

DEMOGRAPHIC STUDY
FOR THE
NORTH CALDWELL
PUBLIC SCHOOLS

May 31, 2017



STATISTICAL FORECASTING

- Provide demographic services for school districts in the New York-New Jersey metropolitan area
- Performed demographic studies for approximately 100 school districts in NY & NJ
- Demographic consultant for the NYC Public Schools since 2006

RICHARD S. GRIP ED.D.

- Executive Director
- Doctorate from Rutgers University Graduate School of Education in Educational Statistics and Measurement
- Numerous publications on school demography and presentations nationally
- Testified as an expert witness in school demography in several Administrative Law court hearings.

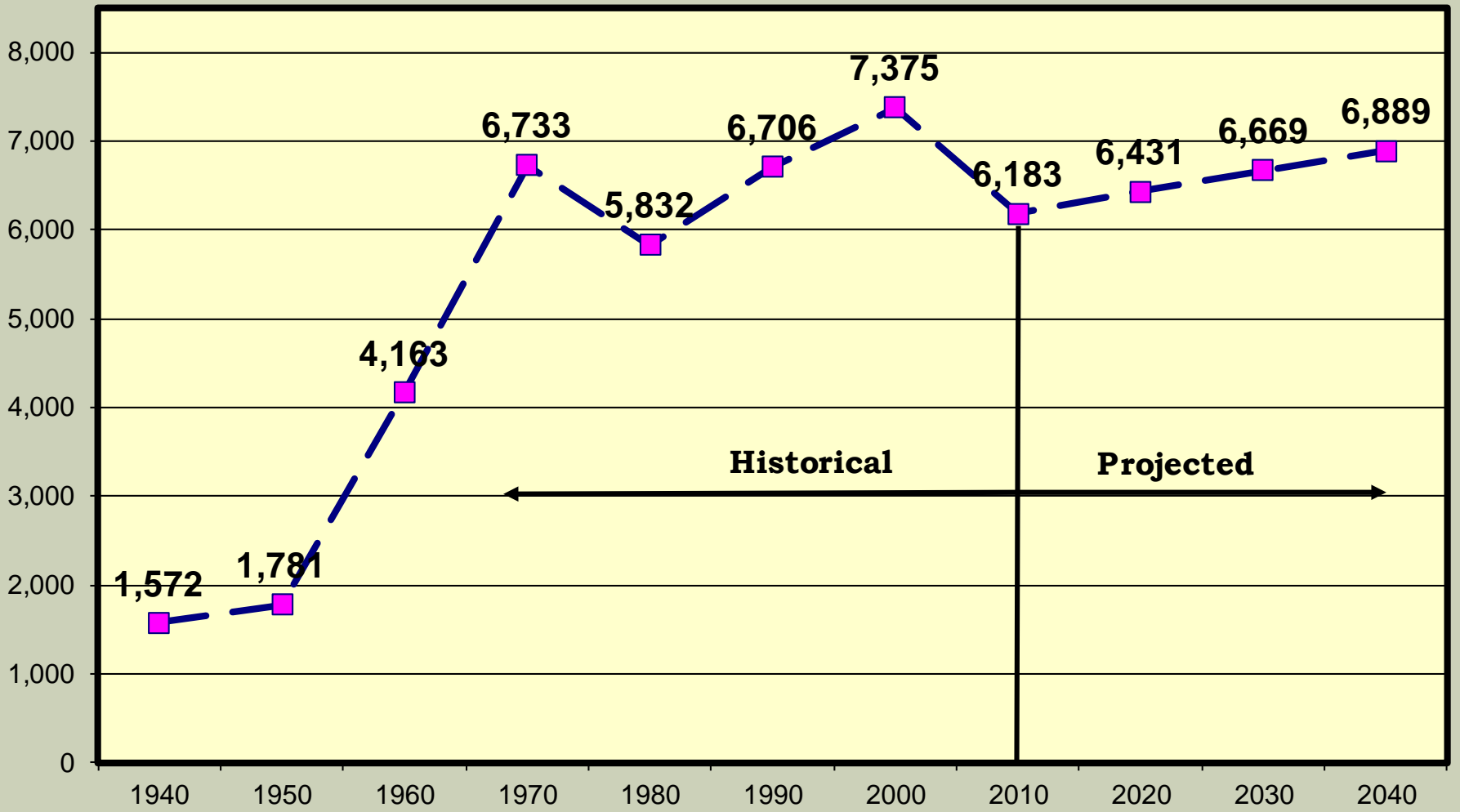
PURPOSE OF THE STUDY

- Update demographic study completed in April 2014
- Project grade-by-grade enrollments from 2017-18 through 2021-22
- Analyze district's historical enrollments, birth counts, home sales
- Determine impact of new developments on enrollment

RESULTS FROM APRIL 2014 REPORT

Year	Actual	Projected (CSR 5-Yr)	Difference (CSR 5-Yr)	% Error (CSR 5-Yr)	Projected (CSR 6-Yr)	Difference (CSR 6-Yr)	% Error (CSR 6-Yr)
2014-15	658	653	-5	-0.8%	679	+21	+3.2%
2015-16	673	661	-12	-1.8%	689	+16	+2.4%
2016-17	685	654	-31	-4.5%	697	+12	+1.8%

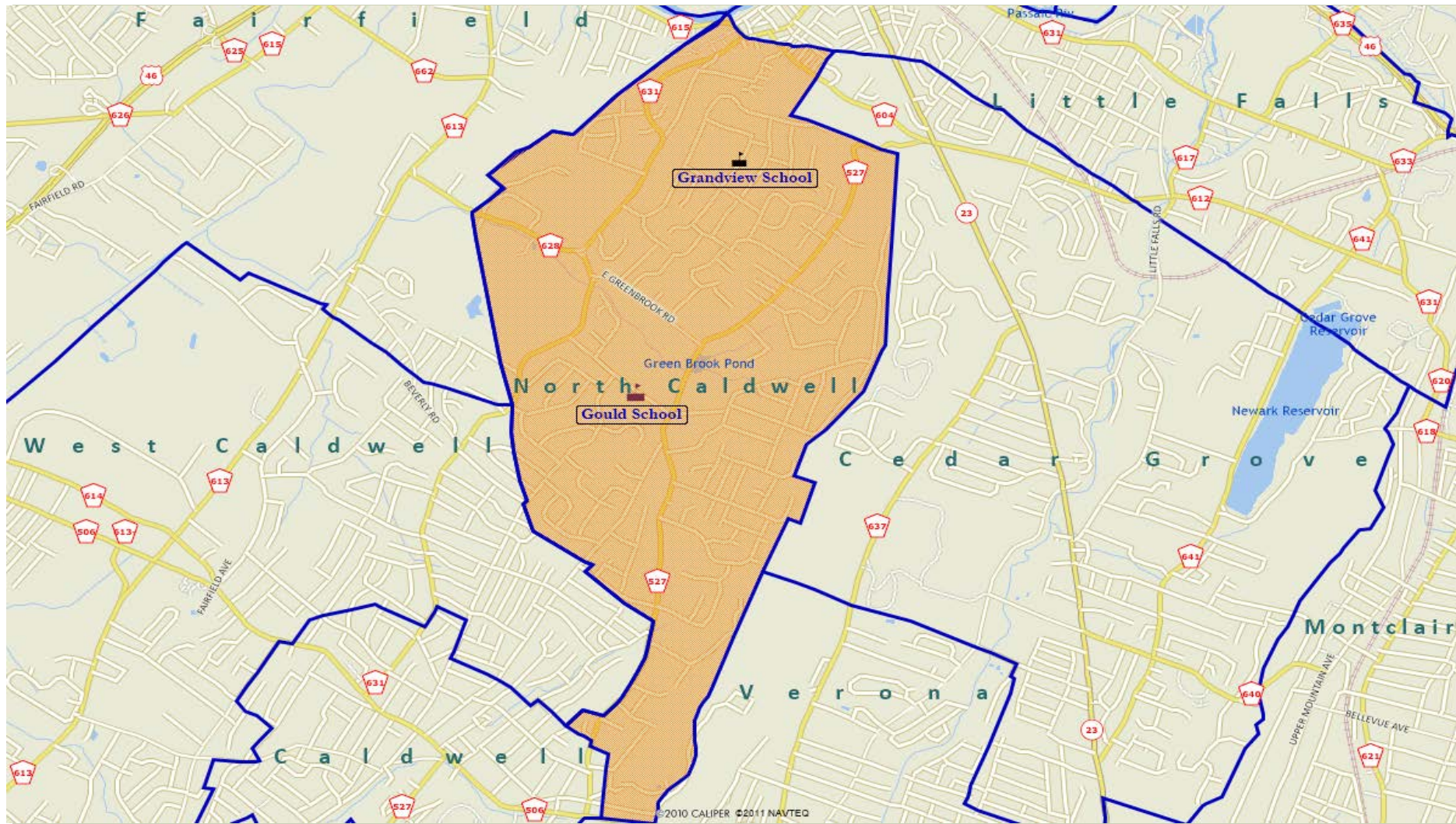
NORTH CALDWELL HISTORICAL AND PROJECTED POPULATIONS 1940-2040



NORTH CALDWELL DEMOGRAPHIC PROFILE

- 91.7% White, 5.7% Asian, 4.2% Hispanic
- 27.3% of population is under 18
- Median age = 43.8 years
- 8.8% of population is foreign-born [NJ=21%]
- Bachelor's Degree or Higher = 71.5%
- Median family income = \$188,750
- 2,118 housing units, of which 94% are 1-unit homes (attached or detached)
- Only 3% of housing units are renter-occupied
- Median value of owner-occupied unit = \$750,700

SCHOOL LOCATIONS

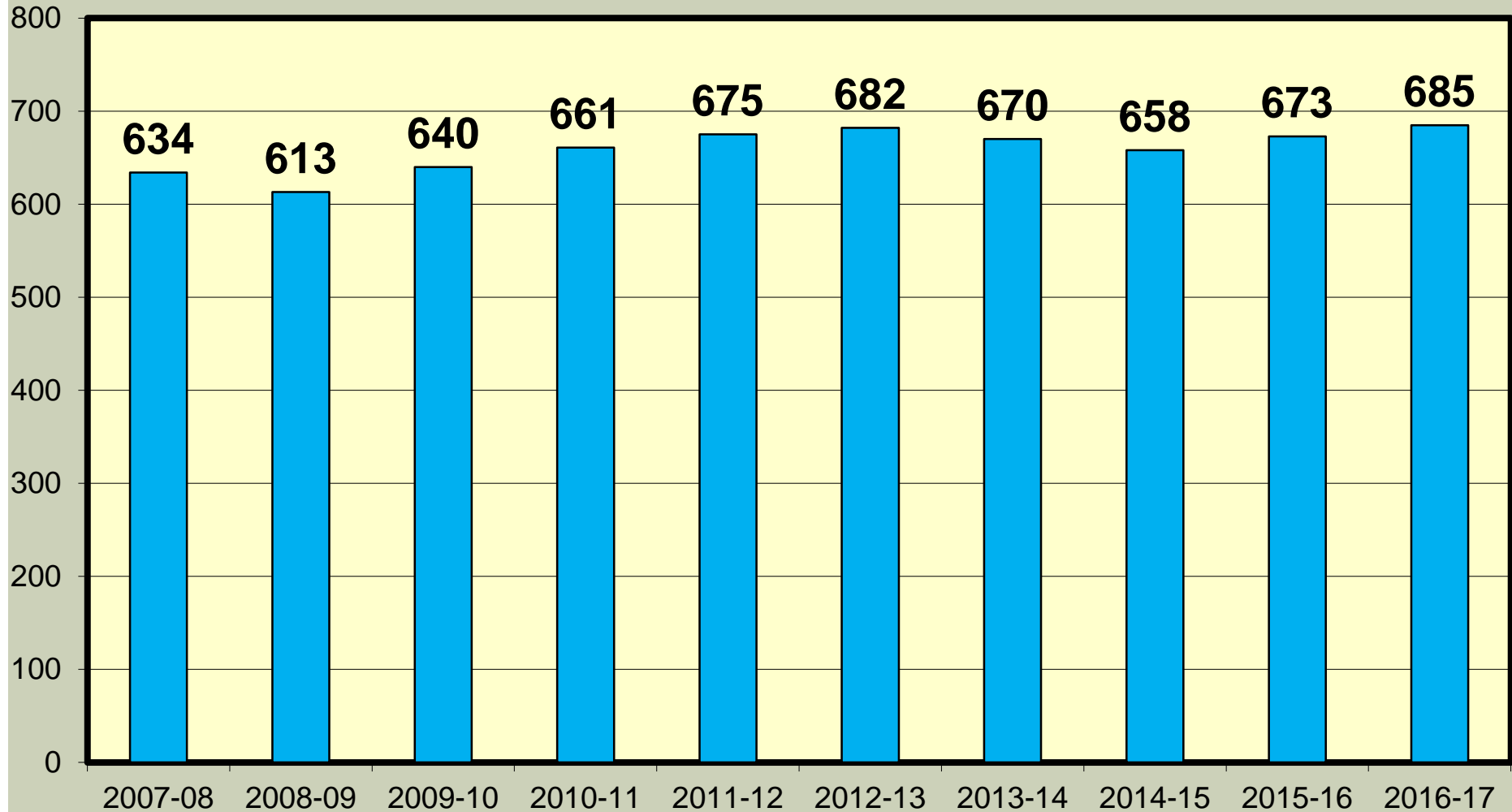


HISTORICAL ENROLLMENT TRENDS

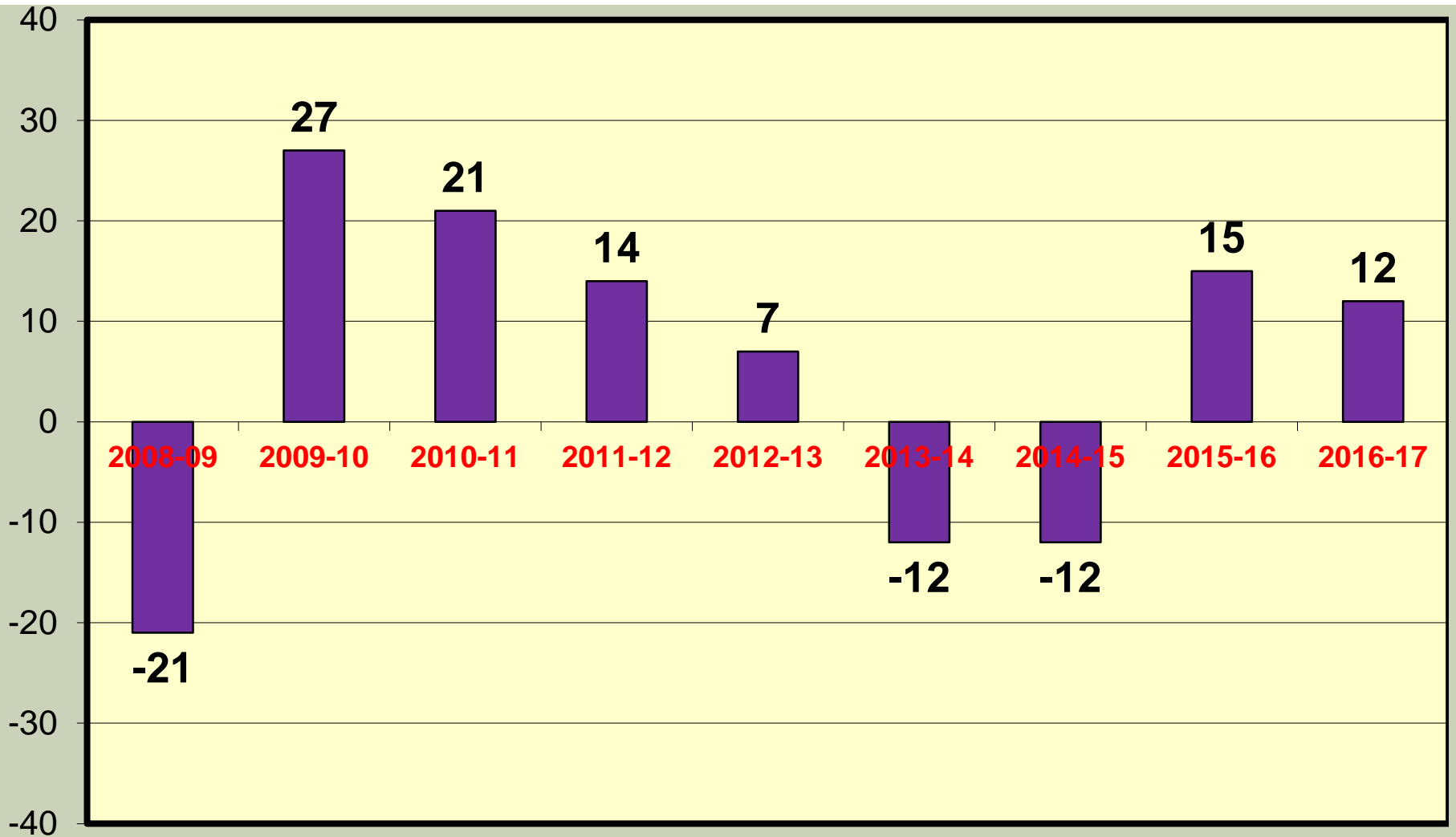
- District's 2016-17 enrollment is 685
- Total enrollment has been within a narrow band for last 7 years (658-685)
- Cohort-Survival Ratio Method (CSR) was used to project enrollment five years into the future

HISTORICAL ENROLLMENT

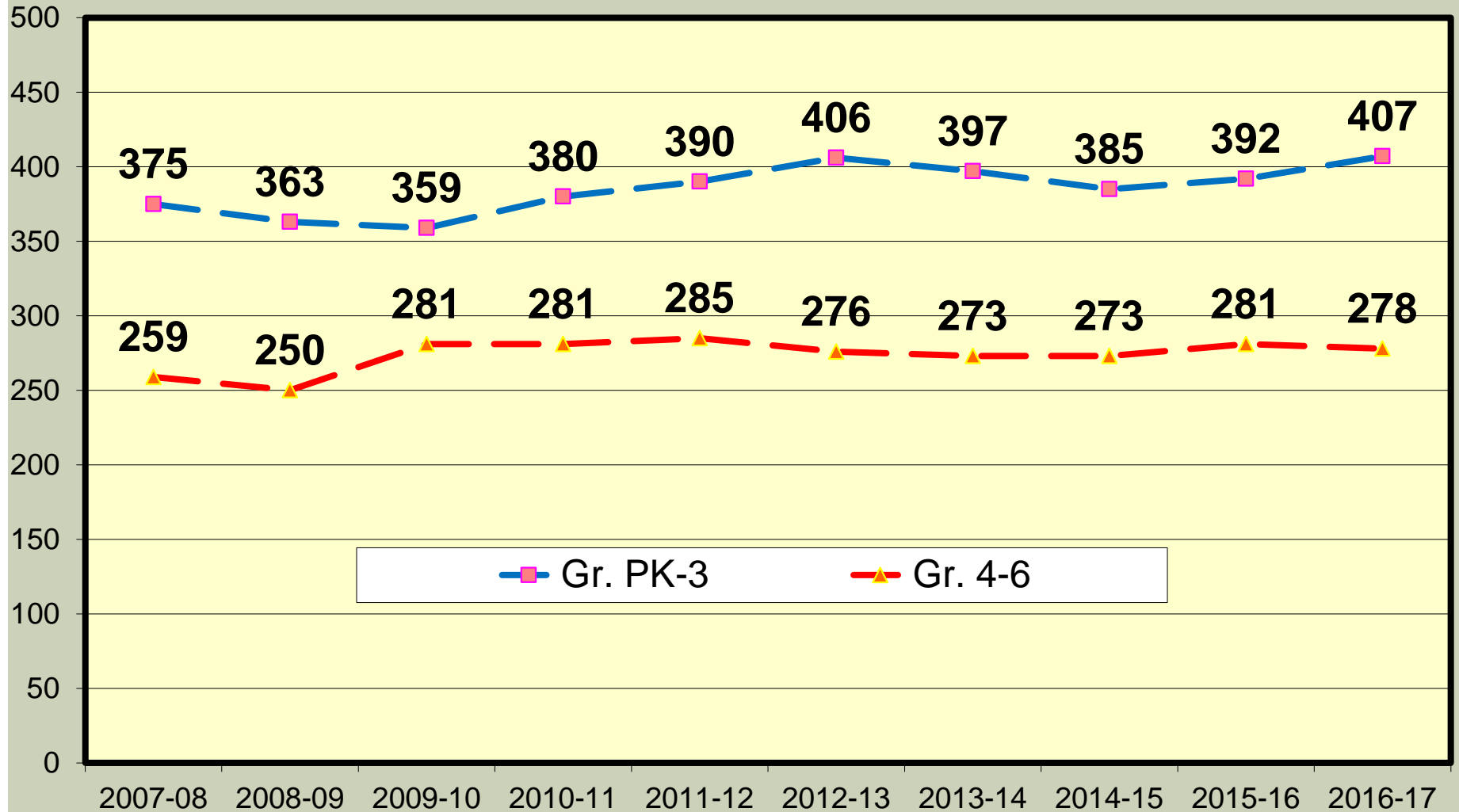
2007-08 TO 2016-17



ANNUAL PK-6 ENROLLMENT CHANGE



HISTORICAL ENROLLMENT BY LEVEL



ENROLLMENT PROJECTION METHOD

COHORT SURVIVAL RATIO

- Ratios are calculated for each grade progression. (Ex. 100 1st graders in 2015-16 become 95 2nd graders in 2016-17 = 0.95)
- Survival ratios were computed for ten historical years
- Six of 7 average ratios were above 1.000 reflecting inward migration
- Averages were then computed and used to project future enrollments

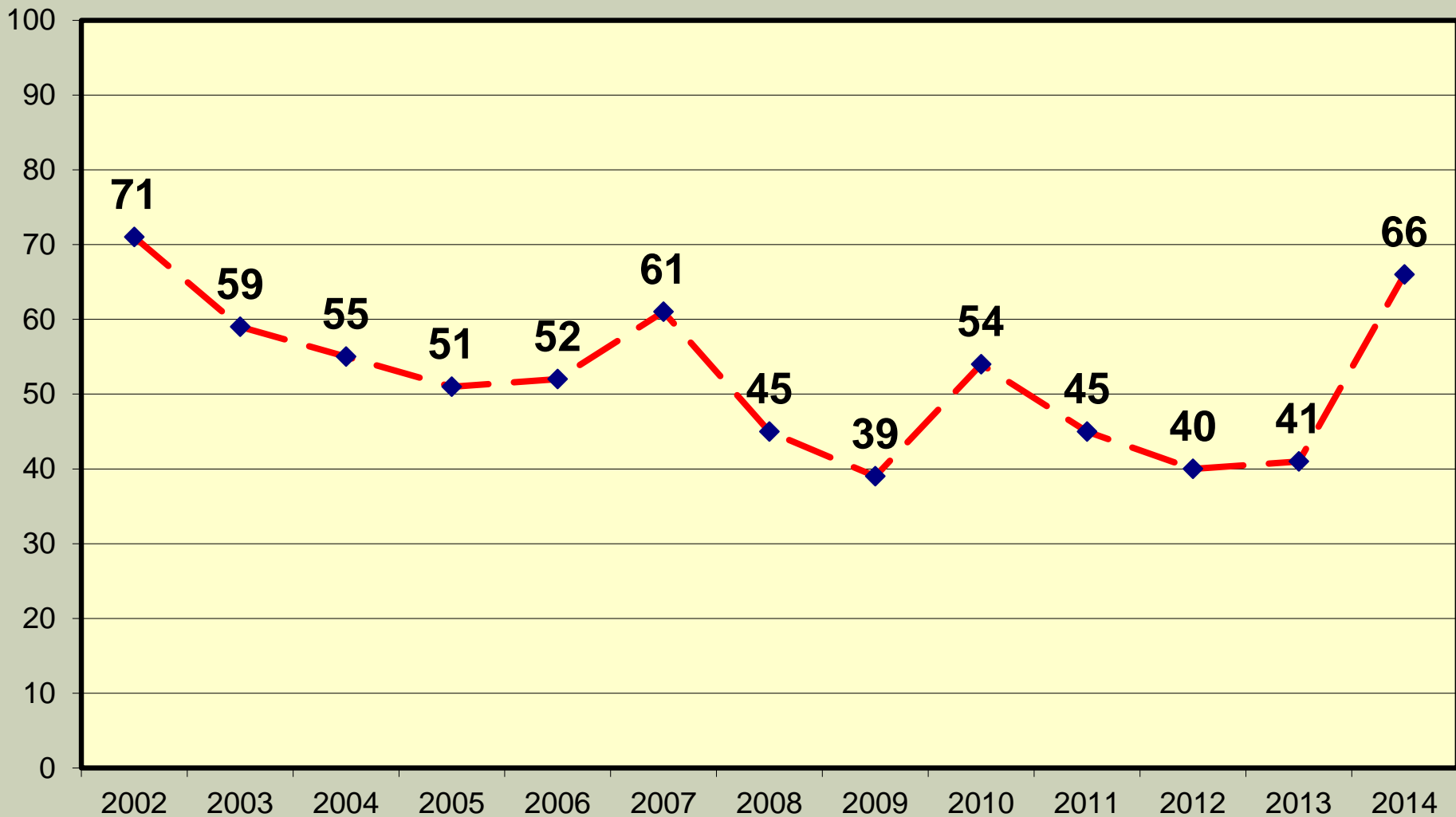
BIRTHS

- Births have been declining, in general
- 2002-2008: Birth average = 56
- 2009-2014: Birth average = 48
- Births are typically used to project kindergarten students 5 years later

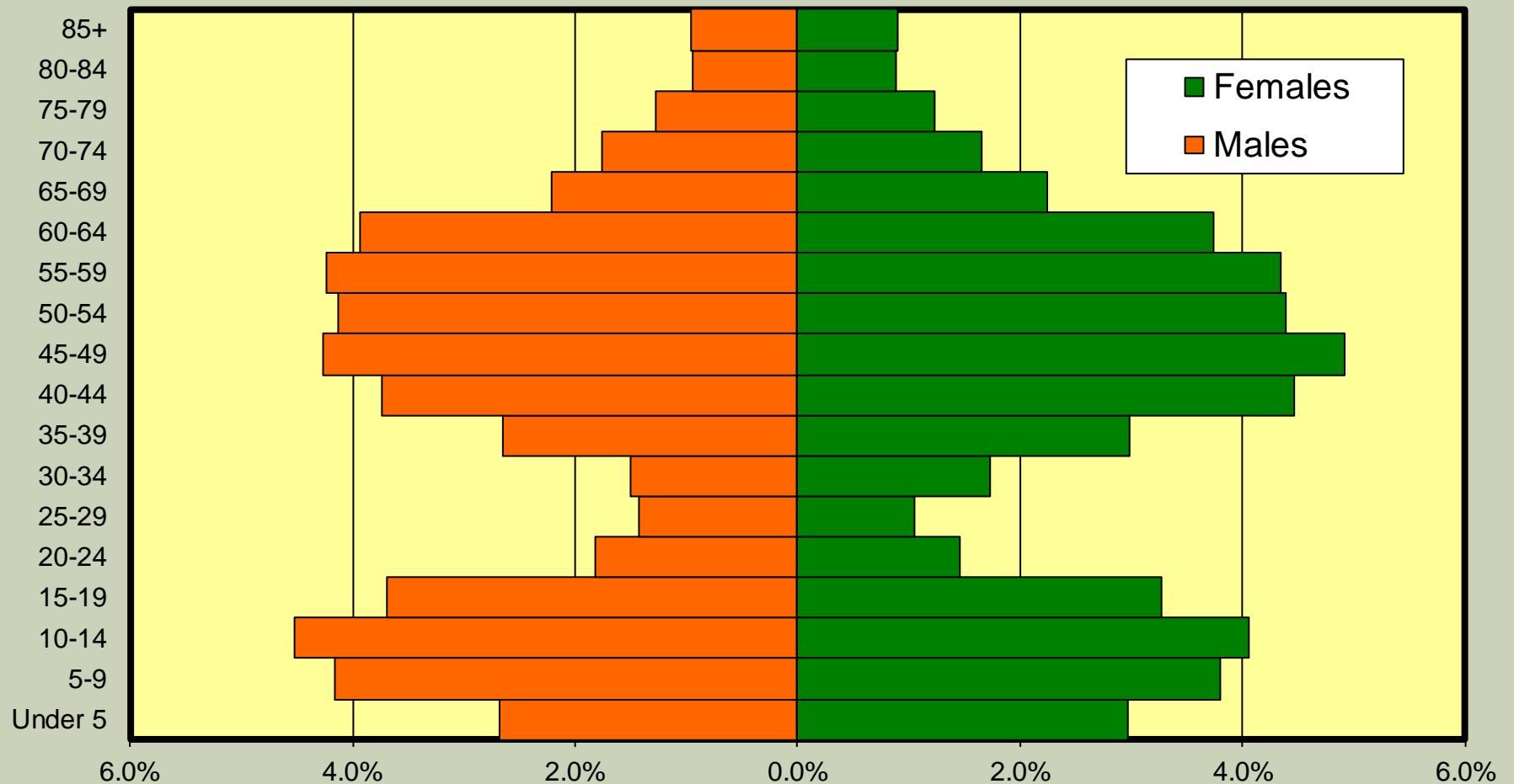
BIRTH RATES AND BIRTH-TO-KINDERGARTEN SURVIVAL RATIOS

Birth Year	Number of Births-North Caldwell	Kindergarten Students Five Years Later	Birth-to-Kindergarten Survival Ratio
2002	71	88	1.239
2003	59	79	1.339
2004	55	76	1.382
2005	51	92	1.804
2006	52	93	1.788
2007	61	80	1.311
2008	45	89	1.978
2009	39	82	2.103
2010	54	86	1.593
2011	45	96	2.133
2012	40	N/A	N/A
2013	41	N/A	N/A
2014	66	N/A	N/A

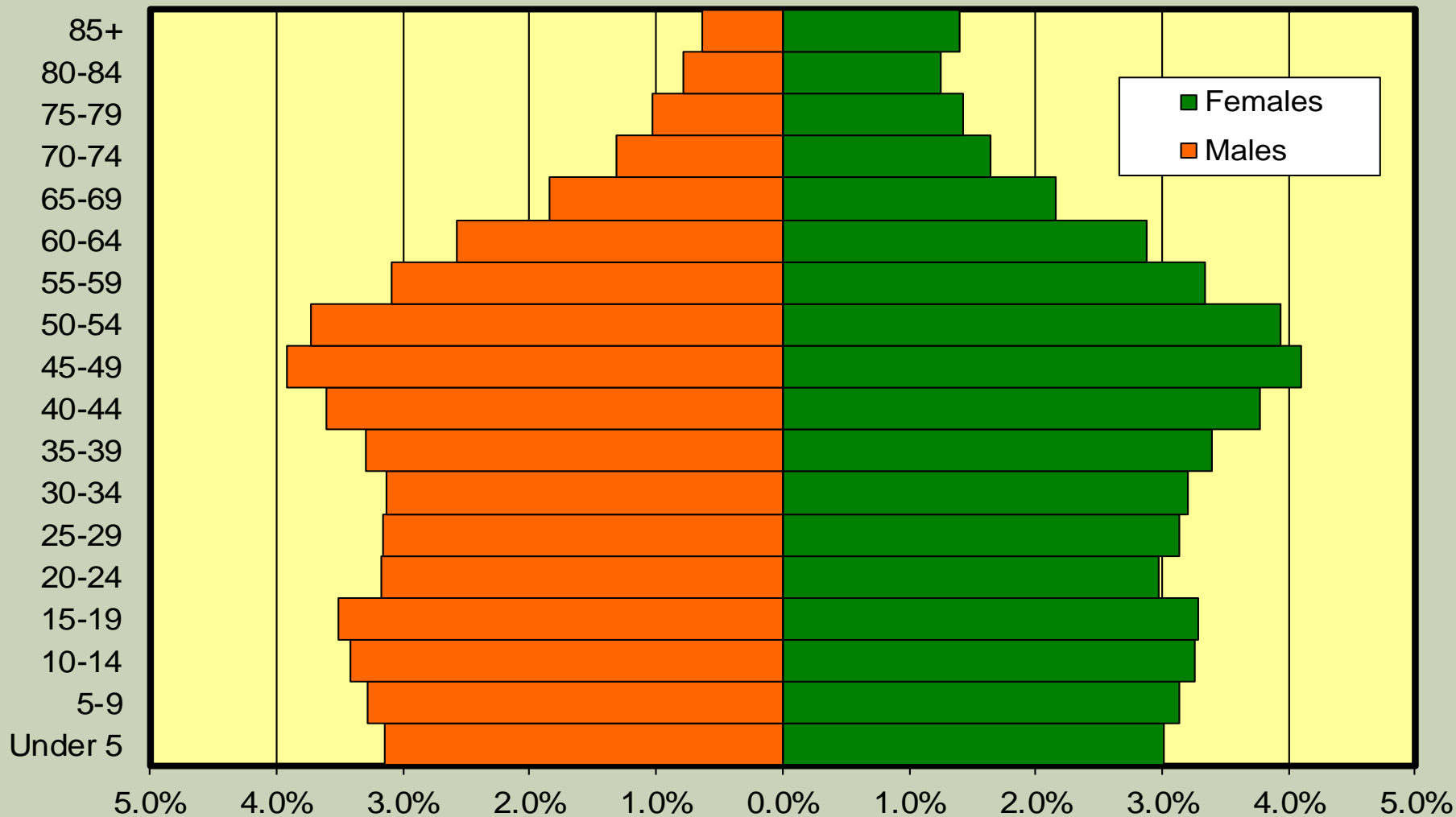
NORTH CALDWELL HISTORICAL BIRTHS 2002-2014



AGE PYRAMID - NORTH CALDWELL 2010



AGE PYRAMID - NEW JERSEY 2010



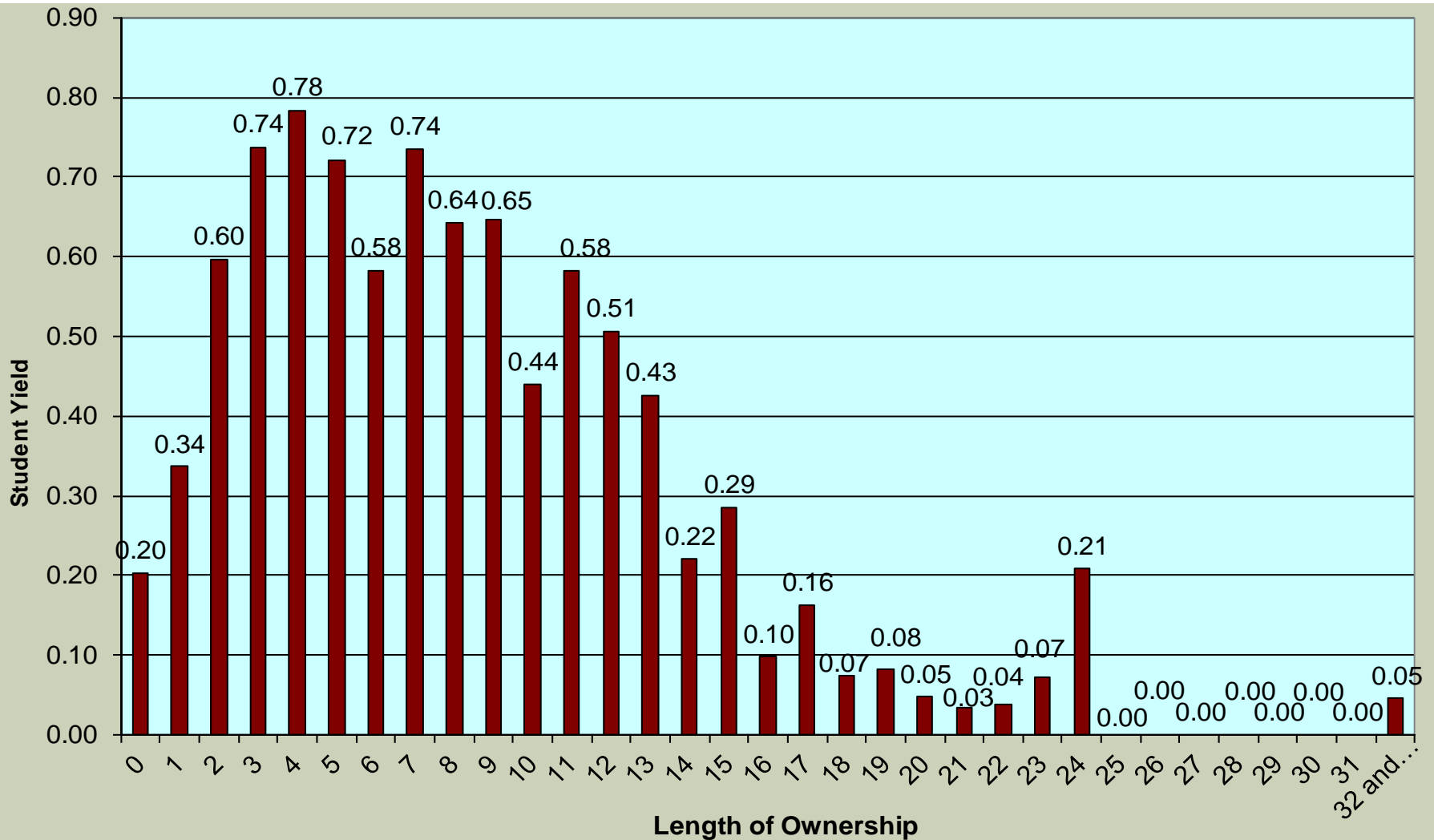
NEW HOUSING

- **Hilltop 3: 62 SF homes, 50 affordable apartments**
 - Final approval expected soon with possible occupancy beginning in 2018
- **Two small subdivisions (on Mountain and Grandview Avenues) of 5 SF each**
 - Both are under construction with 1 CO

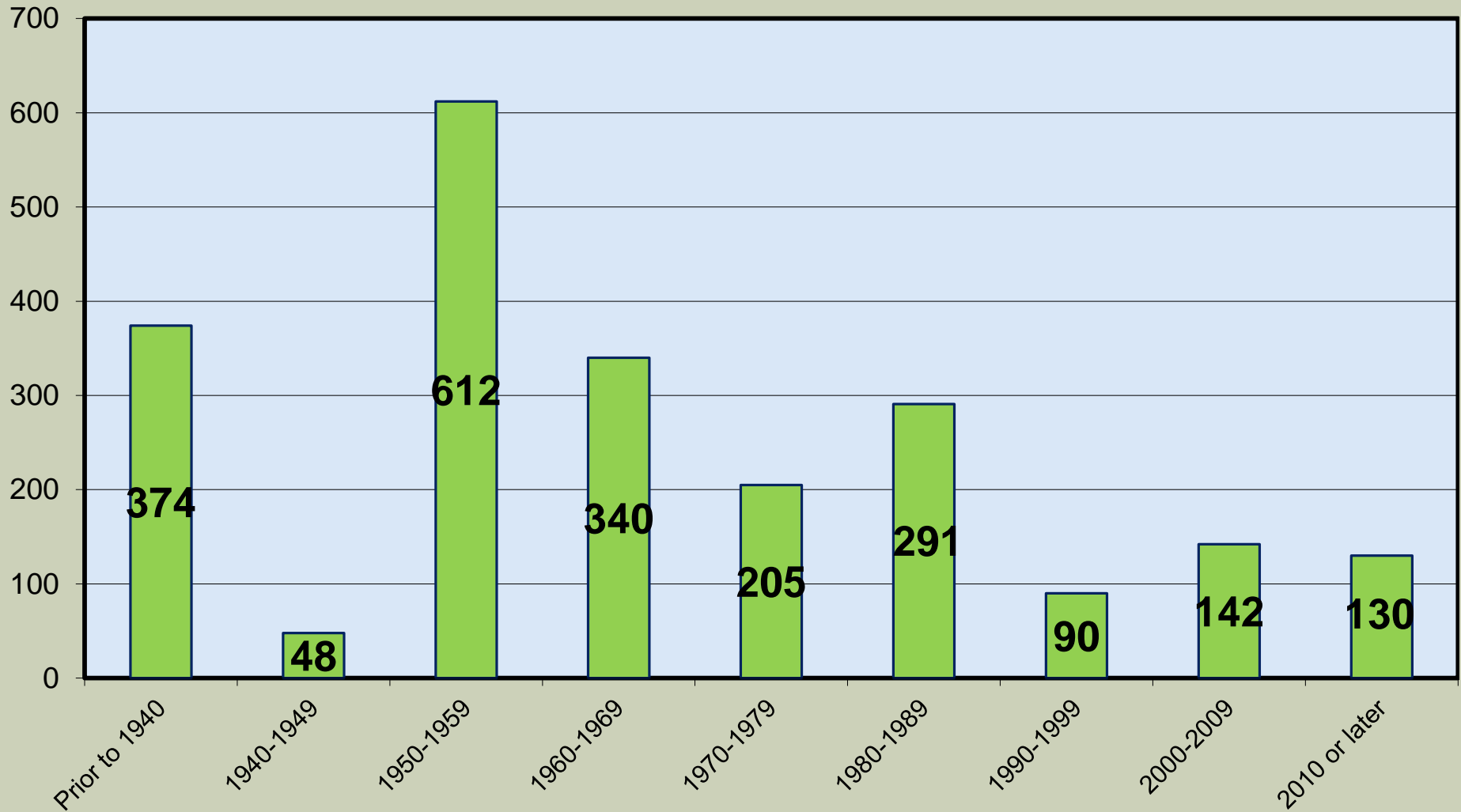
STUDENT YIELDS

- Student yields for single-family homes were computed in the 2014 demographic study
- Yields were compiled by length of ownership of home. Avg. = 0.71, Max = 1.04 (Arbor Rd.)
- Approximately 52-75 children (grades K-6) are projected from 72 new SF homes
- Affordable Housing – used Rutgers data, since no comparable properties exist in North Caldwell
 - A total of 21 children (grades K-6) are anticipated from 50 affordable apts

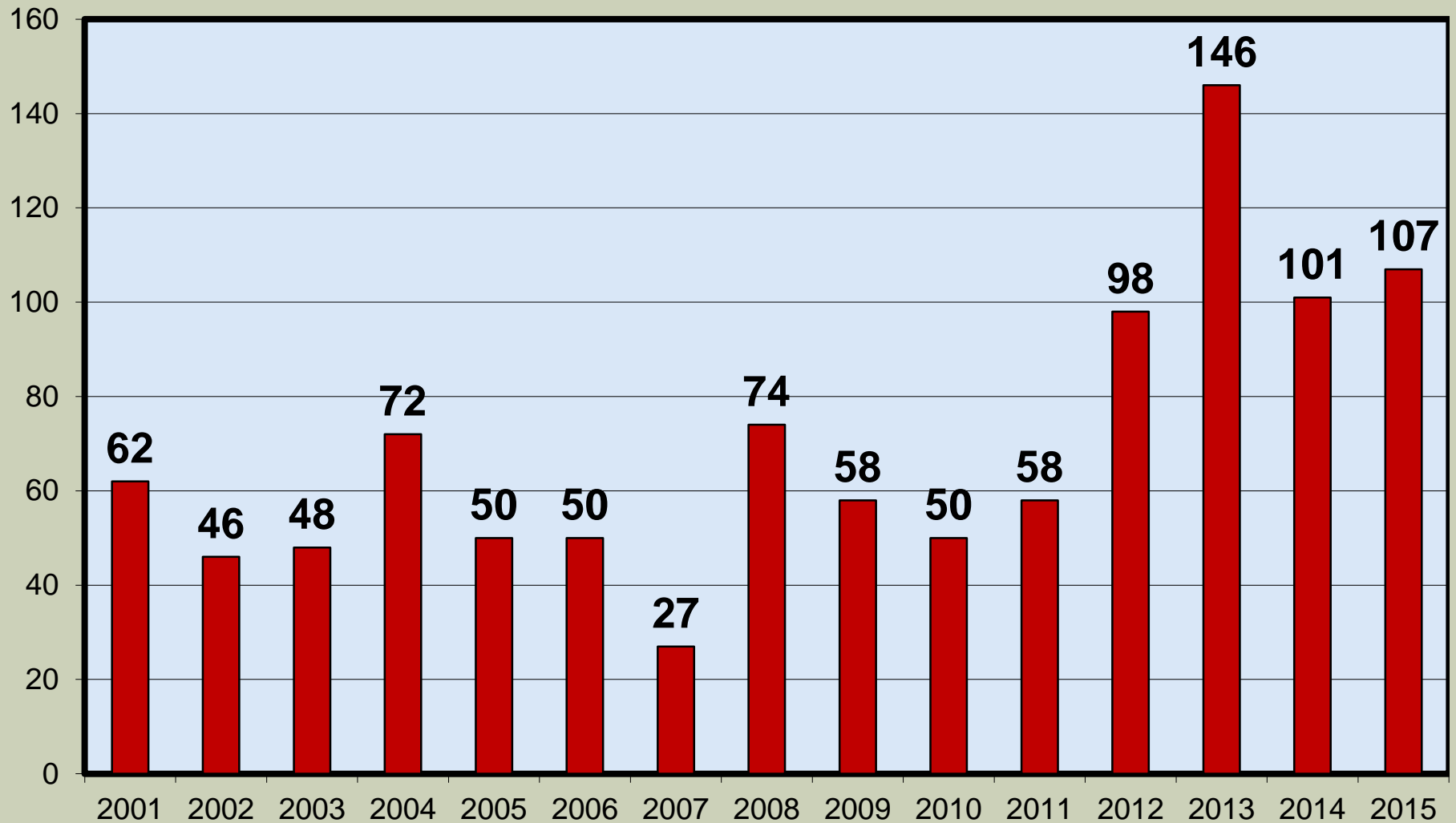
YIELDS BY LENGTH OF OWNERSHIP



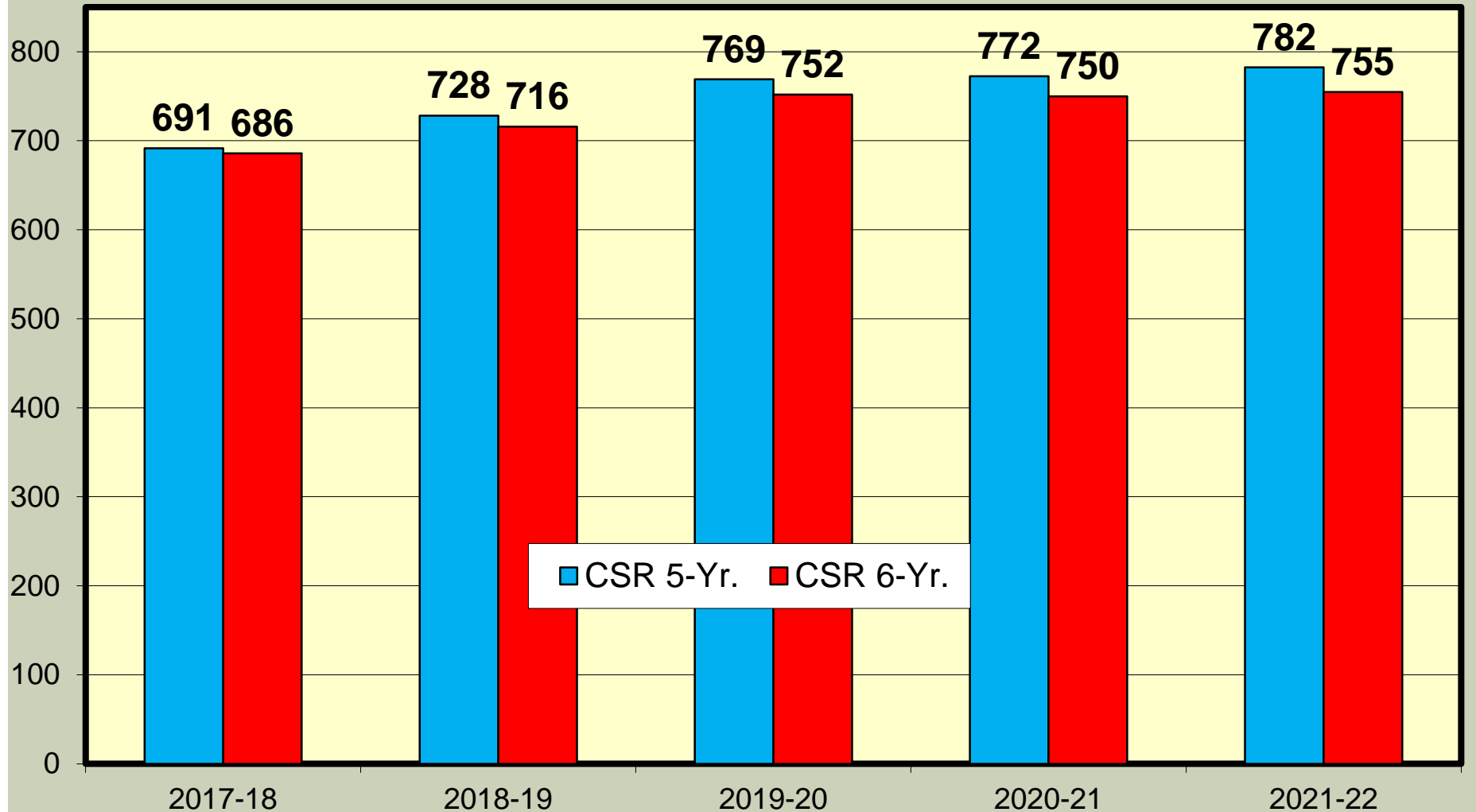
HOMES BUILT BY DECADE NORTH CALDWELL



NORTH CALDWELL HOME SALES 2001-2015



ENROLLMENT PROJECTIONS ADJUSTED FOR HOUSING GROWTH



PROJECTED ENROLLMENT BY GRADE CONFIGURATION

Historical	PK-3		4-6	
2016-17	407		278	
Projected	PK-3 CSR 5-YR	PK-3 CSR 6-YR	4-6 CSR 5-YR	4-6 CSR 6-YR
2017-18	410	405	281	281
2018-19	443	431	285	285
2019-20	466	449	303	303
2020-21	461	441	311	309
2021-22	457	438	325	317
5-year Change	+50	+31	+47	+39

CAPACITY ANALYSIS

School	Capacity	Actual Enrollment 2016-17	Difference	Projected Enrollment 2021-22	Difference
Grandview School (PK-3)	315	407	-92	457	-142
Gould School (4-6)	270	278	-8	325	-55

KEY QUESTIONS

What are the unique aspects of studying demographics in North Caldwell, compared to other towns/school districts?

- Grade levels are small in size
- High variability in B-K ratios
- No comparable properties to project impact of affordable housing

KEY QUESTIONS

Why do you use the cohort survival ratio?

- The NJDOE uses the cohort survival ratio (CSR), which assumes historical survival ratios continuing into the future.
- Modified regression technique is only appropriate for districts with about 8,000-10,000 – too much variability for a small district like North Caldwell
- CSR is the most reliable option for projecting enrollments in North Caldwell.
- Our last study, using this method, was within the normal 1% per year margin of error

KEY QUESTIONS

Why do you only project out 5 years?

- NJDOE only accepts 5-year projections
- Beyond 5 years, reliability of projections decreases, particularly for elementary schools
 - Small size of the District
 - Would need to project birth counts, which would be very unreliable for a district of this size.

KEY QUESTIONS

Is the study invalidated due to its not taking into account some known planned development?

- Study takes into account 122 new units. An additional 10-15 may be planned but have not received approval
- Will not have a major impact
- CSR already takes into account historic new home construction and projects it into the future