

# State of the System

WAKE COUNTY PUBLIC SCHOOL SYSTEM

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### OVERVIEW

The purpose of this annual report is to summarize some major trends in the Wake County Public School System (WCPSS) and provide a set of benchmarks against which the progress of WCPSS in future years can be measured. The report is designed to provide educators and the general public with information that is accurate, up-to-date, and easy to interpret. In some places, the information is presented in longitudinal form because the important factor is change over time in WCPSS. In other places, the report focuses on comparisons with similar local education agencies (LEAs) in North Carolina. Some of the major findings are:

- Per pupil expenditures in WCPSS were the lowest among all comparison LEAs for every year in the 1990s.
- Student dropout rates in WCPSS fell in the 1990s to become the lowest among comparison LEAs.
- Student population growth in WCPSS exceeded that of comparison LEAs for every year except one in the 1990s.
- Overall, WCPSS continued to post the strongest academic performance among all comparison LEAs, and steady gains were made throughout the 1990s.

Sai Jetter concentrates during a test in Jo MacDonald's fourth-grade math class at Oak Grove Elementary School in Cary. Oak Grove Elementary earned an "exemplary" rating this year on the state mandatory ABCs of Public Education end-of-year tests.

# UNDERSTANDING DATA ANALYSES IN THIS REPORT

This report summarizes a selection of school system characteristics and performance indicators collected during the 1990s for the Wake County Public School System (WCPSS) and comparable local education agencies (LEAs) in North Carolina. LEAs that are compared to WCPSS include:

- **Durham**
- **Winston-Salem/Forsyth**
- **Guilford**
- **Charlotte-Mecklenburg**

The comparison LEAs are large school districts that have been described as similar in nature to WCPSS. Using data from the 1990 Census, the North Carolina Department of Public Instruction indicates there is similarity among these districts on variables such as:

- the percentage of working parents of 6-17 year-olds;
- the percentage of 6-17 year-olds below the poverty level;
- the educational attainment of residents in the LEA; and
- the average household income.

The data in this report are presented in figures to reveal:

- longitudinal trends in WCPSS from the 1990-91 through the 1998-99 school year; and
- comparisons of WCPSS with other LEAs over this same period.

Instructions for interpreting many of the figures in this report are provided in the example below.

## INTERPRETING FIGURES IN THIS REPORT

### *An Example*

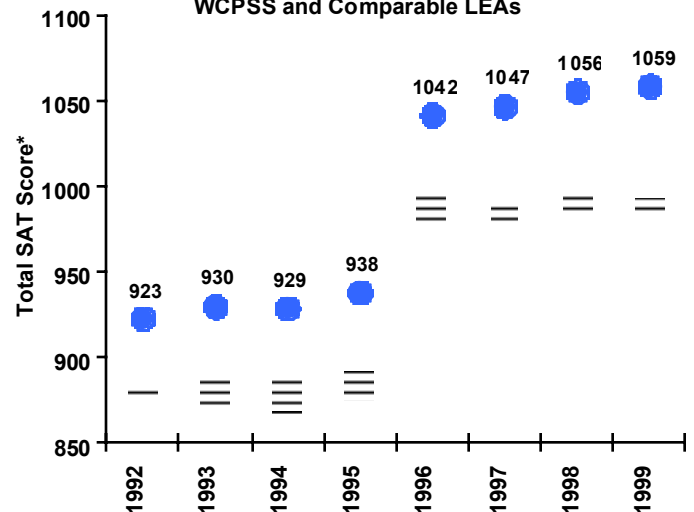
This figure, depicting real data for the Scholastic Aptitude Test (SAT), is similar to many of the figures that appear in this report. Within the figure, the **dots** and **numerical values** indicate the values for WCPSS, while the **striped bars** indicate the values for the other LEAs being compared to WCPSS, ranging from the LEA with the *lowest* value to the LEA with the *highest* value in each year being reported.

The comparison LEAs differ for some of the years because schools in Durham and Guilford counties did not merge into countywide systems until the 1992-93 and 1993-94 years, respectively. Comparisons with WCPSS for all figures in this report are as follow:

- 1991-92: Forsyth and Mecklenburg
- 1992-93: Durham, Forsyth and Mecklenburg
- 1993-94 through 1998-99: Durham, Forsyth, Guilford and Mecklenburg

All sources of data are referenced at the end of this report.

**Figure 1**  
**Scholastic Aptitude Test:**  
**WCPSS and Comparable LEAs**



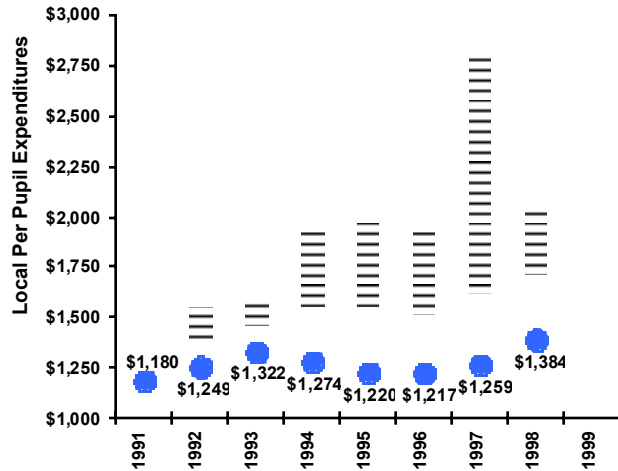
\* SAT scores were recentered after April 1995 to realign the verbal and math sections, and put the average score for the total battery near 1000.

### LOCAL PER PUPIL EXPENDITURES

*Local per pupil expenditures in WCPSS have been below all other comparison LEAs throughout the 1990s.*

Local per pupil expenditures have been below those of the comparison LEAs throughout the 1990s. In the mid-1990s, WCPSS per student expenditures began to decline, putting them even further below those of the comparison LEAs. Although the WCPSS per student expenditure has increased each year since, it remained well below those of the comparison LEAs in 1998.

**Figure 2**  
Local Per Pupil Expenditures Excluding Child Nutrition:  
WCPSS and Comparable LEAs

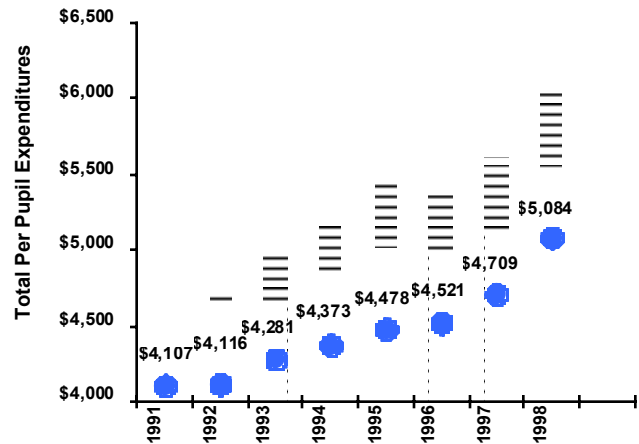


### TOTAL PER PUPIL EXPENDITURES

*The total of federal, state, and local per pupil expenditures in WCPSS has been below all other comparison LEAs throughout the 1990s.*

When all sources of revenue are combined, the total of federal, state, and local per student expenditures has also been below that of comparison LEAs throughout the 1990s. Each year in WCPSS, the percentage increase in total expenditures over the year before has been less than 5% until 1998 when the increase was about 8%. The official 1999 figures have not yet been reported.

**Figure 3**  
Total Federal, State, and Local  
Per Pupil Expenditures Excluding Child Nutrition:  
WCPSS and Comparable LEAs

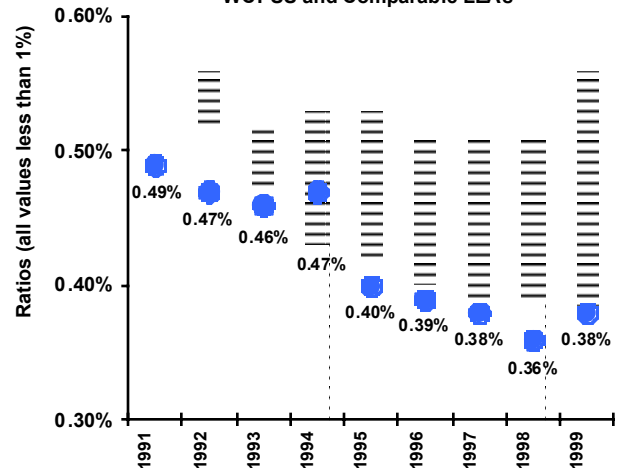


### ADMINISTRATOR, SUPERVISOR, AND CONSULTANT POSITIONS

*The ratio of administrator, supervisor, and consultant positions to student enrollment in WCPSS remained the lowest among comparison LEAs in seven of eight years.*

While the student population in WCPSS has increased 37% since 1991-92 and 28 new schools have opened, the ratio of administrator, supervisor, and consultant positions to first-month student enrollment has fallen 19%. WCPSS continues to lead the comparison LEAs in declining ratios.

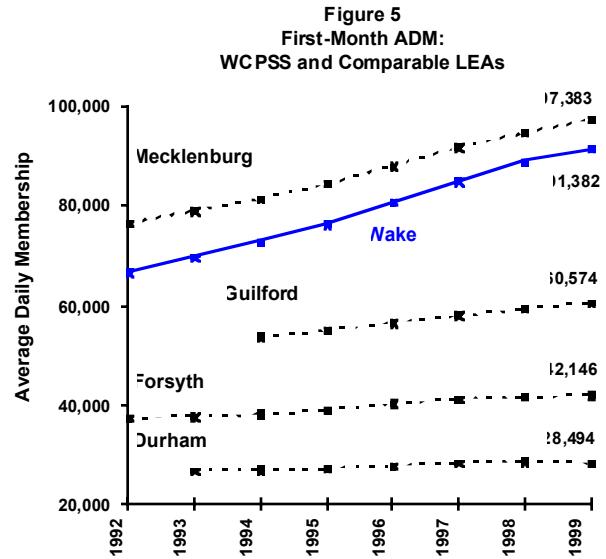
**Figure 4**  
Ratio of Administrator/Supervisor/Consultant  
Positions to First-Month Enrollment:  
WCPSS and Comparable LEAs



## POPULATION GROWTH

*Student population growth in WCPSS exceeded all other comparison LEAs every year except one in the 1990s.*

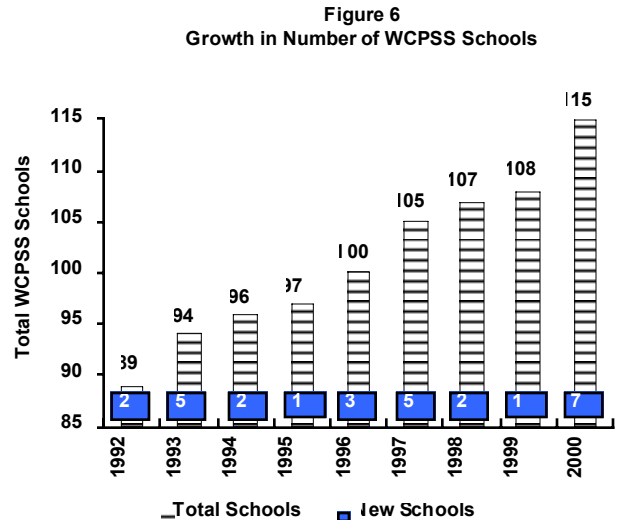
WCPSS is the second largest school district in the state. It grew steadily throughout the 1990s, and the growth in average daily membership (ADM) over this period exceeded that of any comparison LEA. For every year except one in the 1990s, WCPSS added more students to its population than did Mecklenburg County, the largest school district in the state. Between 1991-92 and 1998-99, WCPSS experienced a 37% growth in first-month ADM.



## WCPSS SCHOOL CONSTRUCTION

*Twenty-eight new schools have opened in WCPSS during the last decade.*

In WCPSS, 84 regular schools and 3 alternative schools were operating in the 1990-91 year. In the years since then, WCPSS has opened 28 new schools, not counting replacement schools. Seven new schools opened at the beginning of the 1999-2000 year, bringing the total to 115 schools: 74 elementary schools, 22 middle schools, 15 high schools, and 4 alternative schools. More schools are being planned for the 21<sup>st</sup> century.

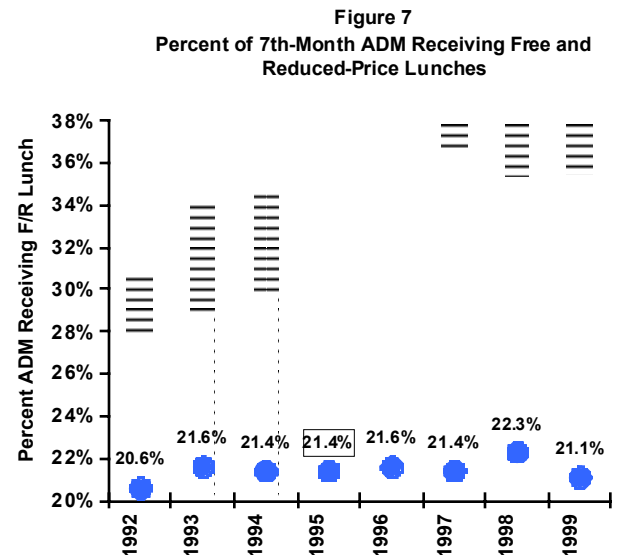


## FREE AND REDUCED-PRICE LUNCHES

*The percentage of WCPSS students receiving free and reduced-price lunches was at the lower range of values among comparison LEAs throughout the 1990s – and changed little during the decade.*

Between 1991-92 and 1998-99\*, WCPSS experienced little change in percentage of students receiving free and reduced-price lunches. In contrast, comparison LEAs experienced increases.

\*Percentages were not reported by NCDPI in 1995 and 1996.



## RACIAL COMPOSITION

*All racial groups in WCPSS increased their numbers during the 1990s, with the Hispanic student group increasing at the fastest rate.*

Between 1990-91 and 1998-99, the Hispanic student population increased by 447%; Asian-American students by 117%; Native-American students by 42%, and Caucasian students by 34%. The dramatic increases in the Hispanic and Asian-American student groups affect instructional programs such as English as a Second Language.

**Figure 8**  
Enrollment of WCPSS Students by Race and Year  
(In Two-Year Increments)

| Year \ Race | 1991   | 1993   | 1995   | 1997   | 1999   |
|-------------|--------|--------|--------|--------|--------|
| Caucasian   | 44,661 | 48,337 | 52,921 | 58,102 | 60,676 |
| African-Am  | 17,435 | 19,021 | 20,477 | 22,700 | 24,926 |
| Asian-Am    | 1,515  | 1,797  | 2,033  | 2,659  | 3,302  |
| Hispanic    | 517    | 759    | 1,202  | 1,908  | 2,895  |
| Native-Am   | 115    | 136    | 157    | 193    | 237    |

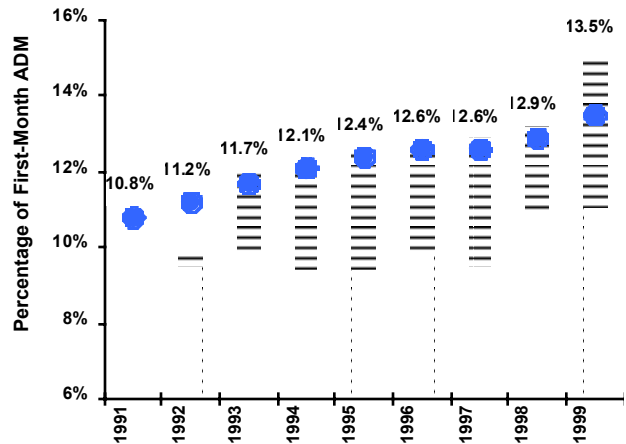
## STUDENTS WITH DISABILITIES

*The percentage of WCPSS students with disabilities was at the upper range of values among comparison LEAs until 1999, and increased steadily in the 1990s.*

In WCPSS, there were 7,448 students with disabilities in the 1991-92 school year, and 12,757 such students in the 1998-99 year. The number of WCPSS students with disabilities in 1998-99\* was 71% greater than in the 1990-91 year.

\*Unduplicated count of children ages 3-21 as of December 1, 1998. Students with disabilities have Individual Education Plans (IEPs) and are eligible for federal funds (Title VI-B).

**Figure 9**  
Students with Disabilities as a Percentage of First-Month ADM:  
WCPSS and Comparable LEAs



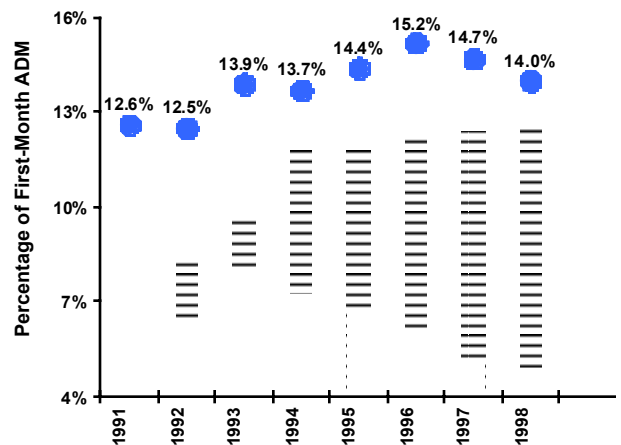
## ACADEMICALLY GIFTED STUDENTS

*The percentage of WCPSS students classified as academically gifted exceeded the highest values among comparison LEAs throughout the 1990s.*

In WCPSS, there were 8,064 academically gifted (AG) students in the 1990-91 year, and 12,459 such students in the 1997-98\* year. The number of WCPSS students classified AG in 1997-98 was 50% greater than in the 1990-91 year.

\*The inclusion of AG as a category of Exceptional Children Programs was discontinued in 1999 and, therefore, not reported by NCDPI.

**Figure 10**  
AG Students as a Percentage of First-Month ADM:  
WCPSS and Comparable LEAs



# PERFORMANCE INDICATORS ELEMENTARY AND MIDDLE SCHOOL GRADES 3-8

## FOURTH- AND SEVENTH-GRADE WRITING TEST SCORES

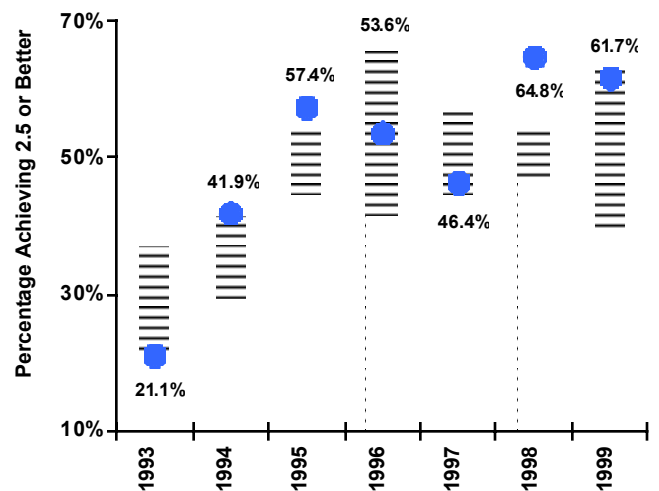
*Fourth- and seventh-grade writing test scores in WCPSS have been inconsistent over time—sometimes higher than comparable LEAs and sometimes lower—but 7<sup>th</sup>-grade scores increased substantially in 1998-99.*

In North Carolina, the 4<sup>th</sup>- and 7<sup>th</sup>-grade writing tests are elements in the state’s ABC Accountability Model for elementary and middle schools, along with the end-of-grade reading and mathematics exams. The writing test was first conducted in 4<sup>th</sup> grade during the 1992-93 year, and in 7<sup>th</sup> grade during the 1995-96 year. On a scale of 1 to 4, writing test scores of 2.5 or better are considered to be at or above grade-level performance.

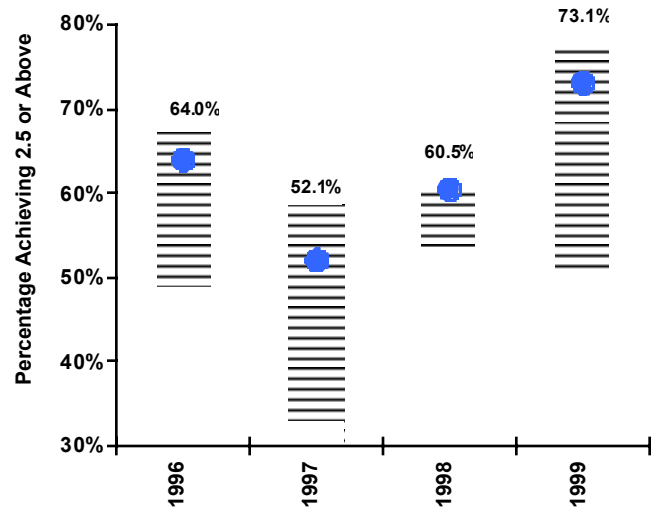
Scores on the writing tests have been inconsistent over time in both the state and WCPSS, suggesting some difficulty with establishing valid and reliable scoring rubrics; however, state scores are beginning to stabilize. In WCPSS, 4<sup>th</sup>-grade writing test scores improved in the first three years of test administration, fell the next two years, improved in 1997-98, and fell slightly in 1998-99. Seventh-grade WCPSS writing test scores also fell in the 1996-97 year, but improved substantially in the two most recent years.

Although the earlier decline in WCPSS writing test scores was reversed in 1998, WCPSS continues to conduct extensive teacher training on instructional practices and scoring rubrics.

**Figure 11**  
Fourth-Grade Writing Test Scores of 2.5 or Better:  
WCPSS and Comparable LEAs



**Figure 12**  
Seventh-Grade Writing Test Scores of 2.5 or Better:  
WCPSS and Comparable LEAs



## END-OF-GRADE READING TEST SCORES

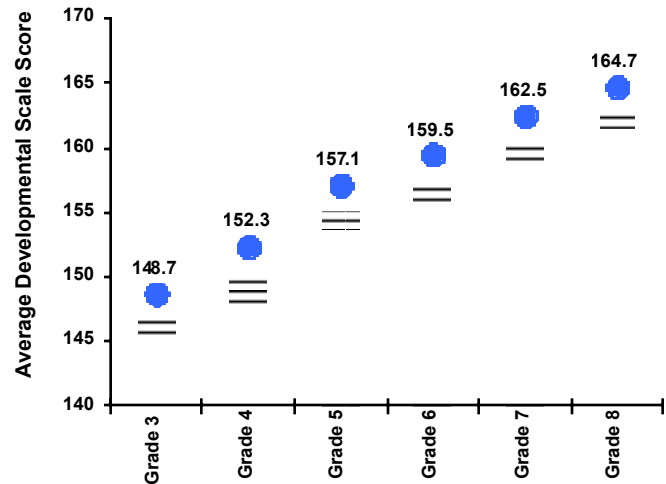
*WCPSS scores on the 1998-99 end-of-grade reading test exceeded those of all comparison LEAs at all grade levels, 3-8. Within WCPSS, developmental scale scores have been climbing over time, and 80-87% of students at all grade levels demonstrate mastery of subject matter.*

The end-of-grade (EOG) tests for reading are scaled developmentally so that scores should rise with each passing year. This developmental pattern is evident in *Figure 13* which shows that WCPSS performed better than any of the comparison LEAs at all grade levels in the 1998-99 year.

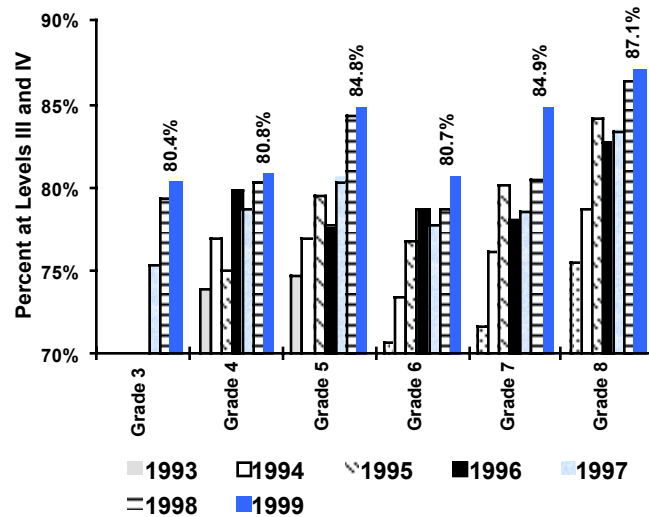
Average EOG reading developmental scale scores have been steadily climbing in WCPSS over time, and scores at all grade levels were higher in 1999 than in 1994. While average reading scores at fourth grade were slightly lower and at fifth grade remained the same in 1999, scores at all other grades were the highest ever.

The EOG reading and mathematics tests are also scored for four achievement levels: I, II, III and IV, with levels III and IV indicating subject mastery at or above grade level. *Figure 14* shows that in the last four years, three-fourths or more of all students in grades 3-8 performed at or above grade level on the EOG reading test. This percentage reached 80% or more in 1999. Eighth-grade students have consistently been the strongest performers. Achievement at Level III or IV on the 8<sup>th</sup>-grade EOG reading and math tests is a graduation requirement in North Carolina.

**Figure 13**  
1998-99 Average EOG Reading Developmental Scale Scores:  
WCPSS and Comparable LEAs



**Figure 14**  
Percent of WCPSS Students at Levels III and IV:  
EOG Reading 1993 through 1999



## END-OF-GRADE MATHEMATICS TEST SCORES

*WCPSS scores on the 1998-99 end-of-grade math test exceeded those of all comparison LEAs at every grade level, 3-8. Within WCPSS, developmental scale scores have been climbing over time at each grade level, and 77-88% of students at all grade levels demonstrate mastery of subject matter.*

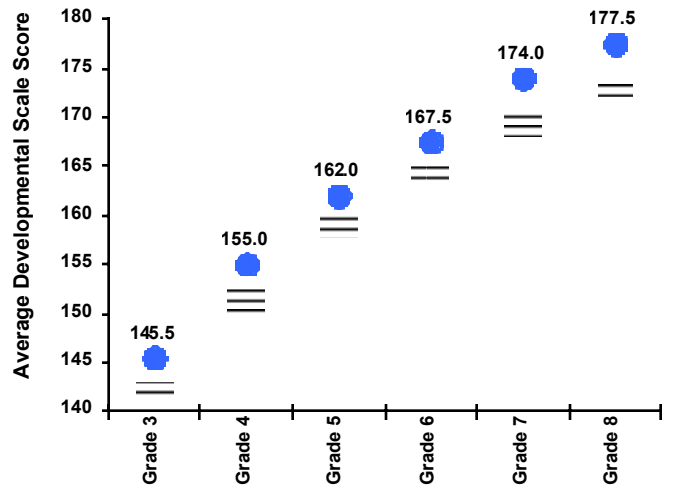
The EOG examinations for mathematics are scaled developmentally so that scores are expected to rise with each passing year. This developmental pattern is evident in *Figure 15* which shows that WCPSS performed better than any of the comparison LEAs at all grade levels in the 1998-99 year.

Average EOG math developmental scale scores have been steadily climbing in WCPSS over time. Scores at all grades in 1998-99 were the highest ever.

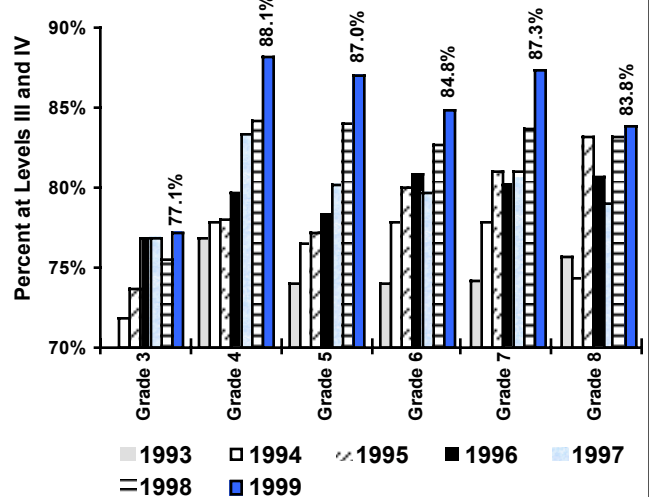
As shown in *Figure 16*, the pattern is clear: in the last four years, three-fourths or more of all students in grades 3-8 performed at or above grade level on the EOG math test. In 1998-99, students in all grades made improvement and, for the first time, 84% or more of students in five of six grades performed at or above grade level.

The percentage of students scoring at or above grade level continues to climb at grades 3 and 8. A WCPSS goal is that 95% of 3<sup>rd</sup> and 8<sup>th</sup> graders score at or above grade level by 2003. Currently at these two grades, more students have scores at or above grade level in reading than in math.

**Figure 15**  
1998-99 Average EOG *Math* Developmental Scale Scores:  
WCPSS and Comparable LEAs



**Figure 16**  
Percent of WCPSS Students at Levels III and IV:  
EOG *Math* 1993 through 1999



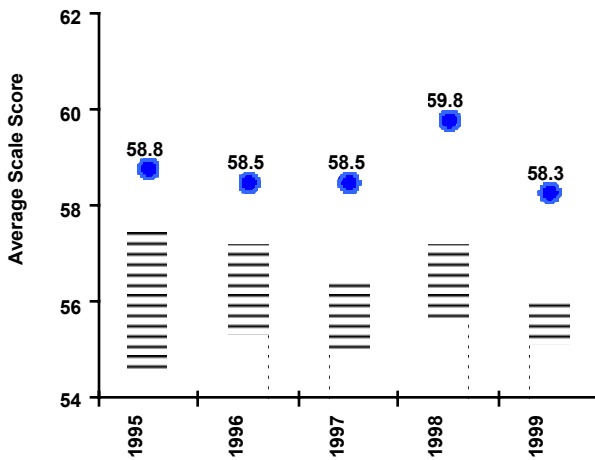
# PERFORMANCE INDICATORS HIGH SCHOOL GRADES 9-12

## END-OF-COURSE TESTS

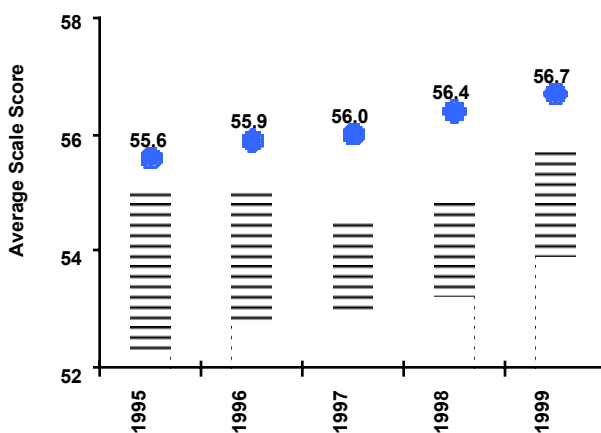
*WCPSS high school students performed better than students in comparable LEAs on end-of-course tests in the core subject areas of Algebra I, U.S. History, English I, Biology and Economic, Legal and Political Systems (ELP).*

In 1997-98, the North Carolina Department of Public Instruction began to factor results on five end-of-course (EOC) tests into the state's ABC Accountability Model for high schools. Another five EOC tests were added in 1998-99. Results of the first five EOC tests are shown on this page. These five courses are taken by all students.

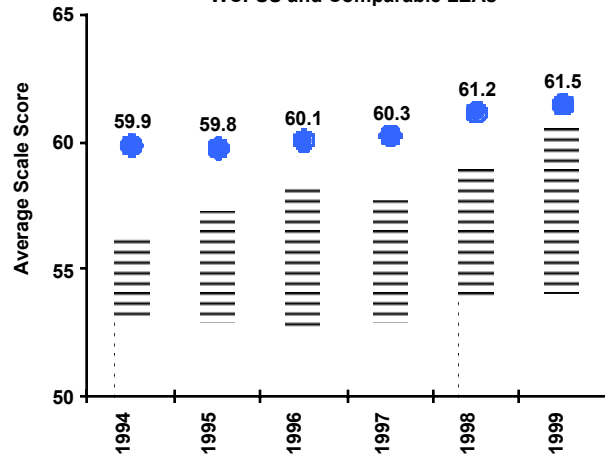
**Figure 18**  
Biology EOC Examination:  
WCPSS and Comparable LEAs



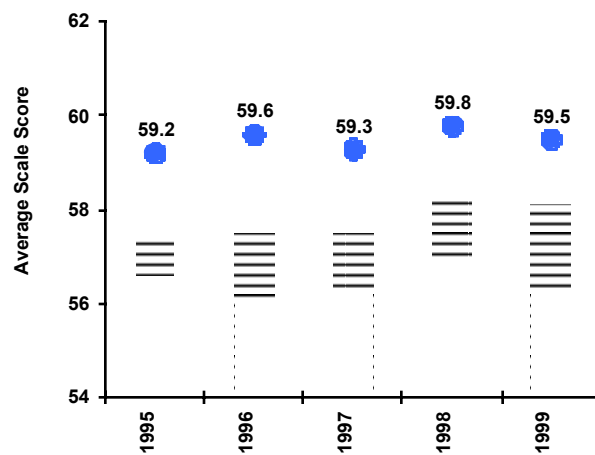
**Figure 20**  
English I EOC Examination:  
WCPSS and Comparable LEAs



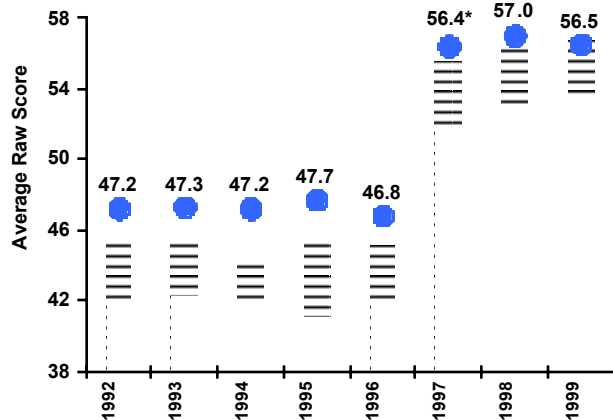
**Figure 17**  
Algebra I EOC Examination:  
WCPSS and Comparable LEAs



**Figure 19**  
U.S. History EOC Examination:  
WCPSS and Comparable LEAs



**Figure 21**  
ELP EOC Examination:  
WCPSS and Comparable LEAs

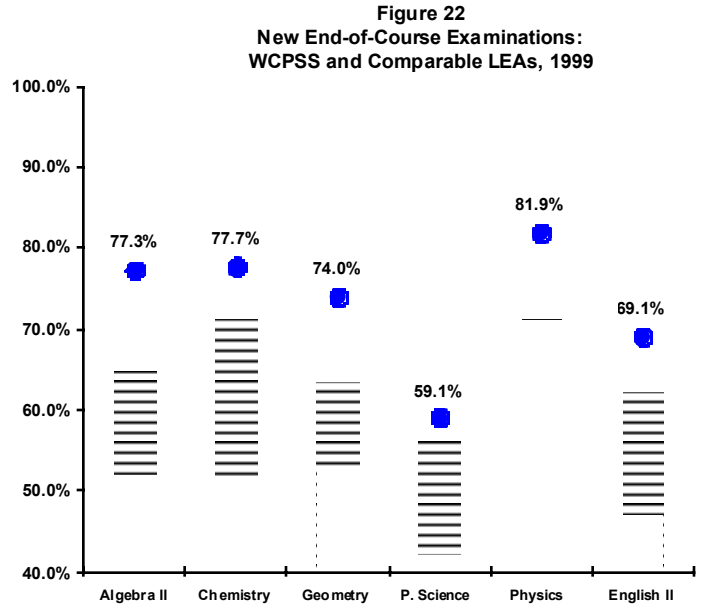


\*Beginning in 1996-97, ELP Scores are reported as developmental scale scores; before this they were reported as raw scores.

## NEW END-OF-COURSE TESTS AND 10<sup>th</sup>-GRADE WRITING TEST (ENGLISH II)

*WCPSS high school students performed better than students in comparable LEAs on new end-of-course tests (Algebra II, Physics, Chemistry, Geometry, Physical Science) and the 10<sup>th</sup>-grade writing test (English II).*

In 1999 the NC Department of Public Instruction began to factor results of five new end-of-course (EOC) tests into the high school ABCs Accountability Model. The English II test, given since 1993, is a writing test that requires knowledge of world literature. EOC tests are scored for four achievement levels, as well as scale scores, with Levels III and IV indicating subject mastery. Higher percentages of WCPSS students performed at or above Level III than students in comparison LEAs.

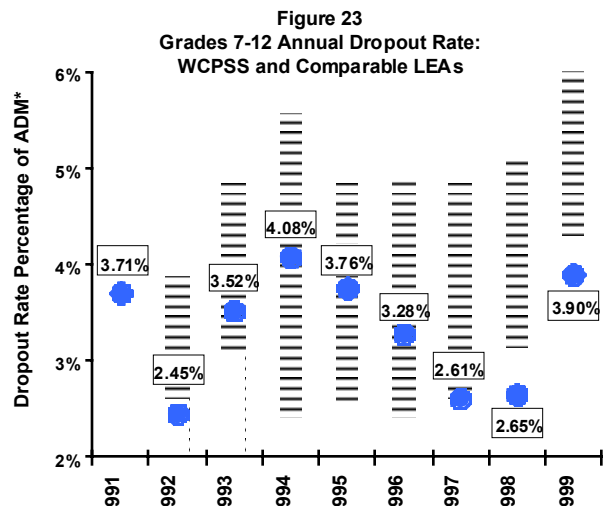


## GRADES 7-12 DROPOUT RATE

*The dropout rate in WCPSS for grades 7-12, once mid-range among comparable LEAs, became the lowest among comparable LEAs.*

For high schools, the dropout rate is another element included in the ABC Accountability Model. The WCPSS dropout rate fluctuated in the 1990s: fell, increased two years, fell three years, and then remained the lowest among comparison LEAs.

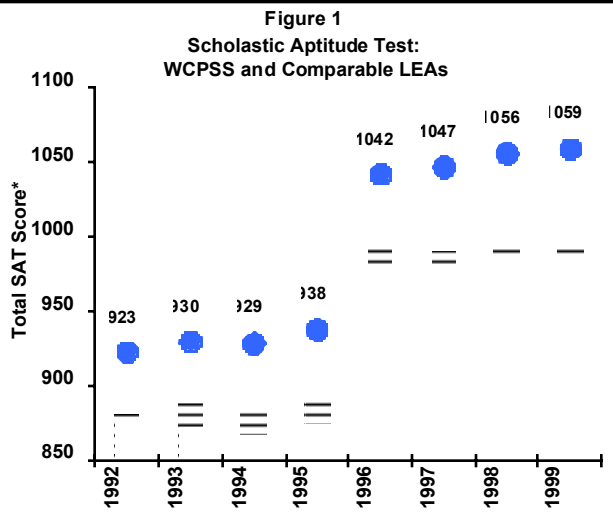
Note: \*The 1999 rates, calculated under new rules, define students who leave high school for community college GED or other programs as dropouts.



## SAT RESULTS

*SAT scores in WCPSS exceeded those in comparable LEAs every year in the 1990s.*

The percent of WCPSS students participating in the SAT exam has been steady throughout the 1990s, ranging between 73% and 76.6%. Percent participation is an important variable: States and LEAs with high percent participation tend to have lower average scores than those with lower percent participation. While testing a high percentage of students, the WCPSS average score of 1059 for the total SAT in 1999 was above the national average of 1016. In North Carolina, only two relatively small LEAs (Chapel Hill-Carrboro and Asheville) tested as high a percentage of students and earned higher SAT scores than WCPSS in 1998-99.



\*SAT scores were recalculated after April 1996 to re-align the verbal and math sections, and put the average score for the total battery near 1000.

Overall, WCPSS is academically the strongest among the comparable LEAs in North Carolina, despite growing faster and spending less per pupil. WCPSS has also maintained a lower dropout rate and a lower ratio of administrator, supervisor, and consultant positions than any of the comparison LEAs.

#### Areas where WCPSS exhibited relative academic strengths in 1998-99:

- EOC performance in most core courses, including the five new ones.
- EOG performance in reading and math.
- SAT performance.

#### Areas where WCPSS exhibited relative academic weaknesses in 1998-99:

- Writing performance in grades 4 and 7.
- EOC performance in Economic, Legal and Political Systems (ELP) decreasing.

WCPSS students have achieved high test scores that have steadily improved during the 1990s. Even so, improvement must accelerate for WCPSS to achieve the goal of 95% of 3<sup>rd</sup> and 8<sup>th</sup> graders scoring at or above grade level by 2003. The gradual gains of recent years will not reach the 2003 goal. Currently, at these two grades, more students are nearer the goal in reading than in math. WCPSS continues to increase its efforts to support existing personnel with staff development training, recruit the best among new teachers, implement the best instructional programs, and rigorously evaluate existing programs.

## SOURCES

This report contains the most accurate and current data for WCPSS and comparison LEAs available at the time of publication. Published sources of data were used, except in a few instances in the 1998-99 year, as noted below.

**Figures 2 and 3:** Local, state, and federal per pupil expenditures are reported each year by the North Carolina Department of Public Instruction (NCDPI) for each LEA in a *Statistical Profile* publication. In 1999, the *Statistical Profile* is also available on-line at [www.dpi.state.nc.us/stats/](http://www.dpi.state.nc.us/stats/). In Figures 2 and 3, per pupil expenditures exclude child nutrition. Per pupil expenditure is computed only for current expense expenditures connected with the daily operation of schools (excluding community services, Head Start, adult education, and inter/intra fund transfers) by using final ADM figures in the denominator. "State" and "Federal" expenditures are the amounts spent for education from the budgets of state and federal governments, respectively, while "Local" expenditures are regarded as all expenditures not funded by state or federal governments.

**Figures 4-10:** Values for the first-month ADM; number of teachers, administrators, supervisors and consultants; racial composition of student population; number of students with disabilities; number of students receiving free and reduced-price lunches; and number of AG students are reported each year by the NCDPI for each LEA in the *Statistical Profile* publication. The opening of new WCPSS schools in the 1990s was measured by noting the year in which the school first appeared in the annual WCPSS directory listing of all schools.

**Figures 11-22:** EOC testing in grades 9-12 began in North Carolina with administration of the Algebra I EOC test in 1985-86. EOG testing in grades 3-8 began in 1992-93. EOC and EOG test results are reported each year by the NCDPI for each LEA in a *State Testing Results* publication. 1998-99 test results are also reported in the NCDPI on-line *Report Card*.

**Figures 1 and 23:** Dropout rates and SAT results are reported each year by the NCDPI for each LEA in a *Report Card* publication. The dropout rate collected in North Carolina is an unduplicated count. The 1998-99 dropout rates for WCPSS and other LEAs were obtained from the on-line *Report Card*. The 1998-99 SAT results are reported by the NCDPI in its 1999 *SAT Report* publication. In North Carolina, percent participation on the SAT is calculated by dividing the number of 12<sup>th</sup>-grade students who took the SAT by the seventh-month ADM for 12<sup>th</sup>-grade students.