ENROLLMENT PROJECTIONS

The majority of school districts in New York State are required to take an annual census. This census should record all children from birth through eighteen years of age. The accuracy of this census will determine the reliability of any data for which they are a base. This is particularly true of the pre-school age groups.

Enrollments by grade are also available. They form the basis for state aid payment. Obviously, they also are the base from which staffing, budgeting, and transportation are determined.

Projections are necessary for valid future planning. When based upon the immediate past, they reflect conditions in the immediate past. Figures should be studied to see if changes seem to be occurring. There is nothing magic about a ten year average or a five-year average--the ratios to be used in projecting should be the ones which, in the judgment of the administrator, most accurately reflect conditions which will prevail into the immediate future.

In the interest of aiding administrators to provide adequate permanent facilities for an expanding enrollment, and to form a base for efficient use of facilities in a declining enrollment district, the following procedures are outlined to develop projected enrollment for the various grades.

The methods described below have been used for a number of years and have resulted in reliable forecasts in both growing districts and ones which have experienced a declining enrollment.

ENROLLMENT PROJECTION SOFTWARE

The CAPP software incorporates the facility to automate enrollment projections, a function the State Education Department has needed to perform manually for many years. These projections have been and continue to be performed on an overall district basis; that is they attempt to project districtwide enrollments, not individual building enrollments, nor enrollments for a particular geographical area within the district.

This appendix will describe the computations required, previously performed manually, and now capable of being performed by the CAPP software. It is intended for reference purposes only, since the computations are quite arduous without the support of the software.

PROCEDURES USED FOR PROJECTING KINDERGARTEN ENROLLMENTS

In projecting enrollments, one of the grade levels which seems to be the most difficult, and often proves to be the most inaccurate, is the kindergarten.

A district may elect to utilize either of two procedures for projecting districtwide kindergarten enrollments:

- the Census Data Method
- the Live Birth Method

Whichever of these options is employed, it will project kindergarten enrollments for each of the next five years. Using the kindergarten class size projections that have been obtained, the enrollment projections for grades 1-12 may then be determined using the cohort survival Method. Regardless of whether the Census Data Method or the Live Birth Method is used to project kindergarten enrollments, the Cohort Survival Method would be used to project enrollments for grades 1-12.

CENSUS DATA METHOD

To utilize the Census Data Method, the district must have the following information available from census data for each of the most recent ten years.

- the count of children residing in the district of age less than 1 year.
- the similar count for children 1 to 2 years old.
- the count of children 2 to 3 years old.
- the count of children 3 to 4 years old.
- the count of children 4 to 5 years old.

Using figures from previous census and enrollment reports, set up the census figures and enrollment figures as illustrated in Table I. Census figures for the previous ten year period for age 1 through 4 are listed to the left of the vertical double line. The total of these five columns is totaled in Column A and for each appropriate year. Column B indicates the enrollment for the year five years after the first census year recorded. '68 is five years later than '63. With these two known figures, develop a ratio (Column B divided by Column A) between the five age group totaled and the kindergarten enrollment. Do this for a period of about five

COLUMN A		COLUMN B		
YEAR	LIVE BIRTHS	YEAR	KINDERGARTEN	RATIO B/A
'63	120	'68	131	1.092
'64	110	'69	125	1.136
'65	90	'70	105	1.167
'66	110	'71	129	1.127
'67	81	'72	103	5.794/5 =1.159
'68	80	'73	93	AVG. RATIO
'69	64	'74	74	
'70	101	'75	117	
'71	106	'76	123	
'72	98	'77	114	

Table II - Live Birth Method of Projection of Kindergarten Enrollment

COHORT SURVIVAL METHOD

Regardless of whether the Census Data Method or the Live Birth Method is used, the result obtained is a projection of the number of kindergarten students during the next five years.

For projected enrollments by grade, for grades 1-12, Table III can illustrate the method (this Table stops at grade 6 but could have been expanded).

Record grade enrollments for the previous five or six years. From these figures determine the attrition ratio for each grade from year to year. Example: 125 kindergarten enrollment in '66 has developed into 148 first grades in '67 - a ratio of 1.18). These 148 dropped to 126 in '68, an attrition ratio of .85, etc.

After developing all the ratios, determine an average ratio and apply it to the latest year's enrollment (the average ratio for a group moving from kindergarten through first grade is 1.03 and an average ratio for a group moving from first to second is .94). In the example, a six year average has been used, but a ratio reflecting 3,4 or 5 years can be used. Table I illustrates the method for projecting kindergarten enrollment. By using this method; we have determined that the enrollment for kindergarten will be 93 to '73. The '72 kindergarten enrollment is 101. Applying a ratio of 1.09, we find that the projected first grade enrollment for '73 is 104. The '72 first grade enrollment is 120. Applying its ratio, we can expect 113 in second grade for the following year.

These two tables indicate but one method of projecting enrollments. Projecting should be a continuous process. The illustrations take into consideration past history; thus, they do consider in an out-migration, attendance at non-public schools, repeaters, drop-outs and general growth or loss of population.

Two major items which are not covered and thus must be treated separately, are:

1. A change in non-public school attendance/or organization;
2. A marked change in home construction.

The software allows for the above adjustments to be made. For a description of the enrollment function incorporated into the software, refer to Appendix A, the User Guide to the CAPP software.

years. Determine an average ratio; in this case .232. Apply this ratio to the five age group total to determine the projected kindergarten enrollment for future years. In the example, all kindergarten enrollments below the double horizontal line are projected (400 x .232 = 93). In the example, all enrollments through '77 are based upon recorded census figures.

AGE OF CHILDREN						COLUMN A TOTAL <1 THRU 4	COLUMN B KNDRGTN.	YEAR	RATIO
YR.	<1	1	2	3	4				
'63	79	85	93	124	111	492	135	'68	0.274
'64	50	105	94	109	126	484	125	'69	0.258
'65	70	114	129	113	124	550	106	'70	0.192
'66	92	87	120	136	119	554	124	'71	0.223
'67	39	103	91	111	141	475	101	'72	0.212
'68	46	55	107	88	104	400 x .232=	93	'73	1.159/5=.232
'69	27	51	60	99	80	317 x .232=	74	'74	AVG. RATIO
'70	75	106	105	93	124	503 x .232=	117	'75	
'71	49	106	101	94	101	451 x .232=	105	'76	
'72	65	95	117	108	106	491 x .232=	114	'77	

Table I - Census Data Method of Projection of Kindergarten Enrollment

LIVE BIRTH METHOD

The Live Birth Method would be utilized by districts that do not possess the detailed census data listed above. It only requires the district to have available the count of live births occurring in the district during each of the most recent ten years. However, it may provide a somewhat less accurate kindergarten enrollment projection than the Census Data Method. The Live Birth Method is illustrated in Table II.

The sequence of computations is nearly the same as in the Census Data Method. First, the ten counts of live births are recorded. For the first five of these counts, the actual kindergarten enrollments five years later should also recorded, and the same type of ratios determined as for the Census Data Method. The average or mean of the five ratios should be computed. Finally, this average ratio should be multiplied by the count of live births during the most recent five years, to project the kindergarten enrollments for the next five years.

Except for the fact that the Live Birth Method starts with counts of live births rather than with census age breakouts, the computations performed are identical.

YR.	KG.	R	1	R	2	R	3	R	4	R	5	R	6	TTL.
'66	125		130		129		98		105		94		105	786
		1.19		.93		1.00		1.06		1.03		.89		
'67	119		148		121		129		104		108		94	823
		1.04		.85		.97		.97		1.01		1.03		
'68	135		124		126		117		125		105		111	843
		1.01		1.05		.94		.99		1.01		1.00		
'69	125		137		130		119		116		122		105	859
		.97		.96		.91		1.02		.98		1.01		
'70	106		121		131		118		121		114		128	839
		1.03		.95		.97		.95		1.00		1.00		
'71	124		109		116		127		112		121		114	823
		.97		.93		1.04		1.02		.99		.98		
'72	101		120		101		121		130		111		119	803
AVERAGE RATIO		1.03		.94		.97		1.00		1.00		.98		
'73	93		104		113		98		121		130		109	768
'74	74		96		98		110		98		121		127	724
'75	117		76		90		95		110		98		119	705
'76	138		132		114		89		87		95		109	719

Table III -Cohort Survival Method of Projection of Enrollments by Grade