

Appendix B

ADS Enrollment Projections

COPY

**ENROLLMENT PROJECTIONS
FOR THE
MADISON SCHOOL DISTRICT
2010 THROUGH 2014**

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October 23, 2009

I. INTRODUCTION

Effective planning requires schools to forecast long-term enrollment projections on a district and school basis. While short-term (one year) projections are accomplished with a high degree of confidence, five year projections can be more uncertain. Factors contributing to the uncertainty include in/out migration, public/private school enrollments and transfers, births and birthrates. It is generally recognized by demographers that *component and cohort survival methods* are most adequate in reducing the relative error in projections.

The ADS proprietary Enrollment Projection System (EPS) uses the three (or five) year component cohort survival method (which is used by most local, state and federal agencies) for making *five* year projections of district and school enrollments.

EPS also provides the capability to evaluate enrollments versus building capacities, assess the effect of grade reorganization or other redistricting needs, evaluate enrollment distributions as a result of school closings, assess the impact of changes in school feeder patterns and evaluate the effects of modifying school attendance boundaries.

The enrollment projections and enrollment, as reported herein, have been prepared for the Madison School District. The projected enrollments span the years 2010/2011 through 2014/2015.

A description of the process used to project the Madison enrollment figure is included along with a description of the enrollment projection reports.

Finally, the district enrollment projection reports are presented.

II. DESCRIPTION OF PROJECTION TECHNIQUES

The survival-cohort method is the projection technique used by the Enrollment Projection System (EPS). This method calculates an average survival ratio (persistence factor) from one grade to the next. For example, if a school district had 1000 sixth graders last year and 789 seventh graders this year, the district sixth-seventh grade ratio is .789.

EPS, however, expands this method significantly. Provided with a five-year enrollment history as well as the current enrollment figures, EPS computes a survival ratio for each grade and for each year. These are averaged over three years and five years.

For each grade, first the three year average and then the five year average is used to "project" the previous year's enrollment to the present year. The "projected" current enrollment is then compared to the actual current enrollment. The average survival ratio (three or five year) which results in the lowest difference is the one on which the projections will be based.

Using the number of live births for the last ten years, EPS provides a birth/kindergarten survival ratio as well. The same procedure is used for computing this ratio as the others.

The EPS will provide anywhere from one to five year projections, for any combination of schools and grades between Kindergarten and twelfth grade.

A special feature of the EPS is that it accepts feeder patterns for the upper schools. This enables the user to both assess the effects of any changes in the feeder patterns for up to five years, as well as how enrollment figures for the middle and high schools will change under the existing feeder patterns.

III. DESCRIPTION OF EPS REPORTS

The Enrollment Projection System produces a series of output reports which illustrate the enrollment history of the school district, the survival ratios used, and the projected enrollments.

The first series of reports identifies the school district, the number of schools by name, school code, school capacities and grade structure; and the feeder patterns for each school. The second set of reports provides the enrollment history on a district basis, by grade, beginning five years previously and proceeding through the current year.

The Summary of Enrollment History by School and Year can be interpreted as described below.

The key to this report is given in the example below:

School enrollment	I	372	78%I	% of school capacity	
% of district enrollment	I	14%	6%I	% of district capacity	

Tables of enrollment histories by school for each grade for the last five years conclude this series.

The third series - Enrollment Projections, begins with a listing of the number of *live births* in the district by year for the last ten years, followed by the *survival ratios* calculated by the EPS and used in preparing the enrollment projections.

The enrollment projections on a district basis by grade is followed by a summary of projected enrollment by school. The key to this report is identical to the key illustrated previously for the enrollment history reports.

The last set of this report series includes tables of enrollment projections by school and grade.

**PUBLIC SCHOOL CHOICE AND OUTPLACEMENT PROGRAMS
VARIABLES AFFECTING PROJECTIONS FOR FUTURE STUDENT ENROLLMENTS**

Over the past few years, Connecticut has embarked on a program of expanded school choice options for parents and students. Traditionally, students attend school in the school district (town) where they live. However, as in most school districts in Connecticut, some students and parents in the town of Madison have opted to participate in school choice programs offered in other towns. School choice programs currently in operation include schools focusing on school readiness, interdistrict magnet schools, public charter schools, the Open Choice program, interdistrict cooperative grant programs, the Connecticut Technical High Schools program, and the Regional Vocational Agricultural Centers.

Madison Public Schools partners with many of these school choice options and each year a number of students from Madison participate in one or more of the school choice programs. Because Madison students attending these schools oftentimes do so on a temporary basis and because many of the programs are grade-span specific, it is important for the district to monitor the enrollment of this segment of the school-age student population residing in the town of Madison. Some of these students are outplaced by the Madison Public Schools on a short-term basis and some students re-enroll in Madison schools from completion of a particular school choice program, i.e., completion of an all-day kindergarten program.

Another segment of the school-age population in Madison has historically opted to attend private schools. Each year the State Department of Education's Strategic School Profiles provide an update on the percentage of school-age population in Madison who are attending private schools. Thus, enrollment projections for the Madison Public Schools assume that a certain percentage of school-age children residing in Madison, approximately 10%, will attend private schools, therefore not impacting the number of classrooms and teachers required for the delivery of public school programs.

Many factors should be considered when projecting future enrollments for the Madison Public Schools, including the potential for individual students or groups of students to elect to enroll or re-enroll in the public schools from year to year. Additionally, the Board of Education is responsible for providing funding in the annual school budget to support many of the school choice options, specifically in regard to tuition and transportation funds for students who are eligible to receive support from the Madison Public Schools LEA (Local Education Agent) budget.

SECTION IV

ENROLLMENT PROJECTION REPORTS

*** APPLIED DATA SERVICES ***
ENROLLMENT PROJECTION SYSTEM
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THIS REPORT WAS GENERATED ON 10/23/09 FOR THE
MADISON SCHOOL DISTRICT
AND CONTAINS ENROLLMENT PROJECTIONS FOR THE
NEXT 5 YEARS. THERE ARE 7 SCHOOLS INCLUDED
IN THIS REPORT WITH A COMBINED GRADE RANGE
OF KINDERGARTEN THROUGH GRADE 12.

MADISON SCHOOL DISTRICT

THE FOLLOWING SCHOOLS ARE INCLUDED IN THIS REPORT

SCHOOL CODE	SCHOOL NAME	CAPACITY	GRADE STRUCTURE
5	K CENTER	250	0 THROUGH 0
9	RYERSON	350	1 THROUGH 4
10	ISLAND	350	1 THROUGH 4
11	JEFFREY	450	1 THROUGH 4
7	BROWN	650	5 THROUGH 6
12	POLSON	650	7 THROUGH 8
6	HAND HS	1400	9 THROUGH 12

MADISON SCHOOL DISTRICT

FEEDER PATTERNS

K CENTER FEEDS

RYERSON	30.0%	OF ITS GRADE	0	ENROLLMENT
ISLAND	30.0%	OF ITS GRADE	0	ENROLLMENT
JEFFREY	40.0%	OF ITS GRADE	0	ENROLLMENT

RYERSON FEEDS

BROWN	100.0%	OF ITS GRADE	4	ENROLLMENT
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ISLAND FEEDS

BROWN	100.0%	OF ITS GRADE	4	ENROLLMENT
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JEFFREY FEEDS

BROWN	100.0%	OF ITS GRADE	4	ENROLLMENT
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BROWN FEEDS

POLSON	100.0%	OF ITS GRADE	6	ENROLLMENT
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POLSON FEEDS

HAND HS	100.0%	OF ITS GRADE	8	ENROLLMENT
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10/23/09

*** APPLIED DATA SERVICES ***

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MADISON SCHOOL DISTRICT

FEEDER PATTERNS

THE FOLLOWING SCHOOLS DO NOT FEED ANY OTHER SCHOOLS

HAND HS

MADISON SCHOOL DISTRICT

DISTRICTWIDE ENROLLMENT HISTORY BY GRADE AND YEAR

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
KINDER	I	247	I	253	I	208	I	209	I	203	I	167	I
FIRST	I	267	I	258	I	273	I	236	I	246	I	230	I
SECOND	I	289	I	278	I	271	I	276	I	239	I	256	I
THIRD	I	289	I	295	I	290	I	273	I	285	I	234	I
FOURTH	I	312	I	289	I	300	I	295	I	277	I	289	I
FIFTH	I	326	I	317	I	304	I	293	I	298	I	285	I
SIXTH	I	309	I	327	I	333	I	307	I	296	I	303	I
SEVENTH	I	317	I	320	I	331	I	322	I	313	I	296	I
EIGHTH	I	304	I	317	I	324	I	324	I	326	I	312	I
NINTH	I	339	I	310	I	310	I	324	I	339	I	329	I
TENTH	I	284	I	333	I	303	I	300	I	311	I	330	I
ELEVENTH	I	271	I	279	I	326	I	295	I	289	I	317	I
TWELFTH	I	232	I	269	I	271	I	319	I	291	I	288	I
TOTAL	I	3786	I	3845	I	3844	I	3773	I	3713	I	3636	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

SUMMARY OF ENROLLMENT HISTORY BY SCHOOL AND YEAR

SCHOOL	-----YEAR-----												CAP	
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10		I
K CENTER	I	247	99%I	253	101%I	208	83%I	209	84%I	203	81%I	167	67%I	250
	I	7%	6%I	7%	6%I	5%	5%I	6%	5%I	5%	5%I	5%	4%I	6%
RYERSON	I	374	107%I	367	105%I	365	104%I	348	99%I	320	91%I	311	89%I	350
	I	10%	9%I	10%	9%I	9%	9%I	9%	8%I	9%	8%I	9%	8%I	9%
ISLAND	I	337	96%I	324	93%I	329	94%I	307	88%I	323	92%I	317	91%I	350
	I	9%	8%I	8%	8%I	9%	8%I	8%	7%I	9%	8%I	9%	8%I	9%
JEFFREY	I	446	99%I	429	95%I	440	98%I	425	94%I	404	90%I	381	85%I	450
	I	12%	11%I	11%	10%I	11%	11%I	11%	10%I	11%	10%I	10%	9%I	11%
BROWN	I	635	98%I	644	99%I	637	98%I	600	92%I	594	91%I	588	90%I	650
	I	17%	15%I	17%	16%I	17%	16%I	16%	15%I	16%	14%I	16%	14%I	16%
POLSON	I	621	96%I	637	98%I	655	101%I	646	99%I	639	98%I	608	94%I	650
	I	16%	15%I	17%	16%I	17%	16%I	17%	16%I	17%	16%I	17%	15%I	16%
HAND HS	I	1126	80%I	1191	85%I	1210	86%I	1238	88%I	1230	88%I	1264	90%I	1400
	I	30%	27%I	31%	29%I	31%	30%I	33%	30%I	33%	30%I	35%	31%I	34%
TOTAL	I	3786	92%I	3845	94%I	3844	94%I	3773	92%I	3713	91%I	3636	89%I	4100

NOTE: Special Education Students Are Not Included
 For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT HISTORY BY GRADE AND YEAR

SCHOOL - K CENTER

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
KINDER	I	247	I	253	I	208	I	209	I	203	I	167	I
TOTAL	I	247	I	253	I	208	I	209	I	203	I	167	I

SCHOOL - RYERSON

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
FIRST	I	79	I	85	I	83	I	80	I	67	I	75	I
SECOND	I	97	I	83	I	88	I	92	I	72	I	73	I
THIRD	I	101	I	99	I	93	I	87	I	93	I	70	I
FOURTH	I	97	I	100	I	101	I	89	I	88	I	93	I
TOTAL	I	374	I	367	I	365	I	348	I	320	I	311	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT HISTORY BY GRADE AND YEAR

SCHOOL - ISLAND

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
FIRST	I	71	I	78	I	81	I	68	I	84	I	71	I
SECOND	I	86	I	73	I	80	I	79	I	75	I	90	I
THIRD	I	82	I	92	I	75	I	80	I	83	I	73	I
FOURTH	I	98	I	81	I	93	I	80	I	81	I	83	I
TOTAL	I	337	I	324	I	329	I	307	I	323	I	317	I

SCHOOL - JEFFREY

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
FIRST	I	117	I	95	I	109	I	88	I	95	I	84	I
SECOND	I	106	I	122	I	103	I	105	I	92	I	93	I
THIRD	I	106	I	104	I	122	I	106	I	109	I	91	I
FOURTH	I	117	I	108	I	106	I	126	I	108	I	113	I
TOTAL	I	446	I	429	I	440	I	425	I	404	I	381	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT HISTORY BY GRADE AND YEAR

SCHOOL - BROWN

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
FIFTH	I	326	I	317	I	304	I	293	I	298	I	285	I
SIXTH	I	309	I	327	I	333	I	307	I	296	I	303	I
TOTAL	I	635	I	644	I	637	I	600	I	594	I	588	I

SCHOOL - POLSON

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
SEVENTH	I	317	I	320	I	331	I	322	I	313	I	296	I
EIGHTH	I	304	I	317	I	324	I	324	I	326	I	312	I
TOTAL	I	621	I	637	I	655	I	646	I	639	I	608	I

SCHOOL - HAND HS

GRADE	-----YEAR-----												
	I	04-05	I	05-06	I	06-07	I	07-08	I	08-09	I	09-10	I
NINTH	I	339	I	310	I	310	I	324	I	339	I	329	I
TENTH	I	284	I	333	I	303	I	300	I	311	I	330	I
ELEVENTH	I	271	I	279	I	326	I	295	I	289	I	317	I
TWELFTH	I	232	I	269	I	271	I	319	I	291	I	288	I
TOTAL	I	1126	I	1191	I	1210	I	1238	I	1230	I	1264	I

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10/23/09

*** APPLIED DATA SERVICES ***

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MADISON SCHOOL DISTRICT

LIVE BIRTHS FOR THE LAST TEN YEARS

YEAR	BIRTHS
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2000	180
2001	187
2002	174
2003	178
2004	151
2005	130
2006	112
2007	95
2008	93
2009	93

MADISON SCHOOL DISTRICT

GRADE	ACT. 09-10 ENR.	PROJ. 09-10 ENR.	DIFF. USING 5 YR/SR (5 YR/SR)	PROJ. 09-10 ENR.	DIFF. USING 3 YR/SR (3 YR/SR)	LEAST DIFF.	SURV. RATIO
BIRTH							1.149
KINDER	167	180	13	173	6	3 YR.	1.148
FIRST	230	226	4	233	3	3 YR.	1.031
SECOND	256	253	3	251	5	5 YR.	1.006
THIRD	234	242	8	240	6	3 YR.	1.015
FOURTH	289	288	1	289	0	3 YR.	1.017
FIFTH	285	281	4	278	7	5 YR.	1.018
SIXTH	303	303	0	301	2	5 YR.	1.007
SEVENTH	296	298	2	294	2	5 YR.	1.000
EIGHTH	312	313	1	311	1	5 YR.	1.011
NINTH	329	329	0	332	3	5 YR.	.972
TENTH	330	329	1	327	3	5 YR.	.985
ELEVENTH	317	305	12	306	11	3 YR.	.987
TWELFTH	288	284	4	285	3	3 YR.	

MADISON SCHOOL DISTRICT

DISTRICTWIDE ENROLLMENT PROJECTION BY GRADE AND YEAR

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
KINDER	I	167	I	149	I	129	I	109	I	107	I	107	I
FIRST	I	230	I	190	I	170	I	147	I	123	I	121	I
SECOND	I	256	I	237	I	197	I	174	I	151	I	127	I
THIRD	I	234	I	258	I	238	I	197	I	176	I	153	I
FOURTH	I	289	I	237	I	261	I	241	I	200	I	179	I
FIFTH	I	285	I	294	I	241	I	266	I	244	I	203	I
SIXTH	I	303	I	290	I	300	I	245	I	271	I	248	I
SEVENTH	I	296	I	305	I	292	I	303	I	248	I	274	I
EIGHTH	I	312	I	296	I	305	I	292	I	303	I	248	I
NINTH	I	329	I	315	I	299	I	308	I	295	I	306	I
TENTH	I	330	I	320	I	306	I	291	I	299	I	287	I
ELEVENTH	I	317	I	325	I	315	I	302	I	287	I	295	I
TWELFTH	I	288	I	313	I	321	I	311	I	298	I	283	I
TOTAL	I	3636	I	3529	I	3374	I	3186	I	3002	I	2831	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

SUMMARY OF ENROLLMENT PROJECTION BY SCHOOL AND YEAR

SCHOOL	-----YEAR-----													
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I	CAP
K CENTER	I	167	67%I	149	60%I	129	52%I	109	44%I	107	43%I	107	43%I	250
	I	5%	4%I	4%	4%I	4%	3%I	3%	3%I	4%	3%I	4%	3%I	6%
RYERSON	I	311	89%I	278	79%I	261	75%I	233	67%I	195	56%I	174	50%I	350
	I	9%	8%I	8%	7%I	8%	6%I	7%	6%I	6%	5%I	6%	4%I	9%
ISLAND	I	317	91%I	295	84%I	275	79%I	229	65%I	195	56%I	174	50%I	350
	I	9%	8%I	8%	7%I	8%	7%I	7%	6%I	6%	5%I	6%	4%I	9%
JEFFREY	I	381	85%I	349	78%I	330	73%I	297	66%I	260	58%I	232	52%I	450
	I	10%	9%I	10%	9%I	10%	8%I	9%	7%I	9%	6%I	8%	6%I	11%
BROWN	I	588	90%I	584	90%I	541	83%I	511	79%I	515	79%I	451	69%I	650
	I	16%	14%I	17%	14%I	16%	13%I	16%	12%I	17%	13%I	16%	11%I	16%
POLSON	I	608	94%I	601	92%I	597	92%I	595	92%I	551	85%I	522	80%I	650
	I	17%	15%I	17%	15%I	18%	15%I	19%	15%I	18%	13%I	18%	13%I	16%
HAND HS	I	1264	90%I	1273	91%I	1241	89%I	1212	87%I	1179	84%I	1171	84%I	1400
	I	35%	31%I	36%	31%I	37%	30%I	38%	30%I	39%	29%I	41%	29%I	34%
TOTAL	I	3636	89%I	3529	86%I	3374	82%I	3186	78%I	3002	73%I	2831	69%I	4100

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT PROJECTION BY GRADE AND YEAR

SCHOOL - K CENTER

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
KINDER	I	167	I	149	I	129	I	109	I	107	I	107	I
TOTAL	I	167	I	149	I	129	I	109	I	107	I	107	I

SCHOOL - RYERSON

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
FIRST	I	75	I	57	I	51	I	44	I	37	I	36	I
SECOND	I	73	I	77	I	59	I	52	I	45	I	38	I
THIRD	I	70	I	73	I	77	I	59	I	53	I	46	I
FOURTH	I	93	I	71	I	74	I	78	I	60	I	54	I
TOTAL	I	311	I	278	I	261	I	233	I	195	I	174	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT PROJECTION BY GRADE AND YEAR

SCHOOL - ISLAND

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
FIRST	I	71	I	57	I	51	I	44	I	37	I	36	I
SECOND	I	90	I	73	I	59	I	52	I	45	I	38	I
THIRD	I	73	I	91	I	73	I	59	I	53	I	46	I
FOURTH	I	83	I	74	I	92	I	74	I	60	I	54	I
TOTAL	I	317	I	295	I	275	I	229	I	195	I	174	I

SCHOOL - JEFFREY

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
FIRST	I	84	I	76	I	68	I	59	I	49	I	49	I
SECOND	I	93	I	87	I	79	I	70	I	61	I	51	I
THIRD	I	91	I	94	I	88	I	79	I	70	I	61	I
FOURTH	I	113	I	92	I	95	I	89	I	80	I	71	I
TOTAL	I	381	I	349	I	330	I	297	I	260	I	232	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text

MADISON SCHOOL DISTRICT

INDIVIDUAL SCHOOL ENROLLMENT PROJECTION BY GRADE AND YEAR

SCHOOL - BROWN

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
FIFTH	I	285	I	294	I	241	I	266	I	244	I	203	I
SIXTH	I	303	I	290	I	300	I	245	I	271	I	248	I
TOTAL	I	588	I	584	I	541	I	511	I	515	I	451	I

SCHOOL - POLSON

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
SEVENTH	I	296	I	305	I	292	I	303	I	248	I	274	I
EIGHTH	I	312	I	296	I	305	I	292	I	303	I	248	I
TOTAL	I	608	I	601	I	597	I	595	I	551	I	522	I

SCHOOL - HAND HS

GRADE	-----YEAR-----												
	I	09-10	I	10-11	I	11-12	I	12-13	I	13-14	I	14-15	I
NINTH	I	329	I	315	I	299	I	308	I	295	I	306	I
TENTH	I	330	I	320	I	306	I	291	I	299	I	287	I
ELEVENTH	I	317	I	325	I	315	I	302	I	287	I	295	I
TWELFTH	I	288	I	313	I	321	I	311	I	298	I	283	I
TOTAL	I	1264	I	1273	I	1241	I	1212	I	1179	I	1171	I

NOTE: Special Education Students Are Not Included
For Reasons Described In Text