2. THE CHANGING SCHOOL ENVIRONMENTS OF STUDENTS WITH DISABILITIES

Students' experiences at school are shaped in important ways by their own instructional programs and extracurricular involvement and by what students bring to them. However, the schools in which those experiences occur also can influence students' learning, engagement, performance, and satisfaction. For example, there is a growing movement in support of smaller high schools (e.g., Coalition of Essential Schools, 2003) because they are believed to provide a context that is more conducive to authentic instruction, positive student-adult and student-student relationships, and effective preparation for postschool success than is possible in much larger schools. Similarly, increases in standards for teacher quality embedded in the No Child Left Behind Act of 2001 (NCLB) recognize that adequate staff resources in schools are a key ingredient in improving student achievement.

Aspects of the school context can be important for all students, but perhaps particularly so for students with disabilities, who may be challenged in their ability to succeed in their instructional programs or to engage in positive relationships at school. Thus, knowledge of the characteristics of schools attended by students with disabilities is important to an understanding of the relationships between school programs and services and student outcomes.

This chapter provides a backdrop for subsequent analyses of changes in students' school programs and performance by describing changes between the time periods of NLTS and NLTS2 in the following features of the school contexts of secondary school students with disabilities:[1]

- The types and locations of their schools
- Enrollment
- Characteristics of the student bodies
- Selected federal programs and special education placement options available in schools
- Community resources.

These aspects of schools attended by students with disabilities are described by using data drawn from the NLTS school background survey, completed by principals in the 1986-87 school year, and data from the NLTS2 school characteristics survey, completed in the 2001-02 school year by school staff able to describe the schools attended by NLTS2 students and the programs, policies, and resources in them.

Changes in characteristics of schools are described for secondary school students with disabilities as a group and for middle and high school students when they differ.[2] They also are

[1] This chapter reports the characteristics of schools attended by a nationally representative sample of students with disabilities; those schools do not constitute a nationally representative sample of schools. Percentages reported are percentages of students who attend schools with particular characteristics, not percentages of schools with those characteristics.

[2] For convenience, 7th and 8th graders are referred to as middle school students and those in 9th through 12th grades are referred to as high school students. Students with disabilities who are not assigned to a grade level are not included in analyses of changes that differ across grade levels.

described for students who differ in their primary disability category, household income, and racial/ethnic background, where significant.

Changes in the Types and Locations of Schools Attended

NLTS took the first national look at the school programs of secondary school students with disabilities at the beginning of the Regular Education Initiative (Will, 1986). Since that time, the movement to include students with disabilities in regular schools, where they may have a greater opportunity for access to the general education curriculum, has resulted in schooling for more students with disabilities resembling the schooling of their nondisabled peers. A comparison of NLTS and NLTS2 confirms a "trend toward inclusive environments" (U.S. Department of Education, 2002, p. III-44). The proportion of students with disabilities attending regular schools that serve the general population of students increased by 3 percentage points ($p<.05$; Exhibit 2-1), so that by 2001, 94% of secondary school students with disabilities were attending such schools.

Exhibit 2-1
CHANGES IN TYPES OF SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Percentage-Point Change
Percentage attending:			
A regular secondary school	90.5 (1.0)	93.9 (1.0)	**+3.4***
A school serving only students with disabilities	6.3 (.8)	2.6 (.7)	**-3.7*****
A vocational-technical school	1.6 (.4)	.8 (.4)	-.8
An alternative/continuation school	1.3 (.4)	.1 (.1)	**-1.2****
A magnet school	.2 (.1)	1.1 (.4)	**+.9***
Another kind of school	.0	1.5 (.5)	**+1.5****
Percentage attending school in a community that was:			
Urban	28.1 (1.5)	29.2 (1.9)	+1.1
Suburban	35.4 (1.6)	56.8 (2.0)	**+21.4*****
Rural	36.5 (1.6)	14.0 (1.4)	**-22.5*****

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

There was a corresponding 4-percentage-point reduction in enrollment in special schools that serve only students with disabilities ($p<.001$). This decline in special school attendance by secondary school students with disabilities mirrors that for the population of students with disabilities ages 3 through 21, as reported to the U.S. Department of Education in the federal child count. Attendance at special schools and facilities declined for students with disabilities overall, from 7% in the 1986-87 school year (U.S. Department of Education, 1989) to 4% in the 1999-2000 school year (U.S. Department of Education, 2002). A decline in enrollment in alternative or continuation schools and an increase in attendance at magnet and "other" schools (e.g., charter schools, schools in juvenile justice facilities) were quite small, although the differences are statistically significant.

A geographic shift also occurred in the student populations represented in NLTS and NLTS2. Students in cohort 2 were substantially less likely to attend schools in rural areas and much more likely to do so in suburban communities than peers in the 1980s. This shift toward attending schools in suburban communities reflects in part the "oncoming incipient

suburbanization" of the population as a whole (Economic Research Service, 2000, p. 1)—the sprawl of population out of metro areas to adjacent nonmetro counties, which converts rural to suburban areas. In fact, "the 2000 Census confirms that the decentralization of economic and residential life remains the prevailing trend in metropolitan America today" (Lucy & Phillips, 2001, p. 2). However, another contributor to the large increase in the number of students living in suburban areas is the fact that the NLTS sample was much less likely to be living in suburban areas in 1987 than were students in the general population (35% vs. 48%, $p<.001$; Marder & Cox, 1991). Thus, cohort 2 students with disabilities more closely resemble the general population in metropolitan status than did cohort 1 students.

The shift toward suburban communities is likely to help explain a variety of other changes in the characteristics of schools attended by students with disabilities, as reported in the remainder of this chapter.

Changes in Student Body Characteristics

Our schools reflect our nation, and as America's population has grown and become more diverse, so has the student population, with important implications. The characteristics of a school's inhabitants are often critical but overlooked factors in understanding the dynamics of schools and the experiences of students in them. This section examines several characteristics of the student bodies of schools attended by students with disabilities, including their size and racial/ethnic distribution, the prevalence of English language learners (ELL), and students' household economic status. The prevalence of students with disabilities being served in schools also is reported.

Enrollment

Cohort 2 secondary school students with disabilities attended larger schools, on average, than did their peers in cohort 1 (Exhibit 2-2). Average enrollment increased over time by more than 25%, from 951 to 1,205 ($p<.001$). This sizable increase is consistent with the shift away from attending schools that serve only students with disabilities, which tend to be small, and away from rural communities, which also tend to have smaller schools than the suburban areas toward which the population shifted.

Although the number of students enrolled in secondary schools nationally also has increased, that increase has been only about half as large (12%); average school enrollment nationally grew from 711 students in the 1987-88 school year to 795 in 2000-01 (National Center for Education Statistics, 2002a). However, at both times, students with disabilities tended to go to larger schools than their peers in the general population did ($p<.001$). Further, there is a clear pattern of lower student enrollments in middle schools than in high schools, with no increase over time in the size of middle schools. The average enrollment in schools attended by seventh- and eighth-grade students with disabilities in cohort 1 was 819, compared with 759 for cohort 2. In comparison, cohort 1 high school seniors with disabilities attended schools with an average enrollment of 992, which increased by almost one-third for cohort 2 (1,311; $p<.01$).

Exhibit 2-2
CHANGES IN ENROLLMENT IN SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Change in School Enrollment
Average enrollment in schools attended by:			
All secondary school students with disabilities	951 (22)	1,205 (31)	**+254*** **
7th and 8th graders	819 (57)	759 (49)	-60
9th graders	1,030 (54)	1,170 (64)	+140
10th graders	962 (47)	1,357 (66)	**+395*** **
11th graders	994 (52)	1,228 (61)	**+190** **
12th graders	992 (70)	1,311 (94)	**+319** **

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: **=p<.01, ***=p<.001.

Research suggests that the larger size of schools attended by students with disabilities could be cause for concern. Attending large schools can have adverse effects for racial and ethnic minorities and for students living in low-income households (Haller et al., 1993; Howley & Bickel, 2000; Roza, 2001; Wasley, 2002)—groups that are disproportionately represented among students with disabilities (Marder, Levine, & Wagner, 2003; Marder, Levine, Wagner, & Cardoso, 2003). In contrast, lower student enrollments have been linked to improvements in student and staff attitudes, social behavior, extracurricular participation, attendance, graduation rates, parent involvement, and student attributes, such as feelings of belonging, self-concept, interpersonal relations, and a sense of personal responsibility (Cotton, 2001; Haller et al., 1993).

Racial/Ethnic Background

The increase in America's racial/ethnic diversity is mirrored in the schools attended by students with disabilities (Exhibit 2-3). Although small decreases in the average percentage of white and African-American students in schools attended by students with disabilities as a whole do not attain statistical significance, a 3-percentage-point growth in the Hispanic student population ($p<.01$) and a 1-percentage-point increase in the average proportion of the student body who are Asian or Pacific Islander ($p<.01$) are statistically significant. These changes in the racial/ethic backgrounds of the student bodies in schools attended by students with disabilities for the most part mirror changes in the general student population (Child Trends, 2003) and make their schools very similar. In the 2000-01 school year, students nationally went to schools where 64% of students were white, 15% were African American, 16% were Hispanic, 4% were Asian or Pacific Islander, and 1% were American Indian or Alaska Native (Federal Interagency Forum on Child and Family Statistics, 2001).

Exhibit 2-3
CHANGES IN STUDENT BODY CHARACTERISTICS OF SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Percentage-Point Change
Average percentage of the student body who were:			
White	70.3 (1.1)	67.2 (1.3)	-3.1
African American	17.9 (.9)	15.9 (1.0)	-2.0
Hispanic	8.7 (.7)	12.0 (.9)	**+3.3****
Asian/Pacific Islander	2.3 (.2)	3.3 (.3)	**+1.0****
American Indian/Alaska Native	.9 (.2)	1.2 (.2)	+.3
Percentage attending schools where students eligible for free or reduced-price lunches were:			
Fewer than 25% of the student body	51.4 (1.7)	45.4 (2.1)	**-6.0***
25% to 50% of the student body	28.2 (1.5)	34.0 (2.0)	**+5.8***
More than 50% of the student body	20.4 (1.4)	20.6 (1.7)	+.2

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01.

Poverty Status

Participation in the National School Lunch Program (NSLP) is common in schools attended by students with disabilities. Through it, students from households with incomes below 185% of the federal poverty level are eligible for reduced-price lunches, and those from households with incomes below 130% of poverty level are eligible for free lunches. Cohort 2 students with disabilities were more likely to attend schools with higher concentrations of students who were eligible for the NSLP than were cohort 1 students (Exhibit 2-3).

More than half (51%) of cohort 1 students with disabilities went to schools where fewer than one-fourth of the students were eligible for the NSLP, compared with 45% of cohort 2 students ($p<.05$). Instead, cohort 2 students were more likely than their peers in cohort 1 to attend schools where one-fourth to one-half of students were eligible for free or reduced-price lunches ($p<.05$). This greater concentration of low-income students in the schools attended by cohort 2 students with disabilities is somewhat inconsistent with the fact that cohort 2 students themselves were much less likely to be living in poverty than their cohort 1 peers (29% vs. 38%, $p<.01$; Wagner, Cameto, & Newman, 2003) and more likely to be living in suburban, presumably wealthier communities, as shown in Exhibit 2-1.

Students with Disabilities in the Schools

Data reported to the federal government have shown a steady increase over the last 25 years in the number of students receiving special education services (U.S. Department of Education, 2003). However, this increase in the special education student population has not translated into an increase in their proportion of the student bodies in their schools (Exhibit 2-4). Cohort 1 students went to schools where principals reported that students who received special education services were 17% of the student body, on average, a percentage that was virtually unchanged for cohort 2. However, those similar averages mask some changes in the actual concentrations of students with disabilities in schools. Cohort 2 students were much more likely than their

Exhibit 2-4
CHANGES IN THE PERCENTAGE OF STUDENTS RECEIVING SPECIAL EDUCATION IN THE SCHOOLS THEY ATTENDED

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Percentage-Point Change
Average percentage of the student body receiving special education services	17.4 (.9)	16.5 (.7)	-.9
Percentage in schools where students receiving special education were:			
5% or fewer of the student body	14.8 (1.3)	4.0 (.8)	**-10.8*****
5.1% to 10% of the student body	40.1 (1.7)	22.8 (1.8)	**-17.3*****
10.1% to 15% of the student body	21.8 (1.5)	40.6 (2.1)	**+18.8*****
15.1% to 75% of the student body	15.4 (1.3)	29.8 (1.9)	**+14.4*****
More than 75% of the student body	7.8 (.9)	2.8 (.7)	**-5.0*****

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following level: ***=p<.001.

peers in cohort 1 to go to schools where students who received special education services were between 10% and 75% of the student body (p<.001) and much less likely to go to schools where they were a smaller or larger percentage than that. The reduction in students going to schools where more than three-fourths of students received special education services is consistent with the move away from special schools that serve only students with disabilities.

Changes in School Programs and Placement Options

NLTS and NLTS2 collected information on the availability of two federal programs: Title I, the federal compensatory education program, and English as a second language (ESL) programs. Information also was obtained on various placement options available for students with disabilities.[3]

Since 1965, Title I of what was then the Elementary and Secondary Education Act has authorized supplemental federal aid to schools who serve a large proportion of low-income students to help improve their academic performance. Cohort 2 students with disabilities were much less likely to have the federal Title I compensatory education program available in their schools than was true of cohort 1 students (Exhibit 2-5); one-half of cohort 1 students went to schools with a Title I program, compared with fewer than one-third of students in cohort 2 (p<.001). This change is somewhat surprising in light of the fact that schools attended by cohort 2 students tended to have a larger concentration of low-income students who were eligible for free or reduced-priced lunches than cohort 1 schools (as shown in Exhibit 2-3). However, the noted decrease in Title I availability is consistent with a decrease of 11 percentage points in schools participating in the program nationally (Sinclair, 2002). The decreases in Title I availability in schools attended by students with disabilities occurred at high school grade

[3] Respondents to the NLTS school background survey responded to the following item: "Please indicate which of the following compensatory education programs are available to secondary students at your school." Four response categories were provided. Respondents to the NLTS2 school characteristics survey were asked, "Which of the following services, resources, or programs does this school have available to students, either as part of a curriculum or before or after school hours?" Twenty-eight response categories were provided. Title I and ESL programs are the two response categories included in both surveys.

Exhibit 2-5
CHANGES IN SELECTED PROGRAMS AND PLACEMENT OPTIONS AVAILABLE IN SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Percentage-Point Change
Percentage in schools with:			
A Title I program	50.1 (1.7)	30.4 (1.9)	**-19.7*** **
An English as a second language program	39.8 (1.6)	55.7 (2.1)	**+15.9*** **
Percentage in schools with the following placement options available for students with disabilities:			
General education class	93.8 (.9)	95.8 (.8)	+2.0
Special education resource room	91.5 (1.1)	93.2 (1.1)	+1.3
Self-contained special education class	69.5 (1.8)	86.7 (1.4)	**+17.2*** **

Source: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following level: ***=p<.001.

levels (17 to 24 percentage points, p<.01 and p<.001); there was no significant change in programs available in schools attended by seventh and eighth graders.

Programs for students who speak English as a second language (ESL) have become much more common in schools attended by students with disabilities; more than half of cohort 2 students (56%) were going to schools with such programs, a 16-percentage-point increase over cohort 1 (p<.001). This finding is consistent with the increase in Hispanic and Asian/Pacific Islander students in the schools (shown in Exhibit 2-3) and with the fact that cohort 2 students themselves were much more likely than cohort 1 peers to use primarily a language other than English at home (Wagner, Cameto, et al., 2003).

In addition to these changes in the prevalence of Title I and ESL programs, placement options available for serving students with disabilities also have changed.[4] General education inclusion programs and special education resource rooms were available in the vast majority of schools attended by students with disabilities in both cohorts, and their availability did not change over time. However, self-contained special education classes, which were available in schools attended by only about two-thirds of cohort 1 students, became substantially more common, so that 87% of cohort 2 students with disabilities went to schools with such programs (p<.001). Self-contained classrooms may have been established in some schools to serve the influx of students who previously would have attended special schools only for students with disabilities. However, the increase in the availability of self-contained placements should not be construed as implying there has been an increase in the prevalence of students with disabilities being instructed in them. The U.S. Department of Education has documented a decline from 25% to 23% between the 1986-87 and 1995-96 school years[5] in the percentage of students ages 3 through 21 who received instruction in a separate special education class (U.S. Department of Education, 1989; U.S. Department of Education, 1998).

[4] NLTS respondents were asked, "Which of the following placement options did your school have for secondary special education students in the 1986-87 school year?" NLTS2 respondents were asked, "Which of the following placement options are available to students with disabilities at this school?"

[5] After the 1995-96 school year, placement data were reported in different categories, so participation in separate special education classes can no longer be identified.

Changes in Community Resources

The likelihood that students with disabilities will achieve positive outcomes both during secondary school and in their postschool years can be affected by the kinds of resources available in their communities. For example, having alternatives to regular high schools (such as an alternative or continuation school or a vocational-technical school) can give students access to instructional programs or learning environments that may be more appropriate to their needs and interests than those of regular secondary schools. Similarly, having postsecondary education and training institutions in their community can facilitate the continuation of education after high school for youth with disabilities. And some youth with disabilities will be able to enter the workforce if supported employment programs or transportation accommodations are available.

Exhibit 2-6
CHANGES IN COMMUNITY RESOURCES AVAILABLE TO STUDENTS WITH DISABILITIES

	Cohort 1 (1985-86/ 1986-87)	Cohort 2 (2000-01)	Percentage-Point Change
Percentage attending schools in communities with:			
A special school for students with disabilities	65.3 (1.8)	59.1 (2.5)	**-6.2***
An alternative/continuation school	61.8 (1.8)	94.9 (1.0)	**+33.1*****
A secondary vocational-technical school	71.8 (1.7)	80.9 (1.8)	**+9.1*****
A magnet school	27.2 (1.7)	38.8 (2.5)	**+11.6*****
A work facility for adults with disabilities	82.7 (1.4)	92.4 (1.3)	**+9.4*****
A group home	77.8 (1.6)	91.6 (1.4)	**+13.8*****
A center for independent living	61.5 (2.0)	80.2 (2.1)	**+18.7*****
Advocacy groups for persons with disabilities	86.1 (1.3)	95.5 (1.0)	**+9.4*****
Support groups for persons with disabilities	81.3 (1.5)	92.8 (1.3)	**+11.5*****
Transportation accommodations	77.3 (1.6)	81.5 (1.9)	+4.2
A publicly supported job training program	88.0 (1.2)	89.7 (1.5)	+.7

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, ***=p<.001.

NLTS and NLTS2 investigated the prevalence of these forms of support in the communities in which youth with disabilities attended schools by asking respondents to indicate which of several forms of resources existed in their communities. In general, youth with disabilities were reported to live in more resource-rich communities in 2001 than in the mid 1980s (Exhibit 2-6). The data show significant increases in students' access to 8 of the 11 community resources investigated in the two studies.[6]

Increases in secondary education options may reflect the growing interest in providing families and students with choices regarding school settings. The largest increase noted is in the

[6] Some of the increases in resources shown in Exhibit 2-6 may result from a difference between the two studies in the wording of the questionnaire items from which this information is taken. NLTS asked principals about the presence of different kinds of educational institutions and other kinds of programs, using the following two questions: "Are the following types of schools available in your community?" and "Does your community have the following resources?" NLTS2 asked a single question, with response categories similar to NLTS, but used a different geographic reference: "Which of the following are available in this community or nearby (e.g., within 20 miles)?" If the geographic area considered by respondents to NLTS2 was larger than what respondents in NLTS considered their "community," a higher prevalence of some programs could result.

prevalence of alternative or continuation schools. In cohort 1, 62% of students with disabilities had access to an alternative or continuation high school, whereas almost all cohort 2 youth (95%) had access to such schools ($p<.001$). However, this increase in access is not reflected in actual attendance by students with disabilities; Exhibit 2-1 depicts a small but significant decline in attendance at alternative or continuation schools.

Secondary vocational-technical schools and magnet schools also were significantly more prevalent in cohort 2 than earlier, with 9- and 12-percentage-point increases, respectively, in their availability ($p<.01$). Programs that support the employment and independence of adults with disabilities also were more accessible to cohort 2 than cohort 1 youth, particularly centers for independent living and group homes (19- and 14-percentage-point increases, respectively; $p<.001$). It is unknown how much of these increases in access to resources resulted from the significant shift in the population of students with disabilities from rural to suburban communities.

Only access to special schools for students with disabilities declined over time (6 percentage points, $p<.05$); access to transportation accommodations and access to publicly supported job training programs did not change.

Differential Changes in School Characteristics across Disability Categories

There are notable differences in the extent to which the changes in school characteristics that have been discussed thus far are associated with individual disability categories. The following sections describe the changes in schools that have occurred differentially across disability categories.

Changes in the Types and Locations of Schools Attended

The significant increase in students with disabilities attending regular schools and the corresponding decline in attendance at special schools serving only students with disabilities (presented in Exhibit 2-1) occurred only for students with mental retardation, orthopedic impairments, or multiple disabilities[7] (Exhibit 2-7). They show significant increases in regular school attendance ranging from 8 to 29 percentage points ($p<.01$ to $p<.001$). Their declines in special school attendance range from 8 to 26 percentage points ($p<.01$ to $p<.001$). Students with hearing impairments show a decline in attendance at special schools (9 percentage points, $p<.05$) but no corresponding significant increase in regular school attendance. The changes are largest for students with multiple disabilities. More than 8 in 10 cohort 2 students in that category attended regular schools, compared with about half of students in cohort 1 ($p<.001$). About 15% of cohort 2 students with multiple disabilities attended special schools serving only students with disabilities, a 26-percentage-point decline.

[7] Because there are too few students with deaf-blindness to report separately, they are combined with students with multiple disabilities for analyses reported in this section.

Exhibit 2-7
CHANGES IN TYPES AND LOCATIONS OF SCHOOLS ATTENDED, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage attending:									
A regular secondary school									
Cohort 1 (1985-86/1986-87)	94.9	93.9	84.1	84.4	68.1	67.9	85.9	92.9	52.8
	(1.1)	(1.7)	(2.0)	(2.4)	(2.8)	(3.9)	(2.8)	(2.3)	(5.3)
Cohort 2 (2000-01)	96.2	95.0	92.5	85.9	76.1	72.7	95.4	93.7	81.8
	(1.2)	(1.3)	(1.7)	(2.7)	(3.1)	(4.2)	(1.5)	(1.3)	(2.6)
Percentage-point change	+1.3	+1.1	**+8.4****	+1.5	+8.0	+4.8	**+9.5****	+.8	**+29.0*****
A school serving only students with disabilities									
Cohort 1 (1985-86/1986-87)	1.6	3.6	13.6	11.7	29.6	27.8	11.0	5.6	41.0
	(.6)	(1.3)	(1.9)	(2.1)	(2.7)	(3.7)	(2.5)	(2.0)	(5.3)
Cohort 2 (2000-01)	.2	.6	5.2	9.9	20.9	23.4	2.9	2.7	15.2
	(.3)	(.5)	(1.4)	(2.3)	(2.9)	(4.0)	(1.2)	(.9)	(2.4)
Percentage-point change	-1.4	-3.0	**-8.4*****	-1.8	**-8.7***	-4.4	**-8.1****	-2.9	**-25.8*****
An alternative/continuation school									
Cohort 1 (1985-86/1986-87)	1.1	.9	1.3	2.5	.3	3.0	1.4	1.2	4.4
	(.5)	(.7)	(.6)	(1.0)	(.3)	(1.4)	(1.0)	(1.0)	(2.2)
Cohort 2 (2000-01)	.0	1.2	.0	.0	.0	.0	.2	1.1	.1
		(.7)					(.3)	(.6)	(.2)
Percentage-point change	**-1.1***	+.3	**-1.3***	**-2.5***	-.3	**-3.0***	-1.2	0.1	4.3
Percentage attending school in a community that was:									
Urban									
Cohort 1 (1985-86/1986-87)	27.0	27.9	22.1	39.7	42.6	37.8	40.5	55.8	29.6
	(2.3)	(3.2)	(2.3)	(3.3)	(3.6)	(4.9)	(4.0)	(4.4)	(5.4)
Cohort 2 (2000-01)	29.8	26.2	26.8	30.7	39.9	45.3	38.4	22.6	25.2
	(2.9)	(2.7)	(2.8)	(3.6)	(3.6)	(4.7)	(3.4)	(2.2)	(3.0)
Percentage-point change	+2.8	-1.7	+4.7	-9.0	+2.7	+7.5	-2.1	**-33.2*****	-4.4
Surbuban									
Cohort 1 (1985-86/1986-87)	38.3	37.6	28.1	33.0	38.8	37.6	36.7	20.7	36.5
	(2.5)	(3.5)	(2.5)	(3.2)	(3.5)	(4.9)	(3.9)	(3.6)	(5.7)
Cohort 2 (2000-01)	56.0	64.2	52.2	59.7	50.0	43.3	57.2	65.7	57.6
	(3.1)	(3.0)	(3.2)	(3.8)	(3.6)	(4.6)	(3.4)	(2.5)	(3.4)
Percentage-point change	**+17.7*****	**+26.6*****	**+24.1*****	**+26.7*****	**+11.2***	+5.7	**+20.5*****	**+45.0*****	**+21.1****
Rural									
Cohort 1 (1985-86/1986-87)	34.7	34.5	49.8	27.4	18.6	24.5	22.8	23.5	33.9
	(2.5)	(3.4)	(2.8)	(3.0)	(2.8)	(4.3)	(3.4)	(3.8)	(5.6)
Cohort 2 (2000-01)	14.2	9.5	21.0	9.6	10.1	11.4	4.3	11.7	17.2
	(2.2)	(1.8)	(2.6)	(2.3)	(2.2)	(3.0)	(1.4)	(1.7)	(2.6)
Percentage-point change	**-20.5*****	**-25.0*****	**-28.8*****	**-17.6*****	**-8.5***	**-13.1***	**-18.5*****	**-11.8****	**-16.7****

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Students with learning disabilities or speech impairments show no significant increases in attendance at regular schools, largely because the vast majority of them already were attending such schools in cohort 1. Attendance at regular schools was much lower for cohort 1 students with visual impairments (68%) and did not increase significantly over time; only about three-fourths of cohort 2 students with visual impairments attended regular schools. Neither is a significant increase noted for students with emotional disturbances or other health impairments, who also had relatively lower rates of attending regular schools in cohort 1.

The small but statistically significant change in attendance at alternative or continuation schools that is observed for students with disabilities as a whole occurred largely as a result of declines of 2 and 3 percentage points on the part of students with emotional disturbances or visual impairments ($p<.001$).

The sizable shift from rural to suburban communities that was depicted among students with disabilities as a whole in Exhibit 2-1 is found among students in most disability categories. Declines in attending schools in rural areas range from 8 to 29 percentage points across categories ($p<.05$ to $p<.001$). Significant increases in attending schools in suburban areas range from 11 to 45 percentage points; no significant change is noted for cohort 2 students with visual impairments, who were the least likely to be attending schools in suburban areas. The largest increase in suburban school attendance occurred for students with other health impairments (45 percentage points, $p<.001$). This increase reflects a 33-percentage-point decline in urban school attendance for these students, the only group to show such a decrease, and a 12-percentage-point decline in attending schools in rural areas.[8]

Changes in Student Body Characteristics

Exhibits 2-2 through 2-4 demonstrated a variety of changes in the characteristics of the student bodies in schools attended by students with disabilities as a whole. The following sections describe differences in those changes across primary disability categories.

Enrollment. The substantial increase in the average enrollment in schools attended by students with disabilities that occurred for the group as a whole (presented in Exhibit 2-2) is evident in six of nine disability categories (Exhibit 2-8). The average enrollment in schools attended by these groups shows increases ranging from 179 to 292 students ($p<.05$ to $p<.001$). In contrast, the group of students who attended the largest schools in cohort 1—those with other health impairments—show a significant decline of 303 students in the average size of their schools ($p<.001$). No change is evident in the average size of schools attended by students with visual or orthopedic impairments. Because of the changes described here, cohort 2 students are more similar across disability categories in the size of the schools they attended than was true for cohort 1 students.

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[8] It is important to note that the composition of this disability category also has experienced a significant change over time. The incidence of attention deficit/attention deficit-hyperactivity disorder (ADHD) has increased markedly; students with ADHD as their primary disability generally are included in this category. And although students with autism now are included in a separate category, generally they were included in the other health impairment category in 1986 and thus have been combined with that category in these analyses. Students with ADHD and autism are more likely than students with other disabilities to be white (see Marder, Levine, & Wagner, 2003).

Racial/ethnic background. The overall stability in the average proportion of the student body who were white in schools attended by students with disabilities as a whole (presented in Exhibit 2-3) is mirrored in the pattern across disability categories (Exhibit 2-8). In fact, the only significant changes involve increases of 21 and 10 percentage points for students with other health impairments or multiple disabilities, respectively ($p.<001$ and $p<.05$). The increase for students with other health impairments mirrors changes in the students in that category themselves; they were significantly more likely to be white in cohort 2 than in cohort 1 (Wagner, Cameto, et al., 2003).

Poverty status. The trend that students with disabilities increasingly attended schools with higher concentrations of students in poverty (presented in Exhibit 2-3) applies to only three disability groups: learning disability, mental retardation, and visual impairment. Compared with cohort 1, cohort 2 students in those categories were significantly more likely to attend schools where more than one-fourth of students were eligible for the NSLP; increases range from 8 to 16 percentage points, $p<.05$). In contrast, a significant decrease of 12 percentage points ($p<.05$) is evident for students with other health impairments attending schools with relatively high concentrations of students in poverty, consistent with the decline in the minority population in their schools.

Students with disabilities. As noted for the population of students with disabilities as a whole (presented in Exhibit 2-4), the average percentage of the student body in their schools who received special education services was largely stable over time. However, the stable average masks a decline in most categories in the proportion of students attending schools where both 5% or fewer and more than 75% of the student body were students with disabilities. Significant declines of from 6 to 22 percentage points in the proportion of students attending schools where they were very small proportions of the student body have occurred across all categories except multiple disabilities ($p<.05$ to $p<.001$), reducing dramatically the variation across categories in their likelihood of attending such schools. Students with multiple disabilities have experienced a 31-percentage-point decline in attending schools where students with disabilities were the large majority of the student body, consistent with their large reduction in enrollment in special schools. Significant declines of 9 percentage points also are noted for students with mental retardation or hearing or other health impairments ($p<.05$ to $p<.001$).

Exhibit 2-8
CHANGES IN STUDENT BODY CHARACTERISTICS OF SCHOOLS ATTENDED, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Average enrollment									
Cohort 1 (1985-86/1986-87)	1,001 (33)	1,070 (51)	756 (30)	928 (42)	959 (46)	951 (71)	1,240 (67)	1,449 (82)	604 (72)
Cohort 2 (2000-01)	1,258 (46)	1,276 (53)	1,031 (42)	1,134 (61)	1,138 (60)	1,056 (80)	1,317 (55)	1,146 (35)	896 (43)
Difference in enrollment	**+257*** **	**+206** **	**+275*** **	**+206** **	**+179***	105	77	**-303*** **	**+292*** **
Average percentage of student body who were white									
Cohort 1 (1985-86/1986-87)	71.8 (1.7)	62.6 (2.6)	69.7 (1.8)	70.0 (2.0)	66.5 (1.7)	69.9 (2.4)	62.6 (2.7)	50.6 (3.3)	62.9 (3.5)
Cohort 2 (2000-01)	67.2 (2.0)	68.3 (2.0)	66.0 (2.2)	65.1 (2.5)	63.9 (2.1)	63.9 (2.8)	63.5 (2.2)	72.0 (1.5)	72.6 (2.0)
Percentage-point change	-5.6	+5.7	-3.7	-4.9	-2.6	-6.0	+.9	**+21.4*****	**+9.7***
Percentage in schools with more than 25% of the student body eligible for free or reduced-price lunches									
Cohort 1 (1985-86/1986-87)	43.6 (2.6)	55.8 (3.6)	59.6 (2.7)	50.4 (3.3)	51.2 (3.0)	51.2 (4.3)	48.9 (4.0)	54.5 (4.6)	65.2 (5.3)
Cohort 2 (2000-01)	46.3 (3.2)	52.5 (3.1)	32.0 (3.0)	46.1 (4.0)	41.9 (3.6)	33.3 (4.5)	45.3 (3.5)	57.7 (2.7)	45.5 (3.5)
Percentage-point change	**+10.1***	-8.3	+**8.4***	+3.5	+6.9	**+15.5***	+5.8	**-12.2***	-10.7
Percentage in schools where students receiving special education services were:									
Fewer than 5% of the student body									
Cohort 1 (1985-86/1986-87)	17.3 (2.1)	13.7 (2.5)	7.7 (1.5)	14.8 (2.4)	12.7 (2.0)	13.0 (2.7)	11.5 (2.6)	24.0 (4.0)	3.5 (2.0)
Cohort 2 (2000-01)	4.6 (1.3)	2.6 (1.0)	1.7 (.8)	4.2 (1.6)	5.4 (1.6)	2.2 (1.4)	3.6 (1.3)	2.4 (.8)	4.0 (1.3)
Percentage-point change	**-12.7*** **	**-11.1*** **	**-6.0*** **	**-10.6*** **	**-7.3** **	**-10.8*** **	**-7.9** **	**-22.2*** **	+.5
More than 75% of the student body									
Cohort 1 (1985-86/1986-87)	3.1 (.9)	3.9 (1.4)	15.4 (2.1)	12.6 (2.2)	30.8 (2.8)	30.3 (3.7)	11.5 (2.6)	6.2 (2.3)	45.8 (5.3)
Cohort 2 (2000-01)	.3 (.3)	.8 (.6)	6.1 (1.5)	10.6 (2.4)	21.5 (3.0)	23.5 (4.0)	2.9 (1.2)	2.9 (.9)	14.8 (2.4)
Percentage-point change	-2.8	-3.1	**-9.3*** **	-2.0	**-9.3***	-6.8	**-8.6** **	-3.3	**-31.0*** **

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Changes in School Programs and Placement Options

The declines in the availability of Title I programs in schools that occurred for students with disabilities as a whole (presented in Exhibit 2-5) are evident for students in all categories (Exhibit 2-9), ranging from 11 to 24 percentage points ($p<.05$ to $p<.001$); between about one-fourth and one-third of cohort 2 students with disabilities across categories attended schools with a Title I program. Increases in the prevalence of ESL programs are significant for students in five disability categories, ranging from 12 to 18 percentage points ($p<.05$ to $p<.001$).

Exhibit 2-9
CHANGES IN SELECTED PROGRAMS AND PLACEMENT OPTIONS, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage in schools with:									
A Title I program									
Cohort 1 (1985-86/1986-87)	50.0 (2.6)	41.5 (3.5)	50.9 (2.7)	52.8 (3.2)	52.7 (3.0)	51.4 (4.1)	51.7 (4.0)	47.5 (4.4)	47.8 (5.3)
Cohort 2 (2000-01)	30.7 (2.9)	30.1 (2.8)	30.3 (2.9)	30.0 (3.5)	34.1 (3.4)	31.6 (4.3)	28.1 (3.1)	25.6 (2.3)	35.3 (3.3)
Percentage-point change	**-19.3*** **	**-11.4***	**-20.6*** **	**-22.8*** **	**-18.6*** **	**-19.8*** **	**-23.6*** **	**-21.9*** **	**-12.5***
An English as a second language program									
Cohort 1 (1985-86/1986-87)	41.4 (2.5)	40.9 (3.5)	28.9 (2.5)	48.0 (3.2)	37.2 (2.9)	36.6 (4.0)	56.8 (4.0)	57.1 (4.4)	35.5 (5.1)
Cohort 2 (2000-01)	58.7 (3.1)	56.1 (3.1)	42.9 (3.1)	53.2 (3.9)	49.1 (3.6)	54.5 (4.7)	63.4 (3.3)	56.8 (2.7)	42.6 (3.4)
Percentage-point change	**+17.3*** **	**+15.2*** **	**+14.0*** **	+5.2	**+11.9***	**+17.9** **	+6.6	-.3	+7.1
Percentage in schools with self-contained special education classroom available for students with disabilities									
Cohort 1 (1985-86/1986-87)	68.5 (2.6)	74.0 (3.4)	72.0 (2.9)	66.3 (3.6)	79.5 (3.4)	71.2 (4.9)	80.9 (3.7)	74.3 (4.5)	82.1 (7.1)
Cohort 2 (2000-01)	86.2 (2.2)	83.8 (2.3)	89.9 (2.0)	84.1 (2.9)	87.1 (2.9)	92.9 (3.0)	93.1 (1.8)	89.1 (1.7)	91.5 (2.1)
Percentage-point change	**+17.7*** **	**+9.8***	**+17.9*** **	**+17.8** **	+7.6	**+21.7*** **	**+12.2** **	**+14.8** **	+9.4

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Note: Only factors for which there was a significant change for at least one group of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

The lack of significant changes in access to general education inclusion programs or special education resource rooms for students with disabilities as a whole is mirrored in the changes across categories, none of which attain statistical significance; the vast majority of students with disabilities in both cohorts went to schools with these placement options. Sizable increases in the availability of self-contained special education classrooms occurred for students in all categories except hearing impairment and multiple disabilities. Between 84% and 93% of cohort 2 students had self-contained classes available in their schools, representing increases ranging from 10 percentage points among students with speech impairments ($p<.05$) to 22 percentage points among students with visual impairments ($p<.001$).

Changes in Community Resources

The kinds of changes in the resources available in the communities of students in different disability categories varies with the kind of community resource (Exhibit 2-10).[9] For example, the significant increase in access to alternative or continuation schools noted for students with disabilities as a whole (presented in Exhibit 2-6) occurred for students in all categories, a change that might reflect the sizable move from rural to suburban schools that also occurred across all categories. In contrast, a decrease in the likelihood of attending school in a community that had a special school that served only students with disabilities is evident for students in only four categories. Although no significant change is evident in the prevalence of transportation accommodations in communities for students with disabilities as a whole, a significant increase occurred for students with speech impairments or mental retardation (14 and 10 percentage points, $p<.01$ and $p<.05$); no categories of students show a significant change in the availability of publicly supported job training programs.

Overall, students with learning disabilities, speech impairments, mental retardation, or emotional disturbances show the greatest overall increases in resources in their communities, with significant increases occurring in six or eight of the resources investigated in NLTS and NLTS2. In contrast, students with hearing or other health impairments show a significant increase in only one resource.

[9] As noted earlier in this chapter, some apparent increases in community resources may result from a difference between the two studies in the wording of the questionnaire items regarding the community surrounding the school. If the geographic area referred to in NLTS2 ("in this community, e.g., within 20 miles") was larger than what respondents in NLTS considered their "community," a higher prevalence of some programs could result.

Exhibit 2-10
CHANGES IN COMMUNITY RESOURCES AVAILABLE, BY DISABILITY CATEGORY

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage attending schools in communities that had:									
A school only for students with disabilities									
Cohort 1 (1985-86/1986-87)	64.2 (2.7)	64.3 (3.8)	60.5 (3.1)	76.0 (3.0)	74.7 (2.8)	72.6 (4.0)	68.4 (4.1)	72.4 (4.6)	76.6 (5.2)
Cohort 2 (2000-01)	57.9 (3.7)	65.9 (3.5)	59.4 (4.0)	64.3 (4.4)	67.1 (4.8)	48.8 (7.1)	66.9 (4.0)	55.4 (3.3)	58.1 (4.7)
Percentage-point change	-6.3	+1.6	-1.1	**-11.7***	-7.6	**-23.8****	-1.5	**-17.0****	**-18.5****
An alternative school									
Cohort 1 (1985-86/1986-87)	61.3 (2.8)	61.3 (3.9)	56.8 (3.1)	69.2 (3.3)	71.8 (3.2)	71.8 (4.4)	67.2 (4.2)	72.9 (4.6)	68.3 (5.8)
Cohort 2 (2000-01)	95.0 (1.5)	96.1 (1.4)	94.8 (1.6)	94.3 (1.9)	92.9 (2.1)	95.8 (2.1)	95.7 (1.6)	94.5 (1.4)	95.5 (1.7)
Percentage-point change	**+33.7*****	**+34.8*****	**+38.0*****	**+25.1*****	**+21.1*****	**+24.0*****	**+28.5*****	**+21.6*****	**+27.2*****
A vocational-technical secondary school									
Cohort 1 (1985-86/1986-87)	70.2 (2.6)	66.6 (3.7)	73.0 (2.7)	79.9 (2.8)	78.8 (2.7)	78.3 (3.8)	73.1 (3.9)	66.8 (5.0)	70.3 (5.6)
Cohort 2 (2000-01)	79.4 (2.9)	82.8 (2.7)	84.6 (2.7)	84.4 (3.1)	86.3 (2.7)	82.0 (4.2)	75.6 (3.4)	81.7 (2.4)	83.8 (3.1)
Percentage-point change	**+9.2***	**+16.2*****	**+11.6*****	+4.5	+7.5	+3.7	+2.5	**+14.9****	**+13.5***
A magnet school									
Cohort 1 (1985-86/1986-87)	28.2 (2.6)	23.2 (3.5)	19.9 (2.6)	26.8 (3.3)	37.2 (3.3)	41.2 (4.6)	32.5 (4.3)	52.2 (5.2)	38.4 (6.3)
Cohort 2 (2000-01)	38.0 (3.8)	44.0 (3.8)	32.2 (4.0)	44.3 (4.7)	48.7 (3.9)	46.8 (5.7)	45.0 (4.0)	39.9 (3.4)	41.8 (4.6)
Percentage-point change	**+9.8***	**+20.8*****	**+12.3***	**+17.5*****	**+11.5***	+5.6	**+12.5***	**-12.3***	-3.4
A work facility for adults with disabilities									
Cohort 1 (1985-86/1986-87)	80.5 (2.2)	81.2 (3.0)	83.6 (2.2)	90.5 (2.1)	94.7 (1.5)	90.7 (2.6)	95.0 (1.9)	90.3 (3.1)	82.9 (4.6)
Cohort 2 (2000-01)	92.7 (1.9)	88.6 (2.3)	90.9 (2.1)	95.0 (1.9)	93.4 (2.0)	96.2 (2.0)	96.1 (1.6)	89.6 (1.9)	94.7 (1.9)
Percentage-point change	**+12.2*****	+7.4	**+7.3***	+4.5	-1.3	+5.5	+1.1	-.7	**+11.8***
A group home									
Cohort 1 (1985-86/1986-87)	77.1 (2.4)	77.7 (3.4)	77.3 (2.6)	80.4 (2.9)	85.7 (2.4)	83.1 (3.4)	77.7 (3.8)	85.4 (3.8)	84.2 (4.5)
Cohort 2 (2000-01)	91.9 (2.1)	91.9 (2.1)	86.7 (2.6)	93.7 (2.2)	90.7 (2.4)	91.2 (3.2)	94.2 (1.9)	92.5 (1.8)	95.3 (1.9)
Percentage-point change	**+14.8*****	**+14.2*****	**+9.4***	**+13.3*****	+5.0	**+8.1***	**+16.5***	+7.1	+11.1
A center for independent living									
Cohort 1 (1985-86/1986-87)	60.6 (3.0)	59.5 (4.3)	57.7 (3.3)	68.8 (3.6)	77.6 (3.0)	75.2 (4.2)	66.9 (4.3)	74.9 (5.2)	68.6 (6.2)
Cohort 2 (2000-01)	79.8 (3.1)	78.2 (3.2)	78.5 (3.3)	85.7 (3.3)	85.8 (3.0)	88.5 (3.9)	76.1 (3.7)	76.9 (2.8)	86.2 (3.0)
Percentage-point change	**+18.8*****	**+18.7****	**+20.8*****	**+16.9****	+8.2	**+13.3***	+9.2	+2.0	**+17.6***

Exhibit 2-10
CHANGES IN COMMUNITY RESOURCES AVAILABLE, BY DISABILITY CATEGORY (Concluded)

	Learning Disability	Speech/ Language Impair-ment	Mental Retar-dation	Emotional Disturb-ance	Hearing Impair-ment	Visual Impair-ment	Ortho-pedic Impair-ment	Other Health Impair-ment	Multiple Disabilities/ Deaf-blindness
Percentage attending schools in communities that had:									
Advocacy groups for persons with disabilities									
Cohort 1 (1985-86/1986-87)	85.1 (2.1)	86.6 (2.8)	85.4 (2.2)	88.9 (2.3)	97.4 (1.0)	90.3 (2.7)	93.7 (2.2)	92.3 (2.8)	91.1 (3.5)
Cohort 2 (2000-01)	95.3 (1.6)	98.3 (.9)	94.3 (1.8)	96.8 (1.5)	98.5 (1.0)	97.0 (1.8)	96.8 (1.4)	95.1 (1.3)	90.9 (2.4)
Percentage-point change	**+10.2*** **	**+11.7*** **	**+8.9** **	**+7.9** **	+.9	**+6.7***	+3.1	+2.8	-.2
Support groups for persons with disabilities									
Cohort 1 (1985-86/1986-87)	80.6 (2.4)	82.8 (3.2)	80.1 (2.6)	84.0 (2.7)	91.2 (2.0)	89.2 (2.9)	80.6 (3.4)	85.1 (4.1)	87.2 (4.2)
Cohort 2 (2000-01)	93.1 (1.9)	98.2 (1.0)	86.9 (2.6)	93.9 (2.1)	96.1 (1.6)	94.5 (2.5)	93.8 (1.9)	93.3 (1.6)	93.8 (2.1)
Percentage-point change	**+12.5*** **	**+15.4*** **	+6.8	**+9.9** **	+4.9	+5.2	**+13.2** **	+8.2	+6.6
Transportation accommodations									
Cohort 1 (1985-86/1986-87)	79.5 (2.4)	72.3 (3.7)	67.8 (3.0)	80.6 (2.9)	84.2 (2.5)	77.0 (3.9)	89.9 (2.8)	80.6 (4.2)	75.9 (5.4)
Cohort 2 (2000-01)	81.7 (2.9)	85.9 (2.6)	77.5 (3.2)	84.0 (3.3)	84.0 (2.9)	86.2 (3.7)	84.1 (2.9)	78.0 (2.7)	80.7 (3.5)
Percentage-point change	+2.2	**+13.6** **	**+9.7***	+3.4	-.2	+9.2	-5.8	-2.6	+4.8

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Note: Only factors for which there was a significant change for at least one group of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Differential Changes in School Characteristics across Demographic Groups

It is reasonable to expect that the kinds of changes in the characteristics of schools attended by students with disabilities that have been described thus far could be associated differentially with students with different demographic characteristics. Because boys and girls generally attend the same kinds of schools, changes in the characteristics of those schools could be expected to occur for them similarly, and they did. However, some kinds of changes occurred to different degrees for students with disabilities who differed in income and racial/ethnic background, as described below.

Changes in the Types and Locations of Schools Attended

The small but significant increase in the extent to which students with disabilities as a whole attended regular secondary schools occurred largely among students in the highest income group[10] and those who were white (7 and 4 percentage points respectively, p<.01; Exhibit 2-11).

Exhibit 2-11
CHANGES IN TYPES AND LOCATIONS OF SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Middle	Highest	White	African American	Hispanic
Percentage attending:						
Regular secondary school						
Cohort 1 (1985-86/1986-87)	88.4 (2.5)	90.8 (2.0)	89.5 (1.8)	91.4 (1.2)	86.7 (2.8)	81.9 (5.3)
Cohort 2 (2000-01)	91.6 (2.1)	92.2 (2.2)	96.2 (1.5)	95.9 (1.0)	89.0 (3.0)	90.6 (4.1)
Percentage-point change	+3.2	+1.4	**+6.7****	**+4.5****	+2.3	+8.7
Special school only for students with disabilities						
Cohort 1 (1985-86/1986-87)	6.5 (2.0)	5.3 (1.6)	8.1 (1.6)	6.1 (1.0)	7.9 (2.2)	8.9 (3.9)
Cohort 2 (2000-01)	3.7 (1.5)	3.1 (1.4)	1.4 (.9)	1.8 (.7)	5.5 (2.2)	2.2 (2.1)
Percentage-point change	-2.8	-2.2	**-6.7*****	**-4.3*****	-2.4	-6.7
Percentage attending school in a community that was:						
Urban						
Cohort 1 (1985-86/1986-87)	46.1 (4.0)	27.9 (3.2)	20.1 (2.4)	16.4 (1.7)	64.8 (4.0)	61.1 (6.8)
Cohort 2 (2000-01)	35.0 (3.7)	29.0 (3.7)	25.3 (3.5)	20.4 (2.0)	47.2 (4.7)	48.6 (7.1)
Percentage-point change	**-11.1***	+1.1	+5.2	+4.0	**-17.6****	-12.5
Suburban						
Cohort 1 (1985-86/1986-87)	19.0 (3.2)	33.2 (3.4)	48.4 (3.0)	44.0 (2.2)	15.6 (3.1)	14.1 (4.8)
Cohort 2 (2000-01)	46.6 (3.8)	56.7 (4.0)	62.9 (3.9)	62.2 (2.4)	44.4 (4.7)	47.8 (7.1)
Percentage-point change	**+27.6*****	**+23.5*****	**+14.5****	**+18.2*****	**+28.8*****	**+33.7*****
Rural						
Cohort 1 (1985-86/1986-87)	34.8 (3.8)	39.0 (3.5)	31.5 (2.8)	39.6 (2.2)	19.6 (3.4)	24.7 (6.0)
Cohort 2 (2000-01)	18.4 (3.0)	14.3 (2.9)	11.8 (2.6)	17.3 (1.9)	8.4 (2.6)	3.6 (2.6)
Percentage-point change	**-16.4*****	**-24.7*****	**-19.8*****	**-22.3*****	**-11.2****	**-21.1****

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Note: Only factors for which there was a significant change for at least one group of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

[10] Because inflation has caused household incomes to increase over time, the income categories used in these analyses are not defined by specific dollar amounts. Rather, the three groups are the lowest, middle, and highest third of the income distribution among cohort 1 and cohort 2 students.

Declines of similar sizes in the rates of attending special schools that serve only students with disabilities are also evident for these students. There are no differences across income or racial/ethnic groups in rates of attending other kinds of schools.

Changes in the kind of community in which students with disabilities attended schools also occurred differentially across income and racial/ethnic groups. The absence of a significant change in attendance at urban schools that is noted for students with disabilities as a whole masks a significant decline in urban-school attendance among African-American students with disabilities (18 percentage points, $p<.01$), the group most likely to be attending urban schools in cohort 1. Even with this decline over time, cohort 2 African-American and Hispanic students both were significantly more likely than white students to attend urban schools (47% and 49% vs. 20%, $p<.001$ for both comparisons).

Attendance at suburban schools increased significantly among all income and racial/ethnic groups, although students in the lowest and middle income groups show greater increases (28 and 24 percentage points, $p<.001$) than those in the highest income group (14 percentage points, $p<.01$). African-American and Hispanic students also show greater increases (29 and 34 percentage points, $p<.001$) than white students (18 percentage points, $p<.001$). Nonetheless, cohort 2 students in the highest income group and white students continued to be the most likely to go to suburban schools. The increase in suburban school attendance corresponds to a significant decline in attending schools in rural areas for all groups, although the decline smallest for African-American students with disabilities.

Changes in Student Body Characteristics

A significant increase in the average enrollment in schools attended by students with disabilities occurred for all income groups, ranging from an average enrollment increase of 187 students among those in the lowest income group ($p<.05$) to 315 for the highest income group ($p<.001$; Exhibit 2-12). Increases range from an average of 186 to 245 students across racial/ethnic groups ($p<.05$ and $p<.001$).

Although no significant decrease is evident in the average proportion of the student body who were white in schools attended by students with disabilities as a whole, decreases are noted among those in the highest income group (5 percentage points, $p<.05$) and among white students (4 percentage points, $p<.01$). However, cohort 2 white students, as well as those in the middle and highest income groups, continued to attend schools with significantly higher proportions of white students than other groups. Increases in the proportion of the student body who were eligible for free or reduced-price lunches occurred only in schools attended by students in the middle income group. African Americans are the only racial/ethnic group with a significant increase in this measure (12 percentage points, $p<.05$).

As with the full population of students with disabilities, there are no differences across income or racial/ethnic groups in the average proportion of the student body that students with disabilities comprised. However, significant reductions are evident both in attendance at schools in which 5% or fewer of the student population were receiving special education and attendance at schools in which more than 75% of the student population were receiving special education. Reductions in attending schools where students with disabilities were a very small proportion of the student body occurred across all income and racial/ethnic groups. However, decreases in

attendance at schools where students with disabilities were the large majority of the student body occurred only among students in the highest income group (8 percentage points, p<.001) and among white and Hispanic students (5 and 14 percentage points, respectively, p<.001 and p<.05).

Exhibit 2-12
CHANGES IN STUDENT BODY CHARACTERISTICS OF SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Middle	Highest	White	African American	Hispanic
Average enrollment						
Cohort 1 (1985-86/1986-87)	937 (54)	936 (45)	971 (41)	883 (28)	1,061 (55)	1,375 (18)
Cohort 2 (2000-01)	1,124 (59)	1,173 (58)	1,286 (59)	1,128 (34)	1,248 (74)	1,561 (24)
Difference in enrollment	**+187***	**+237*****	**+315*****	**+245*****	**+187***	**+186*****
Average percentage of student body who were white						
Cohort 1 (1985-86/1986-87)	57.0 (3.0)	72.3 (2.2)	79.1 (1.5)	84.3 (.9)	40.8 (2.6)	26.4 (4.0)
Cohort 2 (2000-01)	59.0 (2.8)	67.8 (2.6)	73.8 (2.2)	80.2 (1.1)	41.8 (3.0)	36.2 (4.3)
Percentage-point change	+2.0	-4.5	**-5.3***	**-4.1****	+1.0	+9.8
Percentage attending schools with more than 25% of student body who were eligible for free or reduced-price lunch						
Cohort 1 (1985-86/1986-87)	69.1 (3.7)	40.5 (3.5)	35.8 (2.9)	39.1 (2.2)	66.7 (4.0)	72.1 (6.3)
Cohort 2 (2000-01)	76.3 (3.3)	56.8 (4.1)	38.0 (4.0)	45.1 (2.5)	78.4 (3.9)	73.3 (6.4)
Percentage-point change	+7.2	**+13.3****	+2.2	+6.0	**+11.7***	+1.2
Percentage attending schools where students receiving special education were:						
5% or fewer of the student body						
Cohort 1 (1985-86/1986-87)	12.3 (2.8)	15.2 (2.7)	18.6 (2.4)	16.1 (1.7)	13.3 (2.9)	17.3 (5.4)
Cohort 2 (2000-01)	4.1 (1.6)	4.2 (1.7)	4.4 (1.7)	3.9 (1.0)	3.8 (1.8)	4.5 (3.0)
Percentage-point change	**-8.2***	**-11.0*****	**-14.2*****	**-12.2*****	**-9.5****	**-12.8***
More than 75% of the student body						
Cohort 1 (1985-86/1986-87)	8.8 (2.4)	6.6 (1.9)	9.6 (1.8)	7.3 (1.2)	8.9 (2.4)	16.6 (5.3)
Cohort 2 (2000-01)	3.9 (1.5)	3.1 (1.4)	1.7 (1.1)	2.1 (.7)	5.9 (2.2)	2.3 (2.1)
Percentage-point change	-4.8	-3.5	**-7.9*****	**-5.2*****	-3.0	**-14.3***

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Changes in School Programs and Placement Options

White and African-American students with disabilities show changes in programs and placements to significant and usually similar degrees (Exhibit 2-13). These groups show decreases of 20 percentage points in their likelihood of going to schools with Title I programs ($p<.001$ and $p<.01$) and increases of 14 percentage points in the availability of ESL programs ($p<.001$ and $p<.05$). Nonetheless, the increases in availability of ESL programs resulted in cohort 2 white and African-American students still being much less likely to go to schools with such programs (51% and 57%) than Hispanic students (81%, $p<.001$ and $p<.05$).

Exhibit 2-13
CHANGES IN PROGRAMS AND PLACEMENT OPTIONS IN SCHOOLS ATTENDED BY STUDENTS WITH DISABILITIES, BY RACE/ETHNICITY

	White	African American	Hispanic
Percentage in schools with:			
Title I program			
Cohort 1 (1985-86/1986-87)	49.2 (2.2)	46.7 (4.1)	50.9 (6.9)
Cohort 2 (2000-01)	29.6 (2.3)	27.0 (4.2)	43.8 (7.0)
Percentage-point change	**-19.6*** **	**-19.7** **	-7.1
English as a second language program			
Cohort 1 (1985-86/1986-87)	36.6 (2.1)	42.5 (4.1)	70.9 (6.2)
Cohort 2 (2000-01)	51.0 (2.5)	56.7 (4.7)	80.7 (5.6)
Percentage-point change	**+14.5*** **	**+14.2** *	+9.8
Percentage attending schools with self-contained special education classrooms			
Cohort 1 (1985-86/1986-87)	66.5 (2.3)	73.0 (4.4)	89.4 (4.8)
Cohort 2 (2000-01)	85.3 (1.8)	89.2 (3.1)	91.0 (4.2)
Percentage-point change	**+18.8*** **	**+16.2** **	+1.6

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Note: Only factors for which there was a significant change for at least one group of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: *=p<.05, **=p<.01, ***=p<.001.

Changes in Community Resources

Although no significant changes are evident across income or racial/ethnic groups in students having access to publicly supported job training programs or transportation accommodations in the communities in which they attended school, significant changes regarding other resources occurred differentially across groups (Exhibit 2-14). Increases in resources were considerably more likely in the communities of students in the middle and highest income groups than in those of students in the lowest income group. Significant increases are evident for the middle and highest income groups for eight and six of the nine resources reported in Exhibit 2-14, respectively. This compares with significant increases in two resources for the lowest income group. The highest income group is the only one to show a significant decline in a resource—a special school for students with disabilities (12 percentage points, $p<.01$). Increases in the resources available in their communities were by far more likely for white students than for others. Although no significant changes over time are evident in the availability of special schools for students with disabilities in any racial/ethnic group, all other resources show significant increases in the communities in which white students attended school, ranging from 10 to 38 percentage points,

p<.01 or p<.001). In contrast, only the availability of an alternative or continuation school and a center for independent living increased for African-American students (20 and 13 percentage points, p<.001 and p<.05), and only the availability of a group home increased for Hispanic students (15 percentage points, p<.05).

Exhibit 2-14
CHANGES IN COMMUNITY RESOURCES AVAILABLE TO STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY

	Income			Race/Ethnicity		
	Lowest	Middle	Highest	White	African American	Hispanic
Percentage attending school in communities with:						
A special school for students with disabilities						
Cohort 1 (1985-86/1986-87)	67.6 (4.2)	57.9 (3.9)	66.2 (3.1)	61.1 (2.3)	75.9 (4.1)	74.5 (6.5)
Cohort 2 (2000-01)	58.0 (4.8)	62.9 (4.7)	54.1 (4.7)	55.9 (2.9)	69.2 (5.5)	64.4 (8.2)
Percentage-point change	-9.6	+5.0	**-12.1***	-5.2	-6.7	-10.1
An alternative or continuation school						
Cohort 1 (1985-86/1986-87)	71.0 (4.2)	59.6 (3.9)	63.2 (3.1)	56.2 (2.4)	76.7 (4.1)	86.0 (5.2)
Cohort 2 (2000-01)	95.2 (1.9)	95.1 (1.9)	94.0 (2.1)	94.7 (1.2)	96.7 (1.9)	93.2 (3.9)
Percentage-point change	**+24.2*****	**+35.5*****	**+30.8*****	**+38.5*****	**+20.0*****	+7.2
A secondary vocational-technical school						
Cohort 1 (1985-86/1986-87)	75.3 (3.9)	66.2 (3.7)	73.2 (2.9)	69.6 (2.2)	82.6 (3.6)	62.3 (7.2)
Cohort 2 (2000-01)	80.5 (3.5)	80.4 (3.6)	79.4 (3.7)	80.1 (2.2)	87.4 (3.7)	75.6 (6.8)
Percentage-point change	+5.2	**+14.2****	+6.2	**+10.5*****	+5.2	+13.3
Percentage attending school in communities with:						
A magnet school						
Cohort 1 (1985-86/1986-87)	41.1 (4.5)	26.2 (3.6)	20.9 (2.7)	18.7 (1.9)	56.5 (4.8)	50.9 (7.7)
Cohort 2 (2000-01)	38.3 (4.7)	37.6 (4.9)	37.7 (4.9)	30.5 (2.9)	59.7 (5.8)	49.0 (8.4)
Percentage-point change	-.8	**+13.2***	**+12.5***	**+11.0****	+5.6	-5.8
An advocacy group for persons with disabilities						
Cohort 1 (1985-86/1986-87)	86.9 (3.1)	83.3 (3.0)	88.4 (2.1)	82.0 (1.9)	96.3 (1.8)	96.4 (3.1)
Cohort 2 (2000-01)	93.6 (2.2)	94.9 (2.1)	96.7 (1.6)	94.1 (1.3)	98.5 (1.4)	98.3 (2.1)
Percentage-point change	+6.7	**+11.6****	**+8.3****	**+12.1*****	+2.2	+1.9

Exhibit 2-14
CHANGES IN COMMUNITY RESOURCES AVAILABLE TO STUDENTS WITH DISABILITIES, BY INCOME AND RACE/ETHNICITY (Concluded)

	Income			Race/Ethnicity		
	Lowest	Middle	Highest	White	African American	Hispanic
Percentage attending school in communities with (concluded):						
A support group for persons with disabilities						
Cohort 1 (1985-86/1986-87)	83.1 (3.6)	77.9 (3.4)	80.2 (2.7)	77.0 (2.1)	93.9 (2.4)	82.6 (6.3)
Cohort 2 (2000-01)	86.0 (3.3)	94.6 (2.1)	95.8 (1.9)	92.8 (1.5)	90.8 (3.4)	94.4 (3.8)
Percentage-point change	+2.9	**+16.7*** **	**+15.6*** **	**+15.8*** **	-3.1	+11.8
A work facility for adults with disabilities						
Cohort 1 (1985-86/1986-87)	81.4 (3.5)	81.1 (3.0)	84.1 (2.4)	79.3 (1.9)	88.6 (3.0)	91.7 (4.3)
Cohort 2 (2000-01)	91.8 (2.5)	94.5 (2.1)	90.8 (2.7)	91.4 (1.6)	93.9 (2.7)	96.2 (3.2)
Percentage-point change	**+10.4***	**+13.4*** **	+6.7	**+11.1*** **	+5.3	+4.5
A group home						
Cohort 1 (1985-86/1986-87)	79.9 (3.7)	74.7 (3.5)	80.2 (2.6)	73.5 (2.1)	90.3 (2.9)	83.9 (5.8)
Cohort 2 (2000-01)	87.8 (3.1)	91.8 (2.6)	93.6 (2.4)	90.0 (1.8)	92.7 (3.0)	98.6 (2.1)
Percentage-point change	+7.9	**+17.1*** **	**+13.4*** **	**+16.5*** **	+2.4	**+14.7***
A center for independent living						
Cohort 1 (1985-86/1986-87)	70.9 (4.4)	58.2 (4.2)	64.2 (3.4)	58.8 (2.5)	74.2 (4.6)	74.4 (7.7)
Cohort 2 (2000-01)	77.1 (4.2)	83.9 (3.7)	76.9 (4.2)	77.1 (2.6)	86.9 (4.1)	87.0 (5.8)
Percentage-point change	+6.2	**+25.7*** **	**+12.7***	**+18.3*** **	**+12.7***	+12.6

Sources: NLTS Wave 1 school background survey and NLTS2 Wave 1 school characteristics survey.

Note: Only factors for which there was a significant change for at least one group of students are included in the exhibit.

Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at the following levels: * p<.05, ** p<.01, *** p<.001.

Summary

The changes in the characteristics of schools attended by students with disabilities that are described in this chapter reflect a variety of changes in both special and general education policy and practice and shifts in the demographics of the general school population, as summarized below.

Indications of the Inclusion Movement

The Regular Education Initiative (REI), begun in the mid-1980s, and subsequent efforts associated with the inclusion movement pressed for the placement of students with disabilities in educational settings where they would have meaningful access to the general education curriculum together with their nondisabled peers. Comparisons of the secondary schools

attended by students with disabilities represented in NLTS and NLTS2 suggest that these initiatives may have contributed to changes in the context of students' secondary schooling.

There was a significant decrease in the proportion of students with disabilities attending special schools that serve only students with disabilities and a corresponding increase in their attending regular secondary schools. Consistent with this shift, there was a decline in the proportion of students with disabilities attending schools where they were the large majority of the student body. However, this potential for increased access to general education settings did not occur uniformly for all students with disabilities. The shift from special schools to regular secondary schools occurred primarily among students with mental retardation, hearing or orthopedic impairments, or multiple disabilities, including deaf-blindness. Students with hearing impairments or multiple disabilities had among the highest rates of attendance at special schools in cohort 1, leaving substantial room for change in their pattern of school attendance. However, students with visual impairments also were among the most likely to attend special schools in 1986 but they showed no significant change in attendance at either regular or special schools over time. The vast majority of cohort 1 students with learning disabilities or speech impairments already were attending regular secondary schools and showed no change in their attendance over time.

Differential changes in indications of the inclusion movement also are noted for students who differed in their socioeconomic status and racial/ethnic background. The movement away from special schools and toward regular secondary schools occurred largely among white students and those in the highest income group; they also had significant declines in attending schools where students with disabilities were the majority of the student body.

Population Shifts

The American school-age population has both grown and changed in its demographic characteristics in the decade and a half since NLTS. An increase in the suburban population nationally is reflected in a significant increase in students with disabilities attending schools in suburban communities. The average size of the schools they attended also increased, particularly among high schools, reflecting a move away from smaller, rural schools as well as a move away from special schools, which tend to be smaller than regular secondary schools. Students with disabilities in all income and racial/ethnic groups experienced the suburbanization of their schools, although the increases are largest for the lowest and middle income groups and for African-American and Hispanic students. Nonetheless, in cohort 2, those groups generally were less likely than white or upper-income students to go to school in suburban communities.

The sizable shift to suburban schools from rural areas may help explain a marked increase in the resources that reportedly were available in the communities surrounding those schools. For students with disabilities, there were significant increases in the availability of a variety of secondary and postsecondary education options (e.g., vocational-technical schools, alternative or continuation schools), supports for adult independence (e.g., group homes, centers for independent living, supported work facilities), and advocacy and support groups for persons with disabilities. Increases in community resources are most notable for students with learning disabilities and other high-incidence categories. They also are most apparent for students with disabilities in the middle and highest income groups and for white students.

Not only has the geographic distribution of the student population changed, but its racial/ethnic composition has as well. The growth in Hispanic and Asian/Pacific Islander students in the national student population is borne out in similar changes in the student bodies of schools attended by secondary school students with disabilities. A substantial increase in students attending schools that provide ESL programs is one response to the burgeoning population of students both with and without disabilities who speak a language other than English. In contrast, there was an increase in students with disabilities attending schools with higher concentrations of students in poverty, but a substantial reduction in their schools' participation in the Title I program.

In some ways, demographic shifts among students with disabilities as a whole are in sharp contrast to those observed for students with other health impairments. These students had the greatest increase in attendance at suburban schools, yet the average size of their schools decreased. And rather than their schools having a decreasing proportion of white students and an increasing proportion of students in poverty, the opposite occurred. These changes correspond to changes among the students in this category themselves—over time, they have become increasingly likely to be white and from upper-income households, a pattern of change not observed for most other categories (Wagner, Cameto, et al., 2003).

The description of changes over time in the characteristics of schools attended by students with disabilities provides a backdrop against which to depict changes in the school programs of students with disabilities, as presented in the next chapter.