

Carlton School District Enrollment Projection: Background Paper

Applied Insights^{north}: 12/27/16

Overview

1. Over the past 10 years Carlton's K-12 enrollment has declined 23% but has been essentially stable over the past six years.
2. The district's enrollment trend reflects two dynamics: fewer resident students are attending the school (-44%) while many more non-resident students are attending (82% with much of the gain in the past four years).
3. The "pool" of resident students, the number who live in the district regardless of which district they actually attend, has declined by 24%.
4. Over the past 10 years the average sizes of grades K-6 decreased from the mid-90s to the mid-30s; the average grade 7-12 class has gone from around 50 to roughly 40.
5. Open enrollment, which has been a major factor in total enrollment, has a mix of dynamics:
 - a. Annual overall net loss has decreased from 190-200 to about 130 students.
 - b. The number of students coming from Cloquet has increased while the number of outbound students has only grown marginally.
 - c. The exchange with Wrenshall has dramatically shifted from shift from a net loss to a net gain.
 - d. The number of students inbound from Barnum has increased while the outbound number has been constant.
 - e. Total number of students open enrolling out of Carlton has been constant throughout the past nine years (range of 300-316 students). However, given that the district's pool of resident students has substantially declined during this period this means that the percentage of resident students who attend Carlton has dropped from 65% to 48%.
6. Births to residents of Carlton County peaked at 429 in 2006 then steadily declined to a recent average of 368; births are projected to remain near this level then slightly increase.
7. The Carlton School District is well aware of its losses through open enrollment. As part of this facility planning process the district hired The Morris Leatherman Company to survey district households on a variety of issues including quality of the school buildings and education. In response to building needs and providing quality learning opportunities the district is considering a referendum to build a new middle/high school. A successfully implemented project would be intended to provide high quality learning opportunities and therefore retain more resident students, attract many back to the district, and attract others through open enrollment. The question, of course, is how many and over what period of time. Thus, two projections have been prepared; one is the "baseline" projection and the second is based on the assumption of a successful bond referendum, a school built by some specified year, and agreed upon "student retention/attraction" factors. The two projections provide a spread of future K-12 enrollment for the district

The following is the information gathered and analyzed for the projections.

1. Historic Enrollment Trends

- a. Table A-1 and Figure 1a show Carlton total enrollment for the past 10 years.
- b. Tables A-2 and A-3 show enrollment for resident and non-resident students.
- c. Figure 1b shows the number of resident students within the district regardless of where they attend school compared to the estimated number of them who enrolled in Carlton.
- d. Findings:
 - i. K-12 enrollment has declined 23% but has been essentially stable the past six years due to an increased number of students open enrolling into the district.
 - ii. Resident student enrollment, though, has declined 44%. The percent of resident students living within the district who attend Carlton has dropped from 65% to 48%.
 - iii. Non-resident student enrollment on the other hand has increased 82% with much of this occurring in the past four years. Non-resident students now represent 39% of the K-12 enrollment, up from 16% ten years ago.
 - iv. The pool of resident students living within the district has declined 24% from nearly 800 to about 600.

2. Open Enrollment

- a. Table B-1 shows the district's major open enrollment exchanges for the past nine years. Table B-2 summarizes this data. Table B-3 shows the kindergarten exchange.
- b. Figures 2a-d show this information graphically for total net exchange, inbound students by source district, outbound students by destination district, and net exchange by district.
- c. Findings:
 - i. Overall net loss has decreased from 190-200 to about 130. Major factors:
 - 1. Cloquet: number of inbound students has increased while outbound has grown marginally.
 - 2. Wrenshall: shift from net loss to net gain.
 - 3. Barnum: more inbound students.
 - ii. Total number of outbound students has been constant throughout the past nine years, but given that the district's pool of resident students has declined during this period this means that the percentage of outbound students has steadily increased.

3. Class Retention Ratios

- a. Tables C-1 (resident students) and C-2 (non-resident students) show the pattern of students, by grade, as they move from one grade to the next over time. The shifts are shown as ratios where a number less than 1.0 means fewer students moved from one grade level to the next and a number greater than 1.0 means additional students joined the class from year to the next.
- b. Findings:
 - i. All ratios were reviewed with district staff.
 - ii. Resident students
 - 1. Historic pattern of losses at every shift of grade level.
 - 2. From 2012/13 to 2014/15 there was some breaking up of this pattern but it has since reasserted itself.
 - 3. Unlike some districts where the outflow occurs at kindergarten Carlton loses students across the grade spectrum.
 - iii. Non-resident students
 - 1. The reverse is true: students come to Carlton and they tend to stay with even more coming at nearly every grade level shift.

2. Particularly large gains are made at Gr 5>6, 6>7, 7>8 and 8>9.
- iv. Ratios used for the two projections are discussed later.

4. Kindergarten Enrollment

Estimating future kindergarten enrollment is the most challenging aspect of the entire process. The approach used seeks to understand relationships and trends regarding population, number of births to county residents, and the percentage of those births that are within the district and eventually result in kindergarten students.

- a. Table D provides the data and rationale for estimating future incoming kindergarten classes.
- b. Row A shows births to county residents by year and Row B aligns them with the corresponding kindergarten class.
 - i. Figure 3 shows county births – historic and projected.
 1. Number of projected births is based on county population forecasts as viewed in light of recent estimates, and, recent fertility rates.
- c. Row C: number of Carlton resident students attending school at Carlton.
- d. Row D: number of Carlton resident students who open enroll out of the district.
- e. Row E: number of Carlton resident students who attend a private school or are home schooled. Figures shown are calculated by dividing the total number of home schooled students (as provided by the district) by 13.
- f. Row F: sum of C + D + E = total pool of resident kindergarten students within the district.
- g. Row G: percent of corresponding county births that are Carlton resident students (Row F divided by Row B).
- h. The colored fields are **projected** figures.
 - i. The projected births in the years from 2017 and on are based on analysis of Census data and State projections of county population.
 - ii. Row G for school years 2017/18 forward uses 10.9% which is the average rate of the past 3 years and lower than the 10-year average of 13.3%; it was selected since analysis of population change suggests that the district is growing at a slower rate than the county is as a whole.
 - iii. Row F: calculated as Row G times Row B.
 - iv. Row D: assumption of 20 resident students open enrolling out based on historic pattern. [Open enrolled in students are accounted for later in the projection model; a value of 12 with a mid-cycle step up to 13 is proposed.]
 - v. Row E: assumption of an average of 2.
 - vi. Row C: equals Row F minus Rows D and E.
- i. Findings:
 - i. Changes to these assumptions for use in the second projection are discussed later.

5. Location of Enrolled Students

- a. Students enrolled in the district and those who open enrolled out in 2016/17 were mapped so as to provide a picture of student distribution across the district. It must be stressed that the only data used was grade and address; student names and other personal information was not included in the mapping effort.
- b. Two maps were generated to present this information:
 - i. Carlton Students Enrolled in the District: 2016/17 School Year: Shows where students who attend Carlton live including those who open enroll into the district.

- ii. Carlton Resident Students Enrolled out of the District: 2016/17 School Year:
Shows where resident students who open enroll out of Carlton and into another district live and codes the students by the district they are attending.
- c. Findings:
 - i. Tables Map-1 to Map-3 present analysis of student residential locations relative to the school district they attend.

Map-1. Where Carlton Resident Students Live by District Attending: 2016/17 Grades K-12

| Area | Carlton | Cloquet | Wrenshall | Barnum | C-W | FdL | Esko | Other | Total | % of Total |
|------------------|---------|---------|-----------|--------|------|------|------|-------|-------|------------|
| Progress Twp | 1 | 1 | | | 1 | | | | 3 | 0.5% |
| Corona Twp | 1 | | | | | | | | 1 | 0.2% |
| Perch Lake Twp | 16 | 24 | | | | 2 | | 2 | 44 | 7.2% |
| Sawyer Twp | 36 | 19 | 1 | | 7 | | 1 | 9 | 73 | 11.9% |
| Carlton, city | 71 | 17 | 4 | 1 | | 4 | 8 | 2 | 107 | 17.5% |
| Twin Lakes Twp | 140 | 102 | 7 | 18 | | 5 | 13 | 8 | 293 | 47.9% |
| Blackhoof Twp | 38 | 10 | 9 | 22 | | 1 | 6 | 2 | 88 | 14.4% |
| Silver Brook Twp | 2 | | | | | | | 1 | 3 | 0.5% |
| Total | 305 | 173 | 21 | 41 | 8 | 12 | 28 | 24 | 612 | |
| % of Total | 49.8% | 28.3% | 3.4% | 6.7% | 1.3% | 2.0% | 4.6% | 3.9% | | |

Map-2. Percent of Resident K-12 Students In Twp/City Attending Each District

| Area | Carlton | Cloquet | Wrenshall | Barnum | C-W | FdL | Esko | Other | Total |
|------------------|---------|---------|-----------|--------|-------|------|------|-------|--------|
| Progress Twp | 33.3% | 33.3% | | | 33.3% | | | | 100.0% |
| Corona Twp | 100.0% | | | | | | | | 100.0% |
| Perch Lake Twp | 36.4% | 54.5% | | | | 4.5% | | 4.5% | 100.0% |
| Sawyer Twp | 49.3% | 26.0% | 1.4% | | 9.6% | | 1.4% | 12.3% | 100.0% |
| Carlton | 66.4% | 15.9% | 3.7% | 0.9% | | 3.7% | 7.5% | 1.9% | 100.0% |
| Twin Lakes Twp | 47.8% | 34.8% | 2.4% | 6.1% | | 1.7% | 4.4% | 2.7% | 100.0% |
| Blackhoof Twp | 43.2% | 11.4% | 10.2% | 25.0% | | 1.1% | 6.8% | 2.3% | 100.0% |
| Silver Brook Twp | 66.7% | | | | | | | 33.3% | 100.0% |
| Total | 49.8% | 28.3% | 3.4% | 6.7% | 1.3% | 2.0% | 4.6% | 3.9% | |

Map-3. Resident K-12 Students: Total and Those Attending Carlton

| Area | Resident Students | | Attend Carlton | |
|------------------|-------------------|---------------------|----------------|------------------|
| | Number | % of District Total | Number | % of No. in Area |
| Progress Twp | 3 | 0.5% | 1 | 33.3% |
| Corona Twp | 1 | 0.2% | 1 | 100.0% |
| Perch Lake Twp | 44 | 7.2% | 16 | 36.4% |
| Sawyer Twp | 73 | 11.9% | 36 | 49.3% |
| Carlton, city | 107 | 17.5% | 71 | 66.4% |
| Twin Lakes Twp | 293 | 47.9% | 140 | 47.8% |
| Blackhoof Twp | 88 | 14.4% | 38 | 43.2% |
| Silver Brook Twp | 3 | 0.5% | 2 | 66.7% |
| Total | 612 | 100.0% | 305 | 49.8% |

6. Area School Enrollment

- a. Table E-1 shows the number of **resident** K-12 students within adjacent districts regardless of where they are served. This helps with understanding demographic trends without the masking effect of open enrollment.
- b. Table E-2 shows K-12 enrollment at each district.
- c. Figures 4a-b depict the information from Tables E-1 and E-2.
- d. Table E-3 shows the ratio of a district's K-12 resident student base divided by its K-12 enrollment. A percentage greater than 100% means a district is gaining students through its net open enrollment exchange.
- e. Findings:
 - i. Resident student pool (analysis through **2015/16** school year except for Carlton):
 1. Carlton's declined by 20% (158 students) with the decrease consistent throughout the period.
 2. Wrenshall's pool declined by 17% (54 students).
 3. All others increased with Cloquet's gain of 153 students the largest amount while Cromwell-Wright's gain of 10% (28 students) was biggest in terms of percent.
 - ii. K-12 enrollment (analysis through **2016/17** school year):
 1. Fond du Lac's decline of 26% was the most significant while Cloquet's drop of 2% only occurred in the current year.
 2. Carlton declined by 20%
 3. All other districts increased by 10-14%. After nine years of basic stability Wrenshall gained over 30 students in 2016/17.
 - iii. As shown in Table E-3 every district except Carlton has a positive gain of students via open enrollment.

7. Development Trends and Anticipated Future

- a. Table F presents several views on Carlton County population trends and possible future levels. Data sources:
 - i. US Census data is used for 1970-2010 and the 2015 estimate.
 - ii. State Demographic Center projections for 2020 and 2025.

- iii. Applied Insights^{north} figures used 2015 estimates to modify State projections for the purpose of projecting future births.

| Table F. County Population Trends, Estimate and Projection | | | | | | | | |
|-------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1970 | 1980 | 1990 | 2000 | 2010 | 2015 | 2020 | 2025 |
| Carlton County | 28,072 | 29,936 | 29,259 | 31,671 | 35,386 | 35,569 | 38,596 | 39,399 |
| Change | | 6.6% | -2.3% | 8.2% | 11.7% | 0.5% | 8.5% | 2.1% |

- b. Among the demographic trends and patterns of note to future school district enrollment area:
- The county is growing but well below the rate projected by the SDC.
 - A rough estimate of change within the Carlton School District suggests the district has grown in population at a rate just slightly less than that for the county as a whole.
 - The number of women ages 15-44 will be steady to slightly growing through 2020.
- c. General observations on local and regional economic activity:
- Fond du Lac Band is the area's largest employer with the Black Bear Casino complex located within the district.
 - Residents commute to jobs in Cloquet and Duluth-Superior.
 - Manufacturing sector in Cloquet is strong (e.g., sappi, Jarden, K-1 Sportswear) although worker shortage is an issue.
 - Owner of 160 acres within City of Carlton has plans to create residential development at a density generating 20-25 homes. Site has been logged and work could begin in 2017.
 - The so-called "Highway 210 Corridor" project seeks to extend public water service from Carlton west along Hwy 210 to Schmitz Road. Funding packages have been submitted and project is well-received. Original plan was to have a mix of industrial, commercial and residential uses; current approach is to be more strategic regarding what may actually occur. No firm projects on horizon and won't be until service is provided. Possible project date of 2018.
 - Kwik Trip is developing a major facility at I-35/Hwy 210 interchange that will include an enhanced store and distribution operation for regional stores. Likely start date is spring 2017.
 - The Fond du Lac Band has various projects that could impact the district:
 - Construction of 2-6 housing units in the Sawyer district by 2018 or so.
 - The privately-owned Big Lake Sanitary District will connect to the Western Lake Superior Sanitary District within the next year which could spur development on existing undeveloped parcels.
 - Study was just completed on the future of the old hotel at the Black Bear Casino. No specific redevelopment plans have been proposed but any amount of significant work could generate new employment.
 - The Min No Aya Win health services center will be expanded by 25,000 sf which will create new jobs and offer additional services.
 - An \$8.2 million project is providing broadband internet service to the southern portion of the Reservation and the Band is considering establishing its own ISP. Both have potential to spur residential and commercial activity in a currently unserved area.

8. Projection Factors

a. Projection #1: Baseline

- i. It is anticipated that once Cloquet's new middle school opens in 2019 the number of Cloquet students open enrolling into Carlton will decline by some amount.
 - 1. Beginning in 2019/20 school year the projected number of students open enrolling into Carlton is reduced for grades 5-7 are reduced to eliminate about one-half of the ones coming from Cloquet.
- ii. Class retention rates for both resident and non-resident students remain unchanged.
- iii. The impact of improvements at Wrenshall cannot be factored since firm plans have not been announced let along a bond referendum adopted.

b. Projection #2: Impact of a New School

- i. It is anticipated that with a new facility more parents of resident students will keep their children in the district. Thus, the number of kindergarten students open enrolling out of the district will be gradually stepped down from 20 per year to 16 in 2018/19 and to 13 beginning in 2020/21.
- ii. Beginning in 2019/20 several class retention rates for resident students attending Carlton were in modified to retain more students at key grade shifts; these were K>1, 1>2, 4>5, 5>6 and 7>8.
- iii. Although the intent of a new facility would not be to increase open enrollment into the district, such an outcome could be expected. A conservative estimate of this likely increase was included in Projection #2 as follows:
 - 1. Number of non-resident kindergarten students was increased by 1 for 2019/20 and 2020/21 and by 2 for each subsequent year.
 - 2. The Kg>Grade 1 retention rate was increased from the historic average of 0.86 to 0.95 (and it could be argued that a value of 1.0 is justified).

A-1. TOTAL ENROLLMENT Average Daily Membership (ADM)

| Grade | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| EC | 1 | 0 | 3 | 5 | 6 | 5 | 5 | 6 | 5 | 42 |
| Kg | 52 | 47 | 37 | 40 | 38 | 39 | 42 | 32 | 39 | 24 |
| 1 | 43 | 55 | 49 | 30 | 36 | 32 | 34 | 40 | 27 | 39 |
| 2 | 38 | 47 | 52 | 43 | 32 | 39 | 32 | 33 | 39 | 30 |
| 3 | 53 | 39 | 42 | 50 | 41 | 29 | 39 | 29 | 34 | 42 |
| 4 | 40 | 49 | 34 | 37 | 47 | 40 | 32 | 38 | 30 | 35 |
| 5 | 45 | 39 | 49 | 31 | 35 | 51 | 41 | 30 | 37 | 27 |
| 6 | 31 | 38 | 35 | 39 | 30 | 30 | 51 | 42 | 27 | 38 |
| 7 | 54 | 27 | 36 | 34 | 39 | 35 | 30 | 54 | 45 | 28 |
| 8 | 36 | 49 | 25 | 38 | 32 | 42 | 38 | 32 | 56 | 46 |
| 9 | 58 | 34 | 47 | 27 | 39 | 35 | 45 | 42 | 27 | 58 |
| 10 | 45 | 55 | 29 | 47 | 25 | 42 | 35 | 46 | 38 | 26 |
| 11 | 59 | 48 | 54 | 37 | 42 | 19 | 38 | 35 | 42 | 40 |
| 12 | 61 | 46 | 42 | 51 | 28 | 37 | 12 | 35 | 30 | 38 |
| Total EC - 12 | 616 | 573 | 534 | 509 | 470 | 475 | 474 | 494 | 476 | 513 |
| Total Kg - 12 | 615 | 573 | 531 | 504 | 464 | 470 | 469 | 488 | 471 | 471 |
| K - 6 | 302 | 314 | 298 | 270 | 259 | 260 | 271 | 244 | 233 | 235 |
| 7 - 12 | 313 | 259 | 233 | 234 | 205 | 210 | 198 | 244 | 238 | 236 |

Source: MDE; District.

Average Class Sizes: ALL Students

| | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| K - 6 | 43 | 45 | 43 | 39 | 37 | 37 | 39 | 35 | 33 | 34 |
| 7 - 12 | 52 | 43 | 39 | 39 | 34 | 35 | 33 | 41 | 40 | 39 |
| Total K-12 | 47 | 44 | 41 | 39 | 36 | 36 | 36 | 38 | 36 | 36 |

A-2. RESIDENT ENROLLMENT Average Daily Membership (ADM)

| Grade | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| EC | 1 | 0 | 2 | 4 | 5 | 5 | 4 | 5 | 5 | 35 |
| Kg | 47 | 42 | 28 | 31 | 22 | 24 | 24 | 21 | 27 | 13 |
| 1 | 38 | 43 | 39 | 25 | 28 | 20 | 26 | 26 | 19 | 26 |
| 2 | 35 | 36 | 37 | 34 | 27 | 27 | 18 | 24 | 23 | 21 |
| 3 | 46 | 34 | 30 | 38 | 32 | 25 | 27 | 18 | 24 | 23 |
| 4 | 36 | 40 | 32 | 27 | 34 | 32 | 25 | 29 | 17 | 25 |
| 5 | 38 | 33 | 41 | 30 | 24 | 38 | 32 | 23 | 26 | 16 |
| 6 | 23 | 32 | 32 | 34 | 29 | 21 | 40 | 31 | 16 | 21 |
| 7 | 41 | 20 | 30 | 29 | 33 | 31 | 17 | 40 | 29 | 16 |
| 8 | 27 | 38 | 18 | 29 | 26 | 33 | 28 | 17 | 37 | 26 |
| 9 | 50 | 24 | 36 | 17 | 26 | 26 | 32 | 29 | 15 | 35 |
| 10 | 39 | 46 | 20 | 35 | 17 | 30 | 26 | 32 | 26 | 14 |
| 11 | 44 | 40 | 45 | 24 | 31 | 14 | 28 | 24 | 29 | 24 |
| 12 | 50 | 35 | 37 | 42 | 18 | 29 | 9 | 28 | 23 | 27 |
| Total EC - 12 | 515 | 463 | 427 | 399 | 352 | 355 | 336 | 347 | 316 | 322 |
| Total Kg - 12 | 514 | 463 | 425 | 395 | 347 | 350 | 332 | 342 | 311 | 287 |
| K - 6 | 263 | 260 | 239 | 219 | 196 | 187 | 192 | 172 | 152 | 145 |
| 7 - 12 | 251 | 203 | 186 | 176 | 151 | 163 | 140 | 170 | 159 | 142 |

A-3. NON-RESIDENT ENROLLMENT

| Grade | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| EC | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 7 |
| K | 5 | 5 | 9 | 9 | 16 | 15 | 18 | 11 | 12 | 11 |
| 1 | 5 | 12 | 10 | 5 | 8 | 12 | 8 | 14 | 8 | 13 |
| 2 | 3 | 11 | 15 | 9 | 5 | 12 | 14 | 9 | 16 | 9 |
| 3 | 7 | 5 | 12 | 12 | 9 | 4 | 12 | 11 | 10 | 19 |
| 4 | 4 | 9 | 2 | 10 | 13 | 8 | 7 | 9 | 13 | 10 |
| 5 | 7 | 6 | 8 | 1 | 11 | 13 | 9 | 7 | 11 | 11 |
| 6 | 8 | 6 | 3 | 5 | 1 | 9 | 11 | 11 | 11 | 17 |
| 7 | 13 | 7 | 6 | 5 | 6 | 4 | 13 | 14 | 16 | 12 |
| 8 | 9 | 11 | 7 | 9 | 6 | 9 | 10 | 15 | 19 | 20 |
| 9 | 8 | 10 | 11 | 10 | 13 | 9 | 13 | 13 | 12 | 23 |
| 10 | 6 | 9 | 9 | 12 | 8 | 12 | 9 | 14 | 12 | 12 |
| 11 | 15 | 8 | 9 | 13 | 11 | 5 | 10 | 11 | 13 | 16 |
| 12 | 11 | 11 | 5 | 9 | 10 | 8 | 3 | 7 | 7 | 11 |
| Total EC - 12 | 101 | 110 | 107 | 110 | 118 | 120 | 138 | 147 | 160 | 191 |
| Total Kg - 12 | 101 | 110 | 106 | 109 | 117 | 120 | 137 | 146 | 160 | 184 |
| K - 6 | 39 | 54 | 59 | 51 | 63 | 73 | 79 | 72 | 81 | 90 |
| 7 - 12 | 62 | 56 | 47 | 58 | 54 | 47 | 58 | 74 | 79 | 94 |

Fig. 1a. Carlton K-12 Enrollment Trends

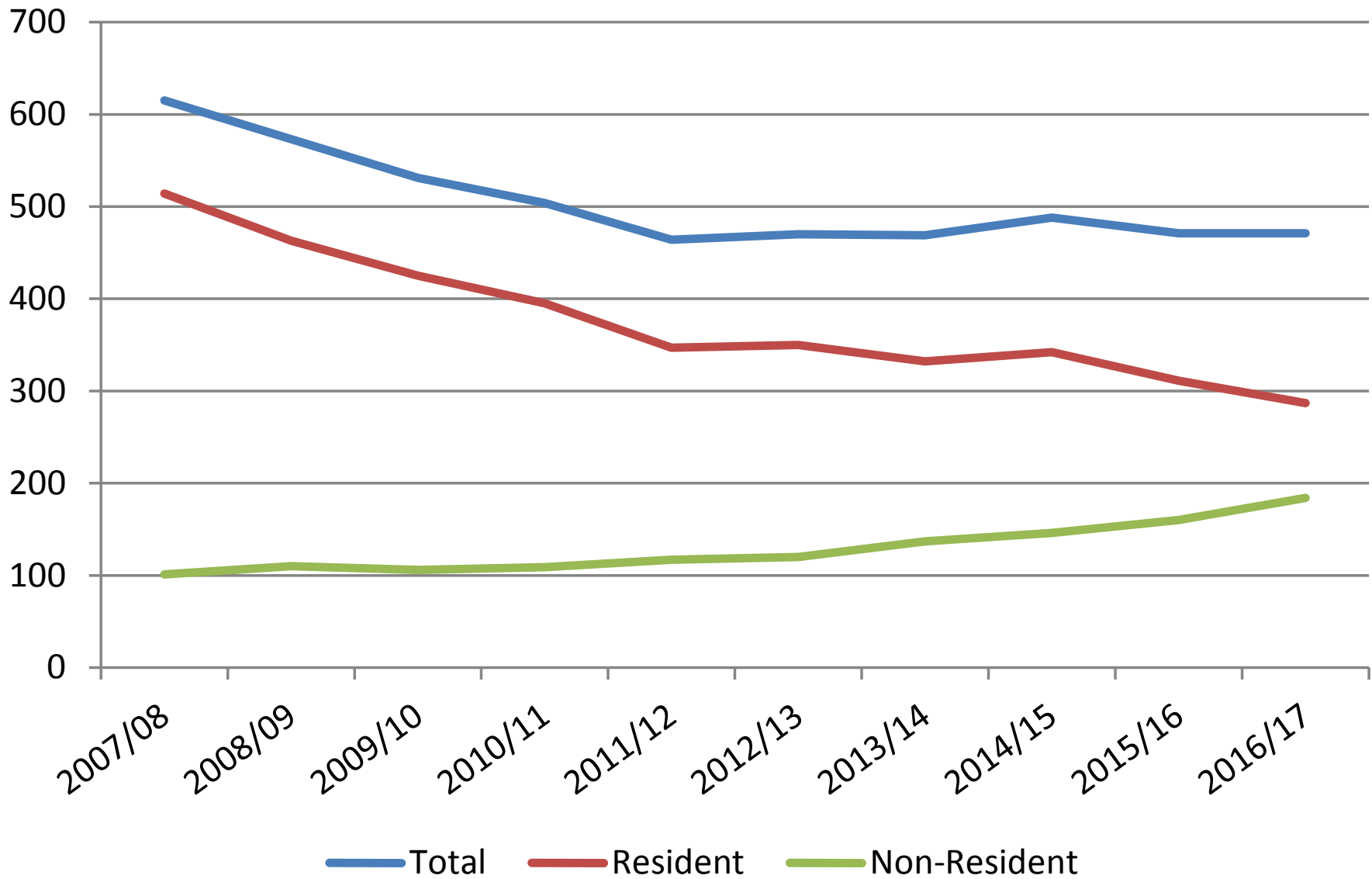


Fig. 1b. Carlton K-12 Resident Pool vs Resident Students Enrolled

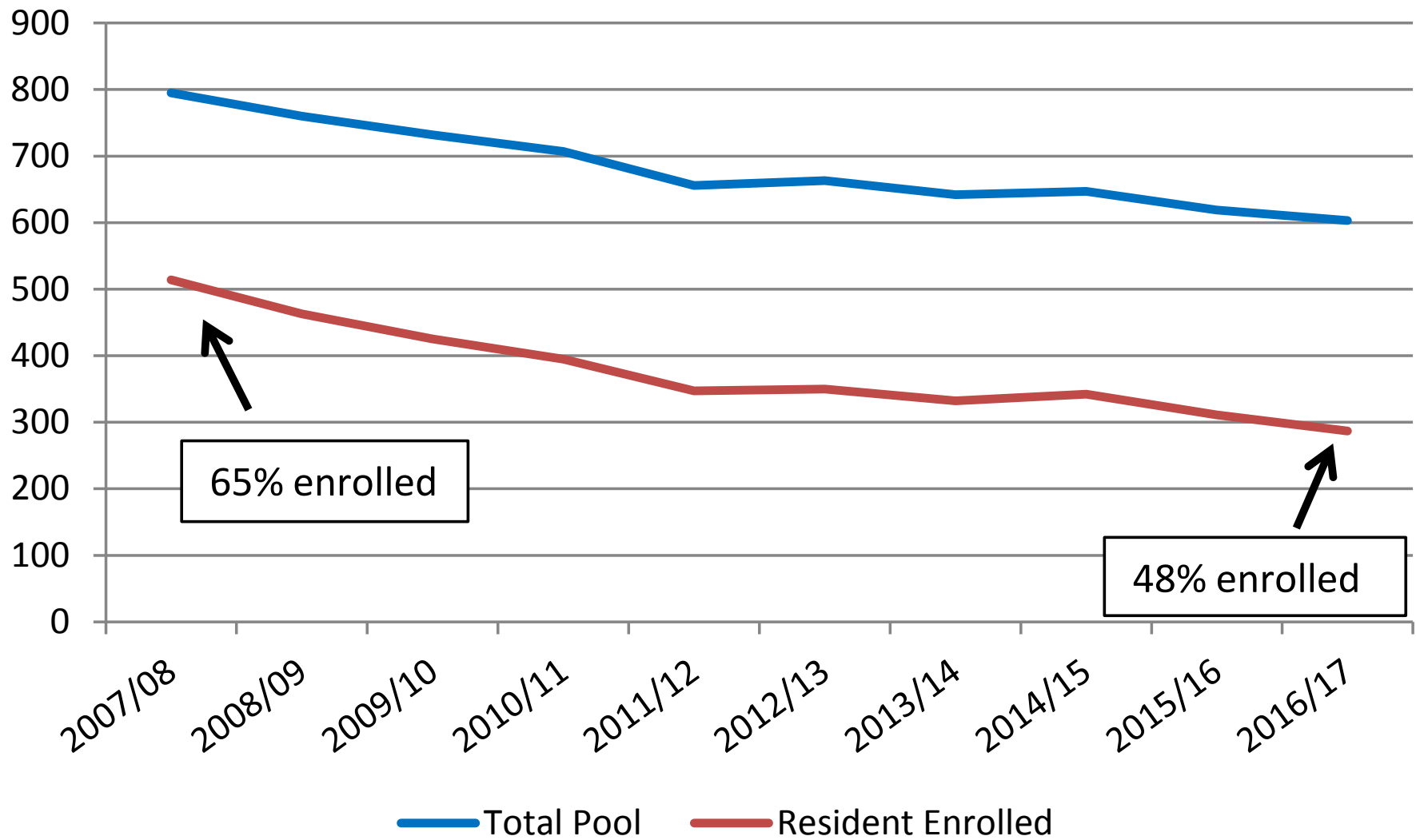


Table B-1. K-12 Open Enrollment Exchange Summary

| | 2008/09 | | 2009/10 | | 2010/11 | | 2011/12 | | 2012/13 | | 2013/14 | | 2014/15 | | 2015/16 | | 2016/17 | |
|----------------------------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|------|
| | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out |
| Cloquet | 74 | 156 | 66 | 175 | 66 | 160 | 68 | 152 | 66 | 166 | 66 | 165 | 82 | 168 | 91 | 177 | 106 | 177 |
| Wrenshall | 15 | 33 | 18 | 34 | 11 | 37 | 11 | 28 | 18 | 23 | 33 | 16 | 27 | 18 | 29 | 15 | 31 | 21 |
| Esko | 4 | 20 | 8 | 19 | 6 | 33 | 7 | 39 | 9 | 31 | 11 | 28 | 10 | 25 | 9 | 26 | 8 | 30 |
| Barnum | 6 | 38 | 9 | 38 | 10 | 37 | 13 | 41 | 11 | 47 | 17 | 45 | 17 | 38 | 22 | 38 | 23 | 42 |
| Cromwell-Wright | 0 | 8 | 0 | 7 | 0 | 6 | 4 | 7 | 3 | 8 | 3 | 11 | 2 | 14 | 2 | 10 | 2 | 9 |
| Fond du Lac | 0 | 30 | 0 | 21 | 0 | 23 | 0 | 28 | 0 | 25 | 0 | 32 | 0 | 31 | 0 | 25 | 0 | 12 |
| All Other Districts | 11 | 12 | 5 | 12 | 16 | 12 | 14 | 11 | 13 | 12 | 7 | 11 | 8 | 11 | 7 | 14 | 14 | 19 |
| Charters | 0 | 3 | 0 | 5 | 0 | 7 | 0 | 3 | 0 | 2 | 0 | 4 | 0 | 3 | 0 | 6 | 0 | 6 |
| Total | 110 | 300 | 106 | 311 | 109 | 315 | 117 | 309 | 120 | 314 | 137 | 312 | 146 | 308 | 160 | 311 | 184 | 316 |
| Net exchange | | -190 | | -205 | | -206 | | -192 | | -194 | | -175 | | -162 | | -151 | | -132 |

Source: MDE, District.

Table B-2. K-12 Open Enrollment Exchange

| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| In | 110 | 106 | 109 | 117 | 120 | 137 | 146 | 160 | 184 |
| Out | 300 | 311 | 315 | 309 | 314 | 312 | 308 | 311 | 316 |
| Net | -190 | -205 | -206 | -192 | -194 | -175 | -162 | -151 | -132 |

Table B-3. Kindergarten Open Enrollment Exchange

| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| In | 5 | 9 | 9 | 16 | 15 | 18 | 11 | 12 | 11 |
| Out | 27 | 28 | 18 | 26 | 24 | 29 | 19 | 21 | 21 |
| Net | -22 | -19 | -9 | -10 | -9 | -11 | -8 | -9 | -10 |

Fig. 2a. Carlton Open Enrollment, 2008/09-2016/17

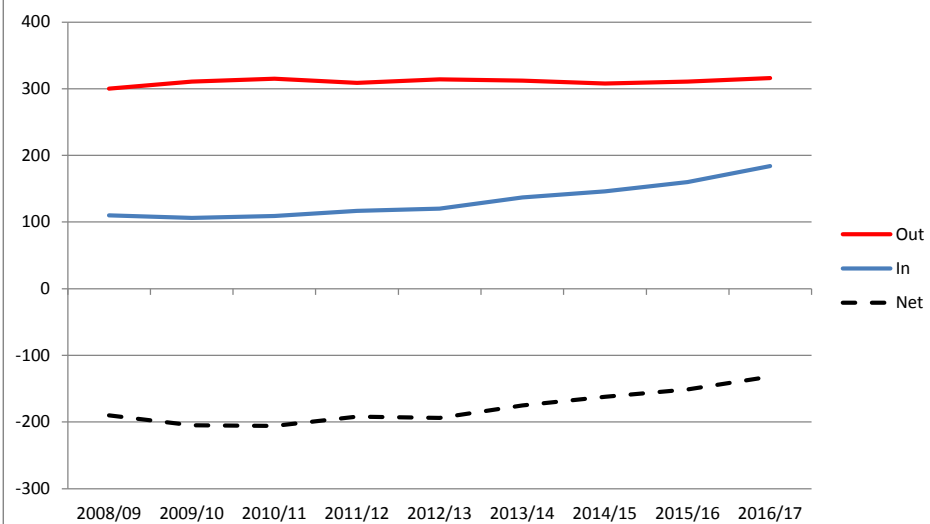


Fig. 2b. Open Enrollment In

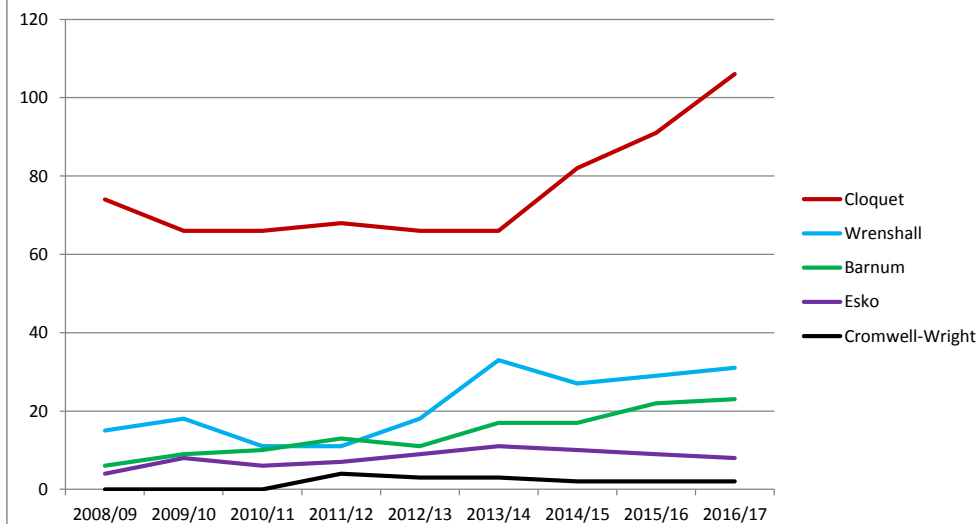


Fig. 2c. Open Enrollment Out by Destination District

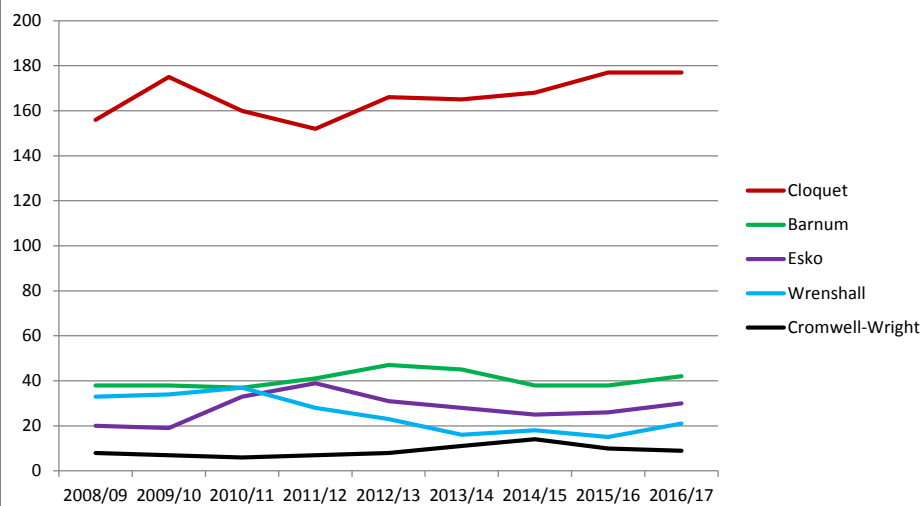


Fig. 2d. Open Enrollment Net Exchange

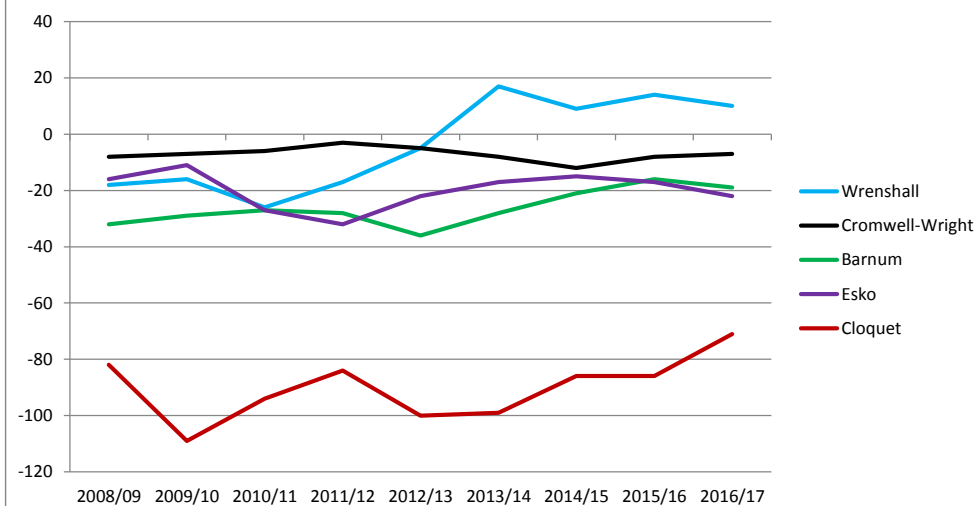


Table C-1. RESIDENT STUDENTS

Ratio of Students in Current Grade to Students in Previous Grade in Prior Year

| Grade | School Year Progression | | | | | | | | | Averages | | | | Projection |
|---------|-------------------------|-----------|-----------|-----------|---------|---------|---------|---------|---------|----------|---------|-------|--------|------------|
| | 2008 > 09 | 2009 > 10 | 2010 > 11 | 2011 > 12 | 2012>13 | 2013>14 | 2014>15 | 2015>16 | 2016>17 | All Yrs | First 3 | Mid 3 | Last 3 | |
| EC > K | 42.00 | 0.00 | 15.50 | 5.50 | 4.80 | 4.80 | 5.25 | 5.40 | 2.60 | 9.54 | 7.75 | 5.03 | 4.42 | 4.42 |
| K > 1 | 0.91 | 0.93 | 0.89 | 0.90 | 0.91 | 1.08 | 1.08 | 0.90 | 0.96 | 0.95 | 0.91 | 0.97 | 0.98 | 0.98 |
| 1 > 2 | 0.95 | 0.86 | 0.87 | 1.08 | 0.96 | 0.90 | 0.92 | 0.88 | 1.11 | 0.95 | 0.87 | 0.98 | 0.97 | 0.97 |
| 2 > 3 | 0.97 | 0.83 | 1.03 | 0.94 | 0.93 | 1.00 | 1.00 | 1.00 | 1.00 | 0.97 | 0.93 | 0.96 | 1.00 | 1.00 |
| 3 > 4 | 0.87 | 0.94 | 0.90 | 0.89 | 1.00 | 1.00 | 1.07 | 0.94 | 1.04 | 0.96 | 0.92 | 0.96 | 1.02 | 1.02 |
| 4 > 5 | 0.92 | 1.03 | 0.94 | 0.89 | 1.12 | 1.00 | 0.92 | 0.90 | 0.94 | 0.96 | 0.98 | 1.00 | 0.92 | 0.92 |
| 5 > 6 | 0.84 | 0.97 | 0.83 | 0.97 | 0.88 | 1.05 | 0.97 | 0.70 | 0.81 | 0.89 | 0.90 | 0.96 | 0.82 | 0.82 |
| 6 > 7 | 0.87 | 0.94 | 0.91 | 0.97 | 1.07 | 0.81 | 1.00 | 0.94 | 1.00 | 0.94 | 0.92 | 0.95 | 0.98 | 0.98 |
| 7 > 8 | 0.93 | 0.90 | 0.97 | 0.90 | 1.00 | 0.90 | 1.00 | 0.93 | 0.90 | 0.93 | 0.93 | 0.93 | 0.94 | 0.94 |
| 8 > 9 | 0.89 | 0.95 | 0.94 | 0.90 | 1.00 | 0.97 | 1.04 | 0.88 | 0.95 | 0.95 | 0.95 | 0.96 | 0.95 | 0.95 |
| 9 > 10 | 0.92 | 0.83 | 0.97 | 1.00 | 1.15 | 1.00 | 1.00 | 0.90 | 0.93 | 0.97 | 0.90 | 1.05 | 0.94 | 0.94 |
| 10 > 11 | 1.03 | 0.98 | 1.20 | 0.89 | 0.82 | 0.93 | 0.92 | 0.91 | 0.92 | 0.96 | 1.09 | 0.88 | 0.92 | 0.92 |
| 11 > 12 | 0.80 | 0.93 | 0.93 | 0.75 | 0.94 | 0.64 | 1.00 | 0.96 | 0.93 | 0.87 | 0.93 | 0.78 | 0.96 | 0.96 |

Table C-2. NON-RESIDENT STUDENTS

Ratio of Students in Current Grade to Students in Previous Grade in Prior Year

| Grade | School Year Progression | | | | | | | | | Averages | | | | Projection |
|---------|-------------------------|-----------|-----------|-----------|---------|---------|---------|---------|---------|----------|---------|-------|--------|------------|
| | 2008 > 09 | 2009 > 10 | 2010 > 11 | 2011 > 12 | 2012>13 | 2013>14 | 2014>15 | 2015>16 | 2016>17 | All Yrs | First 3 | Mid 3 | Last 3 | |
| EC > K | 0.00 | 0.00 | 9.00 | 16.00 | 15.00 | 0.00 | 11.00 | 12.00 | 0.00 | 7.00 | 3.00 | 10.33 | 7.67 | 7.67 |
| K > 1 | 2.40 | 2.00 | 0.56 | 0.89 | 0.75 | 0.53 | 0.78 | 0.73 | 1.08 | 1.08 | 1.65 | 0.72 | 0.86 | 0.86 |
| 1 > 2 | 2.20 | 1.25 | 0.90 | 1.00 | 1.50 | 1.17 | 1.13 | 1.14 | 1.13 | 1.27 | 1.45 | 1.22 | 1.13 | 1.13 |
| 2 > 3 | 1.67 | 1.09 | 0.80 | 1.00 | 0.80 | 1.00 | 0.79 | 1.11 | 1.19 | 1.05 | 1.19 | 0.93 | 1.03 | 1.03 |
| 3 > 4 | 1.29 | 0.40 | 0.83 | 1.08 | 0.89 | 1.75 | 0.75 | 1.18 | 1.00 | 1.02 | 0.84 | 1.24 | 0.98 | 0.98 |
| 4 > 5 | 1.50 | 0.89 | 0.50 | 1.10 | 1.00 | 1.13 | 1.00 | 1.22 | 0.85 | 1.02 | 0.96 | 1.08 | 1.02 | 1.02 |
| 5 > 6 | 0.86 | 0.50 | 0.63 | 1.00 | 0.82 | 0.85 | 1.22 | 1.57 | 1.55 | 1.00 | 0.66 | 0.89 | 1.45 | 1.45 |
| 6 > 7 | 0.88 | 1.00 | 1.67 | 1.20 | 4.00 | 1.44 | 1.27 | 1.45 | 1.09 | 1.56 | 1.18 | 2.21 | 1.27 | 1.27 |
| 7 > 8 | 0.85 | 1.00 | 1.50 | 1.20 | 1.50 | 2.50 | 1.15 | 1.36 | 1.25 | 1.37 | 1.12 | 1.73 | 1.25 | 1.25 |
| 8 > 9 | 1.11 | 1.00 | 1.43 | 1.44 | 1.50 | 1.44 | 1.30 | 0.80 | 1.21 | 1.25 | 1.18 | 1.46 | 1.10 | 1.10 |
| 9 > 10 | 1.13 | 0.90 | 1.09 | 0.80 | 0.92 | 1.00 | 1.08 | 0.92 | 1.00 | 0.98 | 1.04 | 0.91 | 1.00 | 1.00 |
| 10 > 11 | 1.33 | 1.00 | 1.44 | 0.92 | 0.63 | 0.83 | 1.22 | 0.93 | 1.33 | 1.07 | 1.26 | 0.79 | 1.16 | 1.16 |
| 11 > 12 | 0.73 | 0.63 | 1.00 | 0.77 | 0.73 | 0.60 | 0.70 | 0.64 | 0.85 | 0.74 | 0.79 | 0.70 | 0.73 | 1.00 |

Table D. County Birth and District Kindergarten Class Review ("Capture" Analysis)

Est.

| Birth Data | | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|-------------------------|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| A | Births in Year | 429 | 413 | 419 | 414 | 379 | 398 | 363 | 342 | 372 | 366 | 359 | 363 | 363 | 363 | 375 | 375 | 375 | 375 | 375 | 375 | 375 |
| B | Births 5-years prior | 360 | 392 | 380 | 407 | 421 | 429 | 413 | 419 | 414 | 379 | 398 | 363 | 342 | 372 | 366 | 359 | 363 | 363 | 363 | 375 | 375 |
| Kindergarten Enrollment | | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2024/25 | 2025/26 | 2026/27 |
| C | Resident students served | 32 | 47 | 42 | 28 | 31 | 22 | 24 | 24 | 21 | 27 | 13 | 20 | 18 | 21 | 20 | 20 | 20 | 20 | 20 | 21 | 21 |
| D | Residents open enrolled OUT | 27 | 24 | 27 | 28 | 18 | 26 | 24 | 29 | 19 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| E | Resident private + home school | | | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| F | Total Student Pool | 59 | 71 | 71 | 58 | 52 | 50 | 50 | 56 | 42 | 50 | 37 | 42 | 40 | 43 | 42 | 42 | 42 | 42 | 42 | 43 | 43 |
| G | Percent District Pool of County | 16.4% | 18.1% | 18.7% | 14.3% | 12.4% | 11.7% | 12.1% | 13.4% | 10.1% | 13.2% | 9.3% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% | 11.6% |

Source: MN Department of Health, MDE, district.

Fig. 3. Births to Carlton County Residents

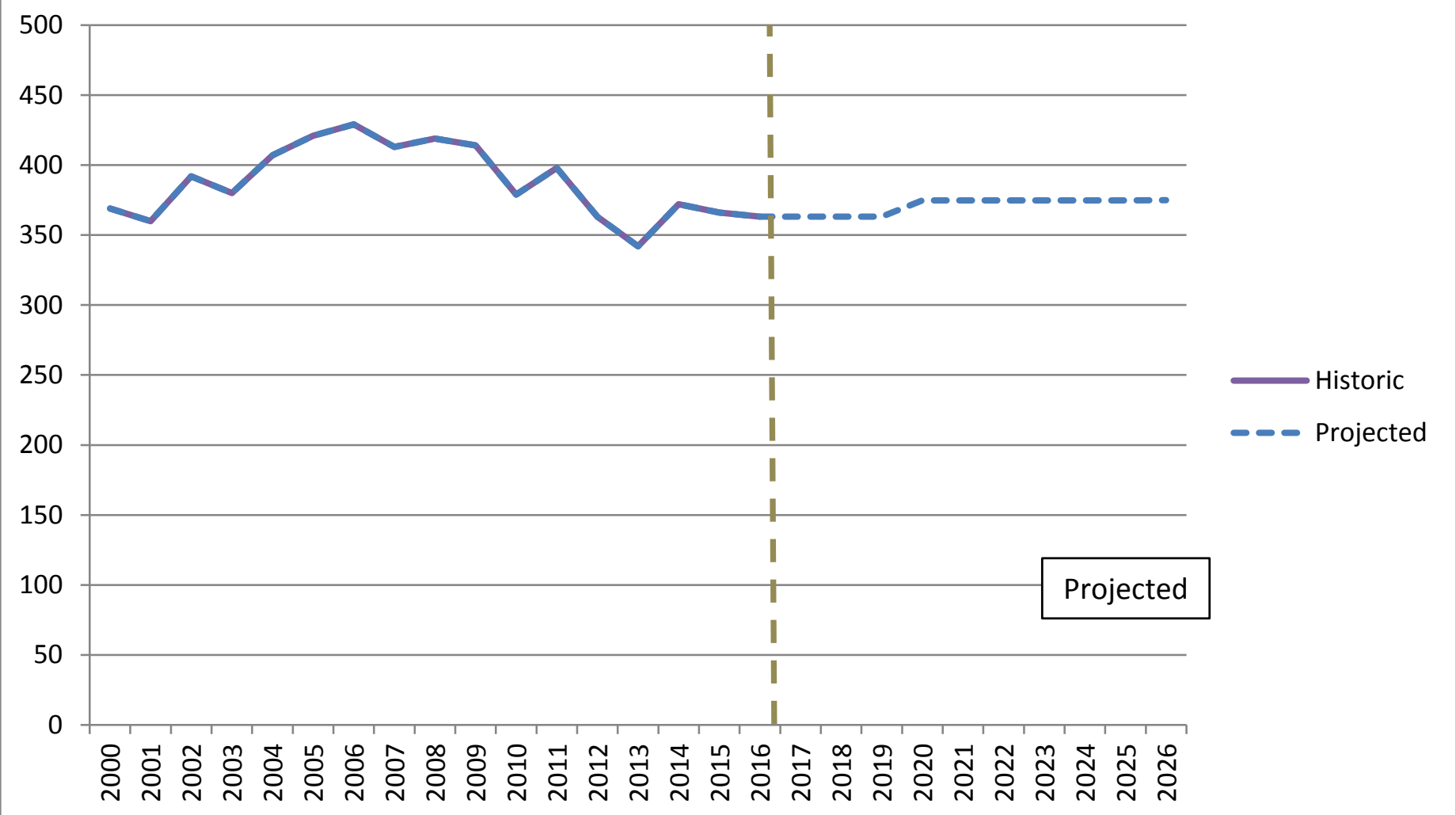


Table E-1. TOTAL RESIDENT K-12 STUDENTS (regardless of where enrolled)

| | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Esko | 962 | 963 | 966 | 942 | 961 | 973 | 990 | 978 | 985 | 1,026 | |
| Cloquet | 2,308 | 2,319 | 2,368 | 2,380 | 2,359 | 2,384 | 2,378 | 2,441 | 2,464 | 2,461 | |
| Cromwell-Wright | 273 | 287 | 275 | 275 | 270 | 271 | 284 | 293 | 308 | 301 | |
| Barnum | 654 | 670 | 666 | 674 | 680 | 694 | 700 | 705 | 687 | 695 | |
| Wrenshall | 320 | 307 | 292 | 298 | 282 | 275 | 266 | 269 | 269 | 266 | |
| Carlton | 777 | 795 | 760 | 732 | 707 | 656 | 663 | 642 | 647 | 619 | 603 |
| Area Total | 5,294 | 5,341 | 5,327 | 5,301 | 5,259 | 5,253 | 5,281 | 5,328 | 5,360 | 5,368 | |
| Total Change | | 0.9% | -0.3% | -0.5% | -0.8% | -0.1% | 0.5% | 0.9% | 0.6% | 0.1% | |

Table E-2 . Area District K-12 Enrollment

| District | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Esko | 1,108 | 1,118 | 1,151 | 1,153 | 1,193 | 1,204 | 1,213 | 1,197 | 1,183 | 1,215 | 1,221 |
| Cloquet | 2,552 | 2,584 | 2,589 | 2,625 | 2,601 | 2,615 | 2,630 | 2,683 | 2,691 | 2,668 | 2,505 |
| Cromwell-Wright | 308 | 316 | 300 | 300 | 296 | 302 | 315 | 312 | 334 | 323 | 348 |
| Barnum | 684 | 701 | 719 | 723 | 744 | 757 | 789 | 797 | 781 | 777 | 776 |
| Wrenshall | 352 | 319 | 309 | 337 | 344 | 342 | 324 | 324 | 324 | 320 | 353 |
| Fond du Lac | 292 | 277 | 261 | 276 | 261 | 238 | 257 | 257 | 246 | 213 | 215 |
| Carlton | 591 | 615 | 573 | 531 | 504 | 464 | 470 | 469 | 488 | 471 | 471 |
| Total | 5,887 | 5,930 | 5,902 | 5,945 | 5,943 | 5,922 | 5,998 | 6,039 | 6,047 | 5,987 | 5,889 |

Source: MDE, district.

Table E-3 . Total K-12 Enrollment / Total K-12 Resident Student Population [Open Enrollment Net Exchange Ratio]

| District | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Esko | 115.2% | 116.1% | 119.2% | 122.4% | 124.1% | 123.7% | 122.5% | 122.4% | 120.1% | 118.4% | |
| Cloquet | 110.6% | 111.4% | 109.3% | 110.3% | 110.3% | 109.7% | 110.6% | 109.9% | 109.2% | 108.4% | |
| Cromwell-Wright | 112.8% | 110.1% | 109.1% | 109.1% | 109.6% | 111.4% | 110.9% | 106.5% | 108.4% | 107.3% | |
| Barnum | 104.6% | 104.6% | 108.0% | 107.3% | 109.4% | 109.1% | 112.7% | 113.0% | 113.7% | 111.8% | |
| Wrenshall | 110.0% | 103.9% | 105.8% | 113.1% | 122.0% | 124.4% | 121.8% | 120.4% | 120.4% | 120.3% | |
| Carlton | 76.1% | 77.4% | 75.4% | 72.5% | 71.3% | 70.7% | 70.9% | 73.1% | 75.4% | 76.1% | 78.1% |

Fig. 4a. Resident K-12 Students Regardless of Where Enrolled, 2006/07 - 2015/16

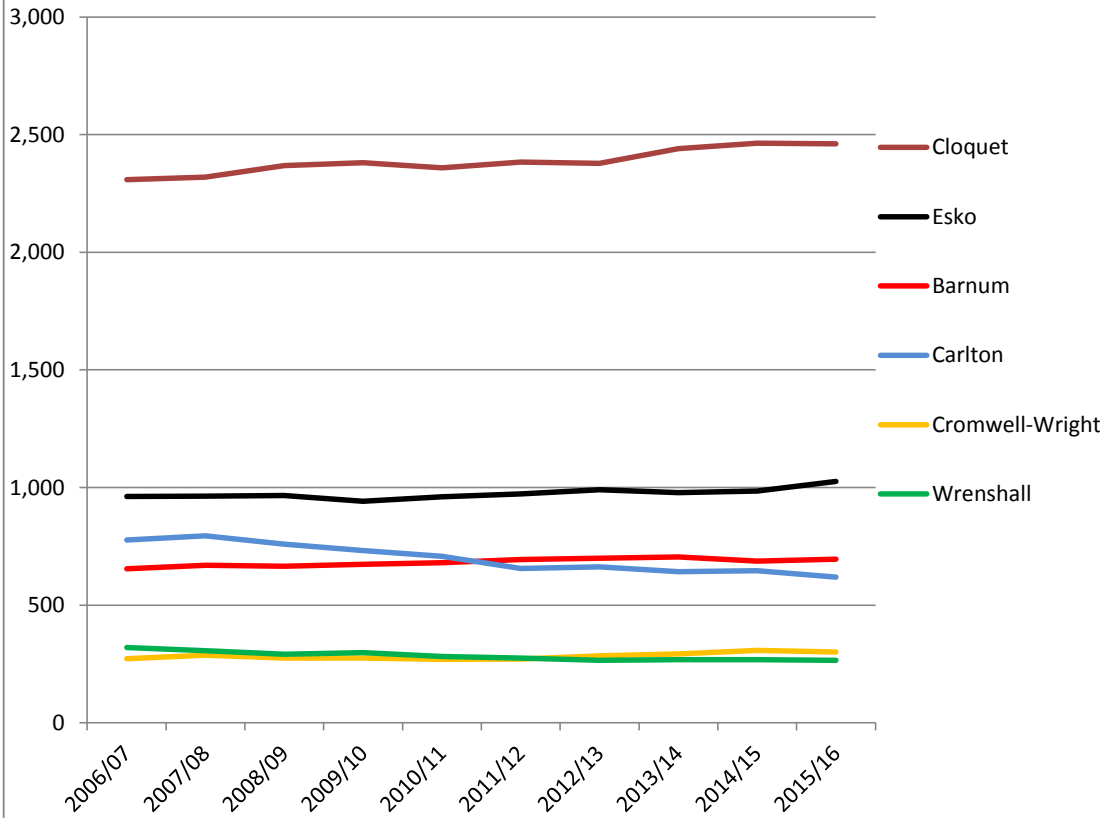


Fig. 4b. K-12 Enrollment for Adjoining Districts, 2006/07 - 2016/17

