16 students between November 16, 2018 and November 15, 2019.

**High School Level**

- The majority of projections all low, ranging from 12 students to 79 students below actual membership. On average, the projections were 49 students lower than the actual membership.
- The membership actually increased by 48 students between November 16, 2018 and November 15, 2019.

**TOTAL**

- The totals of all school level projections were low, ranging from 19 students to 69 students below actual membership. On average, the projections were 41 students lower than the actual membership.
- The membership increased in total by 59 students, which is the sum of +27 at Elementary, -16 at Middle, and +48 at High.

**Chapel Hill/Carrboro School District**  
**School Membership 2019-2020 School Year (November 15, 2019)**

	11/15/18 Actual 2018-19	2019 Report Projection for 2019-20	11/15/19 Actual 2019-20	Change between actual Nov 2018 - Nov 2019
<b>Elementary</b>	<b>5471</b>		<b>5363</b>	<b>- 108</b>
<u>Model</u>			<u>Projection is</u>	
T		5512	H149	
OCP		5417	H54	
10C		5423	H60	
5C		5473	H110	
3C		5418	H55	
<b>AVG</b>		<b>5448</b>	<b>H85</b>	
	<u>11/14/18</u>		<u>11/15/19</u>	
<b>Middle</b>	<b>2933</b>		<b>3044</b>	<b>+ 111</b>
<u>Model</u>			<u>Projection is</u>	
T		2955	L89	
OCP		2910	L134	
10C		3010	L34	
5C		2908	L136	
3C		3025	L19	
<b>AVG</b>		<b>2962</b>	<b>L82</b>	
	<u>11/14/18</u>		<u>11/15/19</u>	
<b>High</b>	<b>3932</b>		<b>3940</b>	<b>+ 8</b>
<u>Model</u>			<u>Projection is</u>	
T		3962	H22	
OCP		4055	H115	
10C		3894	L46	
5C		3902	L38	
3C		3926	L14	
<b>AVG</b>		<b>3948</b>	<b>H8</b>	
<b>Totals</b>	<u>11/14/18</u>		<u>11/15/19</u>	
Elementary	5471		5363	
Middle	2933		3044	
High	<u>3932</u>		<u>3940</u>	
	<b>12,336</b>		<b>12,347</b>	<b>+ 11</b>
<u>Model</u>			<u>Projection is</u>	
T		12,429	H82	
OCP		12,382	H35	
10C		12,327	L20	
5C		12,283	L64	
3C		12,369	H22	
<b>AVG</b>		<b>12,358</b>	<b>H11</b>	

H means High

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L means Low

**Chapel Hill/Carrboro School District**  
**School Membership 2019-2020 School Year (November 15, 2019)**

**Statistical Findings**

<i>PROJECTION TYPE ABBREVIATIONS</i>	
'TISCHLER' LINEAR (T)	10-YEAR COHORT (10C)
ORANGE COUNTY PLANNING (OCP)	5-YEAR COHORT (5C)
	3-YEAR COHORT (3C)

**Elementary School Level**

- Projections were all high ranging from 54 students to 149 students above actual membership. On average, the projections were 85 students higher than the actual membership.
- The actual membership decreased by 108 students between November 16, 2018 and November 15, 2019.

**Middle School Level**

- Projections were all low, ranging from 19 students to 136 students below actual membership. On average, the projections were 82 students lower than the actual membership.
- The actual membership increased by 111 students between November 16, 2018 and November 15, 2019.

**High School Level**

- Projections were mixed, ranging from 46 students below to 115 students above actual membership. On average, the projections were 8 students higher than the actual membership.
- The actual membership increased by 8 students between November 16, 2018 and November 15, 2019.

**TOTAL**

- The totals of all school level projections were mixed, ranging from 64 students below to 82 students above actual membership. On average, the projections were 11 students higher than the actual membership.
- The membership increased in total by 11 students, which is the sum of -108 at Elementary, +111 at Middle, and +8 at High.

## C. Student Membership Projections

1. ***Responsible Entity for Suggesting Change*** – The updating of this section will be conducted by the Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) and referred to the BOCC for annual report certifications. Projections will be distributed to SAPFO partners for review and comments to the BOCC prior to certification.
2. ***Definition*** – The result of the average of the five student projection models represented by 10 year numerical membership projections by school level (Elementary, Middle, and High) for each school district (Chapel Hill/Carrboro City School District and Orange County School District).

3. <b><i>Standard for:</i></b>	<b><i>Standard for:</i></b>
<b>Chapel Hill Carrboro School District</b>	<b>Orange County School District</b>
The 5 model average discussed in Section II.B (Student Projection Methodology) See Attachment II.C.4	The 5 model average discussed in Section II.B (Student Projection Methodology) See Attachment II.C.3

### 4. ***Analysis of Existing Conditions***

The membership figures and percentage growth on the attachments show an increase at the Chapel Hill/Carrboro City Schools' middle and high school levels and at the Orange County Schools' elementary and high school level. The attachments show a decrease at the Chapel Hill/Carrboro City Schools' elementary school level and Orange County Schools' middle school level. The majority of Chapel Hill/Carrboro Schools and Orange County Schools projected average annual growth rates have all decreased since the previous year, except Orange County Schools' elementary school level which experienced an increase. The projected annual growth rates show positive growth for all three levels in the 10-year projection period. Attachment II.C.3 and Attachment II.C.4 show year by year percent growth and projected level of service (LOS). The projection models were updated using current (November 15, 2019) memberships. Ten years of student membership were projected thereafter.

*Section II***Chapel Hill/Carrboro School District****Elementary**

The previous year (2018-19) projections for November 2019 at this level were overestimated by 85 students. The actual membership decreased by 108 students. Over the previous ten years, this level has shown varying increases and decreases in growth rates. Following a significant increase (168 students) in 2011-12, this level has experienced a decrease in four out of the five previous school years including this year which decreases by 108 students. Growth rates during the past ten years have ranged from -1.57% to +3.17%. The district's eleventh elementary school, Northside Elementary School, opened in 2013. Capacity was decreased in 2017-18 due to changes in class size averages for kindergarten to third grade by the North Carolina State Legislature. The need for an additional elementary school is not anticipated in the 10-year projection period. This is similar to last year's projections.

Although not included in SAPFO school capacity or membership numbers, Pre-K programs continue to impact operations at District elementary schools where Pre-K programs exist. Specific impacts of Pre-K programs at the elementary school level will continue to be reviewed and discussed in the coming year.

**Middle**

The previous year (2018-19) projections for November 2019 for this level were underestimated by 82 students. The actual membership increased by 111 students. Over the previous ten years, this level has shown varying increases before experiencing a decrease in 2015-16 and 2016-17. Growth rates during this time period have ranged from -0.59% to +3.53%. Capacity was increased in 2014 with the opening of the Culbreth Middle School science wing. The need for an additional middle school is not anticipated in the 10-year projection period. This is similar to last year's projections.

**High School**

The previous year (2018-19) projections for November 2019 for this level were overestimated by 8 students. The actual membership increased by 8 students. Over the previous ten years, change



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has been variable with decreases in membership in four of the ten years. Growth rates during this time period have ranged from -0.90 to +4.39%. The need for additional high school capacity at Carrboro High School is not anticipated in the 10-year projection period. This is similar to last year's projections. Due to renovations to Chapel Hill High School, this level will experience an increase in capacity of 105 seats for the 2020-21 school year.

***Additional Information for Chapel Hill/Carrboro School District***

Following the economic downturn, there has been an increase in residential projects, specifically multifamily development, in the Town of Chapel Hill. Currently, there are over three thousand proposed single family and multifamily housing units approved, but undeveloped in the CHCCS district. As previously stated, proposed growth is not included in the SAPFO projection system until actual students begin enrollment. The CAPS test is conducted during the approval process at a certain stage. Once students are enrolled in a school year, through annual reporting of student membership numbers, 10-year student projections can be updated to display future capacity needs in time to efficiently plan for future school construction requests. Staff and the SAPFO Technical Advisory Committee will continue to monitor and evaluate the demand and growth of residential development in Chapel Hill and Carrboro as well as its effect on student membership rates.

Charter schools are not included as part of the SAPFO Annual Report and, as a result, their membership and capacity numbers are not monitored or included in future projections. However, the SAPFO Technical Advisory Committee does monitor charter schools and their effect on student enrollment at both school districts. If a charter school does close and a spike is realized in school enrollment, the student projections will likely accelerate the need in future years, still within an appropriate time for CIP planning. Charter Schools are additionally monitored by the Department of Public Instruction (DPI) which provides pupil information, based on data received from Charter Schools located in Orange County, to the County for funding purposes.

**Orange County School District****Elementary**

The previous year (2018-19) projections for November 2019 at this level were underestimated by 14 students. Actual membership increased by 27 students. Over the previous ten years, this level

## *Section II*

experienced positive growth before experiencing decreases in 2014-15, 2016-17, and 2017-18. Growth rates during this period have ranged from -5.07% to +2.30%. In the Orange County school system, historic growth is more closely related to new residential development than in the Chapel Hill/Carrboro School District, which has a sizeable number of new families in older, existing housing stock. Capacity was decreased in 2017-18 due to changes in class size averages for kindergarten to third grade by the North Carolina State Legislature. The need for an additional Elementary School is not anticipated in the 10 year projection period. This is similar to last year's projections.

Although not included in SAPFO school capacity or membership numbers, Pre-K programs continue to impact operations at District elementary schools where Pre-K programs exist. Specific impacts of Pre-K programs at the elementary school level will continue to be reviewed and discussed in the coming year.

### **Middle**

The previous year (2018-19) projections for November 2019 for this level were underestimated by 27 students. The actual membership decreased by 16 students. Over the previous ten years, growth has varied widely with decreases in student membership in 2012-13, 2015-16, 2016-17, and this school year. Growth rates during this period have ranged from -1.31% to +4.00%. The district's third Middle School, Gravelly Hill Middle School, opened in October 2006. The need for an additional Middle School is not anticipated in the 10 year projection period. This is similar to last year's projections.

### **High School**

The previous year (2018-19) projections for November 2019 for this level were underestimated by 49 students. The actual membership increased by 48 students. Over the previous ten years, growth has been varied. Growth rates during this period ranged from -3.93% to 4.58%. In 2012-13 student membership increased by 32 while capacity decreased by 119 at Orange County High School as a result of a N.C. Department of Public Instruction (DPI) study. Similar to last year's projections, the need for additional capacity at Cedar Ridge High School is not anticipated in the 10 year projection period. However, to address public safety concerns with the current high school capacity exceeding the 100% threshold, Orange County Schools is in preliminary

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planning stages to expand Cedar Ridge High School from initial capacity of 1,000 students to 1,500 students for the 2021-22 school year.

***Additional Information for Orange County School District***

The City of Mebane lies partially within Orange County and students within the Orange County portion of Mebane attend Orange County schools. However, the City of Mebane is not a party to the SAPFO agreement and therefore does not require that CAPS (Certificate of Adequate Public Schools) be issued prior to development approvals. Following the economic downturn, there has been an increase in approved and undeveloped residential development in the City of Mebane and the Town of Hillsborough. Currently, there are over one thousand proposed single family and multifamily housing units approved, but undeveloped in the City of Mebane and the Town of Hillsborough. The residential growth that has occurred in the recent past within Mebane's and Hillsborough's jurisdiction has yet to be seen with OCS student membership numbers and fully realized into the historically based projection methods due to the recession, charter schools, and possibly new family dynamics effecting family size. Staff and the SAPFO Technical Advisory Committee will need to continue monitoring and evaluating the demand and growth of residential development in Mebane and Hillsborough as well as its effect on student membership rates.

Currently, there are two Charter Schools located in the Town of Hillsborough. Eno River Academy (K-12) serves xxx students and The Expedition School (K-8) serves 365 students. Both of these charter schools continue to have an effect on OCS membership numbers. Charter schools are not included as part of the SAPFO Annual Report and, as a result, their membership and capacity are not monitored or included in future projections. However, the SAPFO Technical Advisory Committee does monitor charter schools and their effect on student enrollment at both school districts. If a charter school were to close and a spike were to be realized in school enrollment, the student projections will likely accelerate the need for additional capacity in future years, still within an appropriate time for CIP planning. Charter Schools are also monitored by the Department of Public Institution (DPI) which provides pupil information, based on data received from Charter Schools located in Orange County, to the County for funding purposes.

***5. Recommendation:***

Use statistics as noted in 3 above



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(2) The Turfhor Model provides the "Linear Method" of projections for both MGS and CCS. Original projections used in year year projection models are

## Section II

Attachment II.C.3 – Orange County Student Projections (Elementary, Middle, & High)  
(2019-20)

## OCS Student Projections (1) (4)

## Elementary

School Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Actual	3,211	3,265	3,345	3,403	3,433	3,459	3,486	3,513	3,540	3,567	3,594	3,621	3,648	3,675	3,702	3,729	3,756	3,783	3,810	3,837	3,864
Teacher (2)																					
OC Planning																					
10 Year Growth																					
5 Year Growth																					
Average																					
Annual Change - Increase (Decrease) in Actual & Projected Membership	46	74	63	55	30	17	17	59	110	110	22	27	35	38	31	35	38	40	42	44	46
Capacity - 100% Level of Service	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694
Number of Students, Actual and Projected Over (Under) 100% LOS	(482)	(409)	(346)	(291)	(261)	(235)	(210)	(179)	(149)	(119)	(89)	(59)	(29)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
100% Level of Service	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694
Number of Students, Actual and Projected Under (Over) 100% LOS	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)
Actual - % Level of Service	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%
Average - % Level of Service	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%	88.9%
Annual Student Growth Rate (3)	1.45%	2.30%	1.92%	1.64%	0.89%	-0.07%	1.81%	-0.75%	-3.34%	-0.69%	0.84%	1.09%	0.42%	1.19%	0.95%	0.79%	0.92%	0.79%	0.77%	0.77%	0.77%

Capacity decrease due to change in class size ratios per House Bill 13 (K-3 average class size ratios are 1:20 as defined by State Legislature 2009)

(1) It is important to understand that the October 15, 2019 data are not based on actual data in the Schools Assigned Pupil Index Online. The data are based on the October 15, 2019 data as reported in the Schools Assigned Pupil Index Online.

(2) The Teacher (2) column provides the number of teachers assigned to the schools in the Schools Assigned Pupil Index Online.

(3) Annual growth rate calculated using actual membership for years 2010-11 through 2019-20 and average membership for years 2020-21 through 2029.

(4) Class sizes for grades K-3 are 1:20 as defined by State Legislature 2009. In accordance with 2019 School Consolidation Study, class sizes will be 1:20 as defined by State Legislature 2009.

## OCS Student Projections(1)

## Middle

School Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Actual	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Teacher (2)																					
OC Planning																					
10 Year Growth																					
5 Year Growth																					
Average																					
Annual Change - Increase (Decrease) in Actual & Projected Membership	64	33	6	(20)	63	16	(23)	(15)	6	49	(16)	(85)	(8)	19	132	173	173	173	173	173	173
Capacity - 100% Level of Service	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166
Number of Students, Actual and Projected Over (Under) 100% LOS	(501)	(469)	(462)	(462)	(419)	(404)	(427)	(442)	(436)	(387)	(403)	(438)	(447)	(459)	(454)	(434)	(404)	(365)	(370)	(354)	(338)
100% Level of Service	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166	2,166
Number of Students, Actual and Projected Under (Over) 100% LOS	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)
Actual - % Level of Service	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%
Average - % Level of Service	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%	78.4%
Annual Student Growth Rate (3)	4.00%	1.98%	0.35%	-1.17%	3.74%	0.88%	-3.31%	-0.99%	0.35%	2.89%	-0.90%	-2.01%	-0.47%	4.35%	1.11%	0.01%	1.72%	1.05%	0.84%	0.87%	0.87%

(1) It is important to understand that the October 15, 2019 data are not based on actual data in the Schools Assigned Pupil Index Online. The data are based on the October 15, 2019 data as reported in the Schools Assigned Pupil Index Online.

(2) The Teacher (2) column provides the number of teachers assigned to the schools in the Schools Assigned Pupil Index Online.

(3) Annual growth rate calculated using actual membership for years 2010-11 through 2019-20 and average membership for years 2020-21 through 2029.

(4) Class sizes for grades K-3 are 1:20 as defined by State Legislature 2009. In accordance with 2019 School Consolidation Study, class sizes will be 1:20 as defined by State Legislature 2009.

## OCS Student Projections (1)

## High

School Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Actual	2,211	2,222	2,233	2,245	2,257	2,269	2,281	2,293	2,305	2,317	2,329	2,341	2,353	2,365	2,377	2,389	2,401	2,413	2,425	2,437	2,449
Teacher (2)																					
OC Planning																					
10 Year Growth																					
5 Year Growth																					
Average																					
Annual Change - Increase (Decrease) in Actual & Projected Membership	(25)	6	61	32	106	81	(83)	(23)	(1)	(86)	(48)	4	14	18	(29)	(9)	(31)	10	28	9	31
Capacity - 100% Level of Service	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556
Number of Students, Actual and Projected Over (Under) 100% LOS	(341)	(335)	(325)	(315)	(305)	(295)	(285)	(275)	(265)	(255)	(245)	(235)	(225)	(215)	(205)	(195)	(185)	(175)	(165)	(155)	(145)
100% Level of Service	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556	2,556
Number of Students, Actual and Projected Under (Over) 100% LOS	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)	(653)
Actual - % Level of Service	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%
Average - % Level of Service	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%	86.7%
Annual Student Growth Rate (3)	-1.12%	0.25%	2.76%	1.40%	4.95%	3.35%	-3.52%	-0.93%	-0.04%	-3.89%	-2.44%	0.16%	0.67%	0.78%	1.19%	-0.12%	0.31%	0.44%	1.16%	0.34%	1.27%

(1) It is important to understand that the October 15, 2019 data are not based on actual data in the Schools Assigned Pupil Index Online. The data are based on the October 15, 2019 data as reported in the Schools Assigned Pupil Index Online.

(2) The Teacher (2) column provides the number of teachers assigned to the schools in the Schools Assigned Pupil Index Online.

(3) Annual growth rate calculated using actual membership for years 2010-11 through 2019-20 and average membership for years 2020-21 through 2029.







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**D. Student Membership Growth Rate**

1. **Responsible Entity for Suggesting Change** – The updating of this section will be conducted by the Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) each year and referred to the BOCC for annual report certification. Projections will be distributed to SAPFO partners for review and comments to the BOCC prior to certification.
2. **Definition** – The annual percentage growth rate calculated from the projections resulting from the average of the five models represented by 10 year numerical membership projections by school level for each school district. This does not represent the year-by- year growth rate that may be positive or negative, but rather the average of the annual anticipated growth rates over the next 10 years.

**3. Standard for:****Chapel Hill/Carrboro School District**

See Attachment II.D.2

**Standard for:****Orange County School District**

See Attachment II.D.2

**4. Analysis of Existing Conditions:****Chapel Hill/Carrboro School District**

The membership figures and percentage growth on the attachments show continued growth at each school level within the system.

**Analysis of Existing Conditions:****Orange County School District**

The membership figures and percentage growth on the attachments show continued growth at each school level within the system.

Projected Average Annual Growth Rate over next ten years:

Projected Average Annual Growth Rate over next ten years:

Year Projection Made:	Year Projection Made:	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Elementary	Elementary	0.80%	0.80%	0.56%	0.95%	0.84%
Middle	Middle	0.67%	0.23%	0.19%	-0.18%	0.37%
High	High	0.93%	0.26%	0.22%	0.03%	0.21%

**5. Recommendation:**

**Chapel Hill/Carrboro School District**

Use statistics as noted.

**Recommendation:****Orange County School District**

Use statistics as noted.

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**Attachment II.D.1 – Orange County and Chapel Hill/Carrboro Student Growth Rates  
(Chart dates from 2019-2029 based on 11/15/18membership numbers) (2018-19)**

2018-2019

## Orange County Student Projections

## Elementary

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	3,205	3,213	3,262	3,278	3,321	3,367	3,395	3,424	3,452	3,480	3,508
Average % Increase		0.23%	1.53%	0.50%	1.31%	1.40%	0.83%	0.83%	0.83%	0.81%	0.79%

## Middle

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	1,779	1,790	1,737	1,731	1,710	1,728	1,729	1,758	1,795	1,811	1,827
Average % Increase		0.60%	-2.93%	-0.36%	-1.19%	1.03%	0.08%	1.65%	2.09%	0.89%	0.89%

## High School

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	2,349	2,348	2,371	2,388	2,426	2,396	2,390	2,363	2,346	2,386	2,397
Average % Increase		-0.05%	1.00%	0.71%	1.59%	-1.24%	-0.26%	-1.14%	-0.72%	1.70%	0.48%

## Chapel Hill/Carrboro Student Projections

## Elementary

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	5,471	5,448	5,444	5,474	5,498	5,557	5,606	5,653	5,700	5,745	5,787
Average % Increase		-0.41%	-0.08%	0.55%	0.43%	1.07%	0.89%	0.84%	0.83%	0.78%	0.74%

## Middle

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	2,933	2,962	2,981	2,961	2,943	2,898	2,905	2,904	2,939	2,962	2,988
Average % Increase		0.97%	0.65%	-0.68%	-0.60%	-1.52%	0.21%	-0.04%	1.24%	0.78%	0.86%

## High School

School Year	2018-2019 (actual)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Membership	3,932	3,948	3,972	3,981	4,037	4,086	4,068	4,058	4,007	3,983	3,995
Average % Increase		0.40%	0.62%	0.23%	1.40%	1.21%	-0.44%	-0.24%	-1.27%	-0.58%	0.30%

## Section II

**Attachment II.D.2 – Orange County and Chapel Hill/Carrboro Student Growth Rates**  
**(Chart dates from 2020-2030 based on 11/15/19 membership numbers) (2019-20)**

2019-2020

**Orange County Student Projections**

<b>Elementary</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
<b>School Year</b>												
Membership		3,232	3,267	3,281	3,320	3,351	3,378	3,406	3,433	3,459	3,486	3,513
Average % Increase			1.08%	0.42%	1.19%	0.95%	0.79%	0.82%	0.79%	0.77%	0.77%	0.77%

**Middle**

<b>School Year</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
Membership		1,763	1,728	1,719	1,713	1,732	1,732	1,762	1,781	1,796	1,812	1,828
Average % Increase			-2.01%	-0.47%	-0.35%	1.11%	-0.01%	1.72%	1.10%	0.84%	0.87%	0.87%

**High School**

<b>School Year</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
Membership		2,397	2,401	2,415	2,433	2,404	2,401	2,370	2,380	2,408	2,416	2,447
Average % Increase			0.16%	0.57%	0.76%	-1.18%	-0.12%	-1.31%	0.44%	1.16%	0.34%	1.27%

**Chapel Hill/Carrboro Student Projections**

<b>Elementary</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
<b>School Year</b>												
Membership		5,363	5,356	5,357	5,367	5,442	5,489	5,537	5,584	5,632	5,680	5,723
Average % Increase			-0.14%	0.03%	0.18%	1.40%	0.87%	0.86%	0.86%	0.86%	0.85%	0.76%

**Middle**

<b>School Year</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
Membership		3,044	3,045	3,016	2,992	2,933	2,917	2,897	2,946	2,970	2,995	3,020
Average % Increase			0.03%	-0.97%	-0.77%	-1.97%	-0.55%	-0.68%	1.69%	0.81%	0.84%	0.83%

**High School**

<b>School Year</b>		<b>2019-2020 (actual)</b>	<b>2020-2021</b>	<b>2021-2022</b>	<b>2022-2023</b>	<b>2023-2024</b>	<b>2024-2025</b>	<b>2025-2026</b>	<b>2026-2027</b>	<b>2027-2028</b>	<b>2028-2029</b>	<b>2029-2030</b>
Membership		3,940	3,985	4,021	4,085	4,123	4,111	4,090	4,001	3,972	3,959	3,950
Average % Increase			1.15%	0.89%	1.60%	0.94%	-0.31%	-0.50%	-2.17%	-0.74%	-0.31%	-0.23%

## E. Student / Housing Generation Rate

1. ***Responsible Entity for Suggesting Change*** – The updating of this section will be conducted by Planning Directors, School Representatives, and Technical Advisory Committee (SAPFOTAC) and referred to the BOCC for certification.  
Projections will be distributed to SAPFO partners for review and comments to the BOCC prior to certification.
2. ***Definition*** – Student generation rate refers to the number of public school students per housing unit constructed in each school district, as defined in the Student Generation Rate Study completed by TisherBise on October 28, 2014. Housing units include single family detached, single family attached/duplex, multifamily, and manufactured homes.
3. ***Standard for:***

<b>Chapel Hill/Carrboro School District</b> See Attachment II.E.1	<b>Standard for:</b> <b>Orange County School District</b> See Attachment II.E.1
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4. ***Analysis of Existing Conditions:***

At the January 2014 SAPFOTAC meeting, members discussed the increased number of students generated in both school districts from new development, particularly multifamily housing. The SAPFOTAC recommended further evaluation of the adopted Student Generation Rates and the impacts the number of bedrooms a particular housing type may have on student generation rates. As a result, Orange County entered into a contract with TischlerBise to update the student generation rate analysis. The new student generation rates were approved on May 19, 2015 and are shown in Attachment II.E.1. New rates from the 2014 Student Generation Rates for Orange County Schools and Chapel Hill-Carrboro School District Report are based on an inventory of recently built units from January 1, 2004 to December 31, 2013.

It should be noted that students are generated from new housing as well as from existing housing where new families have moved in. The CAPS system estimates new development impacts and associated student generation, but it is important to

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understand that student increases are a composite of both of these factors. This effect can be dramatic and can vary greatly between areas and districts where either new housing is dominant or new families move into a large inventory of existing housing stock.

**5. *Recommendation:***

*No change at this time.*

## Attachment II.E.1 – Current Student Generation Rates (2015)

## TischlerBise Student Generation Rates – 2014

Chapel Hill/Carrboro Schools				
	0-3 Bedrooms	4 Bedrooms	5+ Bedrooms	Weighted Average
Single-Family Detached	0.61	0.84	1.13	0.84
	0-2 Bedrooms	3+ Bedrooms		Weighted Average
Single-Family Attached	0.27	0.42		0.38
Multifamily/Other	0.11	0.47		0.18
Manufactured Home	0.268	0.86		0.78
Weight Average for Chapel Hill/Carrboro School District				0.49

Orange County Schools				
	0-3 Bedrooms	4 Bedrooms	5+ Bedrooms	Weighted Average
Single-Family Detached	0.35	0.57	0.57	0.44
	0-2 Bedrooms	3+ Bedrooms		Weighted Average
Single-Family Attached	0.07	0.17		0.15
Multifamily/Other	0.08	0.67		0.17
Manufactured Home	0.67	0.47		0.52
Weight Average for Orange County School District				0.37

Source: Student Generation Rates for Orange County School District and Chapel Hill-Carrboro School District, TischlerBise, October 28, 2014  
Revised May 7, 2015

*Section III*

### **III. Flowchart of Schools Adequate Public Facilities Ordinance Process**

Abstract: The Schools Adequate Public Facilities Ordinance process has two distinct components:

#### **A. Capital Investment Plan (CIP) (Process 1)**

Timeframe: In November of each year, Student Membership and Building Capacity is transmitted from the school districts to the Orange County Board of Commissioners for consideration and approval and used in the following years CIP (e.g. November 15, 2019 membership numbers used to develop a CIP to be considered for adoption in June 2020).

##### **Process Framework**

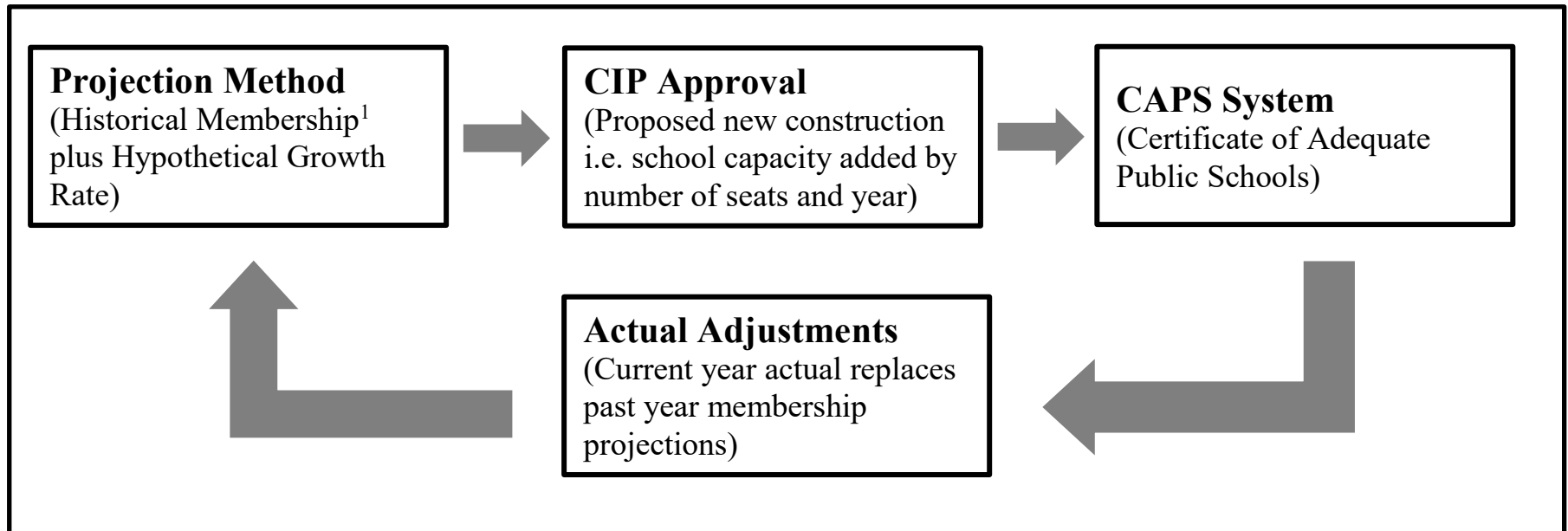
1. SAPFOTAC projects future student membership from historical data, current membership and hypothetical growth rates from established methodologies.
2. School Districts and BOCC compare projections to existing capacity and proposed Capital Investment Plan.
3. SAPFOTAC forwards data and projections to all SAPFO partners.
4. School Districts develop Capital Investment Plan Needs Assessment during this process
5. The Capital Investment Plan work sessions and Public Hearings are conducted by the BOCC in the spring of each year.
6. The adoption of CIP that sets forth monies and timeframe for school construction (future capacity) by BOCC.



## Section III

# School Adequate Public Facilities Ordinance

## Process 1 - Capital Investment Planning (CIP)



<sup>1</sup>Historical Membership is a product of students generated from: (1) pre-existing/approved undeveloped lots where new housing is built, (2) existing housing stock with new families/children, and (3) newly approved housing development (in the future this component will be known as CAPS approved development).

<sup>2</sup>The only part of the CAPS System (i.e., computer spreadsheet subdivision tracking) that receives data from the Process 1 CIP includes the actual membership (November 15 of preceding CIP year) and new school capacity amount (seats) in a specific year pursuant to the CIP.

## **B. Schools Adequate Public Facilities Ordinance Certificate of Adequate Public Schools (CAPS) Update (Process 2)**

Timeframe: The CAPS system is updated approximately November 15 of each year when the school districts report actual membership and ‘pre-certified’ capacity, whether it is CIP associated or prior ‘joint action’ agreement. ‘Joint action’ determinations of changes in capacity due to State rules or other non-construction related items are anticipated to be done prior to the November 15 capacity and membership reporting date. This update may reflect the Board of County Commissioners action on the earlier year Capital Investment Plan (CIP) as it affects capacity and addition of new actual fall membership. The Schools Adequate Public Facilities Ordinance Certificate of Adequate Public Schools (CAPS) stays in effect until the following year – (e.g.: November 15, 2005 to November 14, 2006).

New development is originally logged for a certain year. As the CAPS system is updated, each CAPS projection year is ‘absorbed’ by the actual estimate of a given year. Later year CAPS projections of the same development remain in the future year CAPS system accordingly. For example, if a 50-lot subdivision is issued a CAPS, 15 lots may be assigned to “Year 1,” 10 lots to “Year 2,” 10 lots to “Year 3,” 10 lots to “Year 4,” and 5 lots to “Year 5.” When “Year 1” is updated, the students generated from the 15 lots are absorbed by the actual estimate. The students generated in “Years 2, 3, 4, and 5” are held in the CAPS system and added to the appropriate year when the CAPS system is updated.

As previously noted in Section II.C, The City of Mebane is not a party to the SAPFO and does not require that CAPS be issued prior to approving development activities. Increasing development within this area of the county has the potential to encumber a significant portion of the available capacity within the Orange County School District. Although the SAPFO system is not formally regulated in Mebane, staff monitors development activity and when students enter the school system their enrollment is calculated and used in future school projection needs.

Please note that the two processes (CIP and CAPS) are on separate, but parallel tracks. However, the CIP does create a crossover of capacity information between the two processes.

*Section III*

For example, the SAPFO system for both school districts that will be established / initiated / certified each year in November and is based on prior year created and/or planned CIP capacity and current school year membership. The SAPFOTAC report including new current year membership and projections are to be used for upcoming CIP development as noted in Process 1.

**CIP Process 1** (for CIP 2020 - 2030)

November 2018 – June 2019 (using 2019 SAPFOTAC Report)

**SAPFO CAPS Process 2** (for SAPFO System 2020 – 2021)

November 2019 - November 2020

# School Adequate Public Facilities Ordinance

## Process 2 - Certificate of Adequate Public Schools (CAPS) Allocation

2020 CAPS system is effective November 15, 2019 through November 14, 2020.

The system is updated with new membership, CIP capacity changes, and any other BOCC/School District joint action approved capacity prior to November 15, 2019. This information is received within 5 days of November 15 and posted within the next 15 days. This CAPS system recalibration is retroactive to November 15, 2019.

### CAPS Allocation System

1. Certified Capacity
2. LOS Capacity
3. Actual Membership
4. Year Start Available Capacity
5. Ongoing Current Available Capacity (includes available capacity decreases from approved CAPS development by year)
6. CAPS approved development
  - a. Total units
  - b. Single Family<sup>1</sup>
  - c. Other Housing<sup>1</sup>

### CAPS System

$$AC^2 = SC^2 - (ADM^2 + ND1^2 + ND2^2 + \dots)$$

$AC \geq 0$  - Issue CAPS

$AC < 0$  - Defer CAPS to later date

<sup>1</sup>Student Generation Rates from CAPS housing type create future membership estimate. Please note that this CAPS membership future estimate is different than the projection based on historical data and projection models used in the CIP process 1. This estimate only captures new development impact, which is the component that the SAPFO can regulate.

<sup>2</sup>AC - Available Capacity - Starts at Annual Update Capacity and reduces as CAPS approved development is entered into the system.

SC - Certified School Level Capacity

ADM - Average Daily Membership

ND - New Development; ND1 means first approved CAPS approved development