

HISTORICAL & FORECASTED POPULATION SCHOOL ENROLLMENT ANALYSIS TOWN OF WATERBORO

**Prepared by:
20/20 Master Planning Committee**



Waterboro Population and School Enrollment Projections

Projecting future population and school enrollments in the current economic environment is problematic since the factors that influence population and school enrollment change have not followed “typical” patterns over the last five years. It is impossible to predict whether the recent patterns will continue or we will return to a pattern more reflective of the prior 25 years. In Waterboro, forecasting the future is even more difficult since much of the population growth over the past 30 years was the result of net in-migration caused by steady residential development. To provide the Town will guidance in planning for its future, the 20/20 Master Planning Committee collaborated with Planning Decisions to examine factors driving growth in Waterboro’s population and school enrollments over the past 30 years. Planning Decisions used this information to develop future projections.

The population projections forecast a growing population even under a low-growth scenario as surplus vacant homes are re-occupied and some new homes are built in the community increasing the total number of households in Waterboro. If the level of development increases, the projected population will grow faster as indicated in the population projections (see Table 12).

In contrast, the school enrollment projections forecast a continuing decline in both total SAD enrollment and in the number of Waterboro students educated by the district. This projection is driven by a number of factors. The enrollment projections are heavily influenced by enrollment trends over the last 3 to 5 years in which the number of births to Waterboro households dropped. There was also a small year-to-year out-migration of students compared to a net in-migration in earlier years possibly as a result of the increase in vacant homes. As a result, the entering kindergarten and first grade class sizes have typically been smaller than the graduating 12th grade class and grade cohorts have been reasonably stable as they moved through the system year-by-year. In a sense, the enrollment projections represent a continuation of the enrollment trends of the last three to five years and are reasonably accurate for a continuation of a low growth scenario in which the number of births to Waterboro households each year continues to be in the +/-90 range. If residential development rebounds significantly and Waterboro begins to experience significant in-migration of younger households that results in an increase in the number of children born to Town residents, these enrollment projections will need to be reviewed and potentially updated.

Population Projections

Waterboro experienced steady growth in its year-round population between 1980 and 2010 according to the U.S. Census (see Table 1). The Census estimates that this population growth continued thorough 2011 and the 2011 estimated year-round population stands at

7735. This population growth reflects the growth in the number of year-round housing units (see Table 2) and the number of households living in Waterboro (see Table 3).

Table 1: Waterboro Population, 1980-2010

| | 1980 | 1990 | 2000 | 2010 |
|------------|-------|-------|-------|-------|
| Population | 2,943 | 4,510 | 6,214 | 7,693 |

Source: US Census

Table 2: Waterboro Housing Units, 1980-2010

| | 1980 | 1990 | 2000 | 2010 |
|--------------------------|-------|-------|-------|-------|
| Total Housing Units | 1,604 | 2,144 | 2,828 | 3,574 |
| Year Round Housing Units | 985 | 1,669 | 2,290 | 2,938 |
| Seasonal Housing Units | 619 | 475 | 538 | 636 |

Source: US Census

Table 3: Waterboro Households, 1980-2010

| | 1980 | 1990 | 2000 | 2010 |
|------------|------|-------|-------|-------|
| Households | 934 | 1,555 | 2,211 | 2,775 |

Source: US Census

The impact of the increase in year-round households on the year-round population was mitigated somewhat by a decrease in the number of people living in each housing unit or the average household size. The size of the average Waterboro houshold dropped by about 12% over the past 30 years from an average of 3.15 people per household in 1980 to 2.77 in 2010 (see Table 4). This is consistent with state and national trends toward smaller households driven by factors such as the aging of the baby-boom generation, families with fewer children, and elderly people living on the their own.

Table 4: Waterboro Average Household Size, 1980-2010

| | 1980 | 1990 | 2000 | 2010 |
|-----------------|------|------|------|------|
| Average HH Size | 3.15 | 2.90 | 2.81 | 2.77 |

Source: US Census

To help Waterboro plan for its future we looked at the factors that drive change in a community’s population. That change is driven by two factors, natural increase and net migration. Natural increase is the difference between the number of children born to Waterboro parents and the number of deaths of Waterboro residents (see Table 5). Net migration is the difference between the number of people moving into Waterboro over any time period compared to the number moving out during that same period.

During the 1980s, only a small percentage (18.7%) of the growth in Waterboro’s year round population was the result of natural increase (see Table 6). Over the past 20 years as the population grew, natural increase played a larger role in population growth. For the decade ending in 2010, natural increase accounted for almost 45% of the population increase as the population base grew and residential development slowed somewhat (see Table 6).

Table 5: Waterboro Births and Deaths by Decade, 1980-2009

| | Births | Deaths |
|-----------|--------|--------|
| 1980-1989 | 496 | 293 |
| 1990-1999 | 906 | 254 |
| 2000-2009 | 987 | 327 |

Source: Maine DHHS

Table 6: Waterboro Population Change Factors, 1980-2009

| | Population Change | Natural Increase | Net Migration |
|-----------|-------------------|------------------|---------------|
| 1980-1989 | 1,567 | 293 | 1,274 |
| 1990-1999 | 1,704 | 652 | 1,052 |
| 2000-2009 | 1,479 | 660 | 819 |

Source: US Census, Maine DHHS

Over the past twelve years, the number of births to Waterboro residents has fluctuated somewhat but has typically been between 85 and 110. In recent years, births have averaged around 90 a year down from the peak birth-years in the mid-2000s (see Table 7). The number of Waterboro women in their prime childbearing years (or fertile females) appears to have remained relatively constant from 2000 to 2010 (see Table 8) suggesting that the future number of births will probably be in the low 90s over the next 5-10 years.

Table 7: Waterboro Births, Deaths and Natural Increase, 2000-2010

| | Births | Deaths | Natural Increase |
|------|--------|--------|------------------|
| 2000 | 90 | 35 | 55 |
| 2001 | 89 | 19 | 70 |
| 2002 | 87 | 35 | 52 |
| 2003 | 108 | 28 | 80 |
| 2004 | 109 | 33 | 76 |
| 2005 | 96 | 33 | 63 |
| 2006 | 106 | 37 | 69 |
| 2007 | 119 | 34 | 85 |
| 2008 | 92 | 38 | 54 |
| 2009 | 91 | 35 | 56 |
| 2010 | 99 | 27 | 72 |

Source: Maine DHHS

Table 8: Waterboro Fertile Females, 2000-2010

| | 2000 | 2010 |
|-----------------------------|-------|-------|
| Fertile Females (Age 20-44) | 1,305 | 1,334 |

Source: US Census

While the population of Waterboro is aging somewhat, there is nothing to suggest that the community will see a large increase in the number of deaths over the next 10-12 years. This results in a projected natural increase of about 60-65 people per year. For the population projection we have used a natural increase in the year-round population of 650 for the next decade.

The second factor increasing the year-round population of Waterboro is the net migration of residents. This is the probably primarily the result of residential development that increases the number of year-round households in the community. In the 1980s, net migration was the primary factor in growth in the year-round population (>81%). But in succeeding decades, its importance has decreased (see Table 6) and in the most recent decade (2000-2010) accounted for only 55% of the increase even though the increase in the number of year-round housing units was relatively consistent decade-to-decade from 1980 to 2010.

Over the past 12 years, the level of residential development dropped dramatically from around 100 units per year in the early 2000s to less than 25 units per year since 2008 (see Table 9). At the same time the number of vacant year-round units in the town has increased (see Table 10). The Census reported more than a doubling of the vacant units from 2000 to 2010 probably reflecting foreclosures and other bank-owned property. While it is hard to get an accurate picture of the current vacancy rate, it is probably somewhat higher than that experienced in 2010. These units will need to be re-occupied before significant new construction occurs. In the following population projections based on various levels of new construction, the construction levels are discounted by 100 units to account for this. As an example, the projection based on 20 units per year actually increases the new units by only 100 units over the 10 year period.

Table 9: Waterboro Building Permits, 2000-2012

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Total | 95 | 103 | 118 | 86 | 60 | 88 | 55 | 49 | 22 | 18 | 12 | 8 | 10 |
| Units in SF Structures | 95 | 96 | 118 | 84 | 60 | 84 | 51 | 49 | 22 | 18 | 12 | 8 | 10 |
| Units in All Multi-Family Structures | 0 | 7 | 0 | 2 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |

Source: HUD

Table 10: Waterboro Vacancy Rate, 2000-2010

| | 2000 | 2010 |
|---------------------------------|-------|-------|
| Occupied | 2,211 | 2,775 |
| Vacant (not including seasonal) | 79 | 163 |
| Rate | 3.6% | 5.9% |

Source: US Census

Since it is impossible to assess how the economy may or may not recover over the next decade, we have developed population projections based on four potential development scenarios – 20 units/year, 50 units/year, 80 units/year, and 100/year. To estimate the future population, we have projected the likely change due to natural increase (60-65 people per year) and to net migration. The net migration component is based on the ratio of new units to net population increase from migration for the decade of the 2000s (see Table 11). This ratio of 1.26 people per new housing unit is significantly lower than in previous decades but provides a reasonable and conservative basis for thinking about the future.

Table 11: Demographic Relationship Ratios, 1980-2009

| | Births to Fertile Females | Natural Increase to Fertile Females | Increase in Population to Increase in Housing Units | Increase in Population to Increase in Households | Net Migration to Increase in Housing Units | Net Migration to Increase in Households |
|-----------|---------------------------|-------------------------------------|---|--|--|---|
| 1980-1989 | 0.87 | 0.51 | 2.29 | 2.52 | 1.86 | 2.05 |
| 1990-1999 | 0.91 | 0.66 | 2.74 | 2.60 | 1.69 | 1.60 |
| 2000-2009 | 0.76 | 0.51 | 2.28 | 2.62 | 1.26 | 1.45 |

Source: US Census, Maine DHHS

Using the projected natural increase per decade and adding the net migration component for various rates of residential development and accounting for current vacancy levels results in the following estimates of future year-round population for Waterboro. These projections vary somewhat from what would be expected by simply applying the population per new housing unit to the number of additional housing units. In a low growth scenario this results in a slightly higher projection reflecting the re-occupancy of surplus vacant units and a somewhat lower projection in the moderate and high growth scenarios reflecting the impact of households aging and thereby reducing the average household size over time.

Low Development Scenario: 20 new housing units/year
Moderate Development Scenario: 50 new housing units/year
High Development Scenario: 80 new housing units/year
Extremely High Development Scenario: 100 new housing units/year

Table 12: Population Projections

| Population Projection | 10-year Increase | 2020 Population | 10-year Increase | 2030 Population |
|-----------------------|------------------|-----------------|------------------|-----------------|
| Low | 776 | 8,469 | 902 | 9,371 |
| Moderate | 1,154 | 8,847 | 1,280 | 10,127 |
| High | 1,532 | 9,225 | 1,658 | 10,883 |
| Extremely High | 1,784 | 9,477 | 1,910 | 11,387 |

It is unlikely that development levels will return to the rates experienced in the late 1990s-early 2000s in the foreseeable future. A more likely scenario is a continuation of low rates of development for the next 3-5 years (<20 units/year) followed by moderate development (40-50 units/year) for the balance of the decade. Under this scenario, Waterboro would see its year-round population increase by 800-900 people over the decade for an estimated 2020 population of around 8,500-8-600.

School Enrollment Projections

Over the past decade, total enrollment on MSAD/RSU 57 peaked in 2002 at 3,760 students and then slowly declined to 3,267 in October of 2012 (see Table 13.). Students from the Town of Waterboro peaked in 2006 and have been slowly dropping ever since. At the district level, this pattern of declining enrollment is driven by smaller entering first grade classes and a small net out-migration of students as they progress through the grades. In terms of the Town’s student population, the decrease is smaller first grade classes entering the system and a change from students migrating into the system to a small outward migration in the past few years.

Table 13. Enrollment Trends

| Year | MSAD/RSU 57 | Waterboro |
|----------------------|-------------|-----------|
| | K-12 | |
| October 1 Enrollment | | |
| 2001 | 3,580 | 1,391 |
| 2002 | 3,760 | 1,454 |
| 2003 | 3,740 | 1,483 |
| 2004 | 3,718 | 1,479 |
| 2005 | 3,646 | 1,454 |
| 2006 | 3,680 | 1,498 |
| 2007 | 3,628 | 1,462 |
| 2008 | 3,559 | 1,436 |
| 2009 | 3,497 | 1,417 |
| 2010 | 3,465 | 1,413 |
| 2011 | 3,335 | 1,352 |
| 2012 | 3,267 | 1,332 |

Source: 2001-2012 MDOE October 1 Resident Data (All Resident Students)

Based upon recent enrollment patterns and trends, the enrollment in MSAD/RSU 57 is expected to continue to decline reaching about 2,900 students by 2021 and then continuing to decline after that (see Table 14). Waterboro’s share of the District’s enrollment is also projected to continue to decline reaching around 1,125 students by 2022 as the smaller entering class sizes work their way through the system and replace the larger graduating classes (see Table 15).

The Waterboro projections are highly influenced by the low development pattern of the past five years. Combined with the somewhat lower birth levels during this period and the small shift to student out migration, the projections may be low if development returns to the much higher levels experienced during the 1990s.

Table 14. MSAD/RSU 57 Enrollment Projections

| MSAD/RSU 57 Projected School Enrollment 2013-14 through 2025-26 | |
|---|-------|
| October 1 st Enrollment | |
| School Year | K-12 |
| 2013-14 | 3,243 |
| 2014-15 | 3,216 |
| 2015-16 | 3,146 |
| 2016-17 | 3,090 |
| 2017-18 | 3,014 |
| 2018-19 | 2,970 |
| 2019-20 | 2,945 |
| 2020-21 | 2,910 |
| 2021-22 | 2,895 |
| 2022-23 | 2,871 |
| 2023-24 | 2,831 |
| 2024-25 | 2,814 |
| 2025-26 | 2,783 |
| Notes: Enrollment data contains all MSAD/RSU 57 resident students attending private or public schools. Source: Projected by Planning Decisions. | |

Table 15. Waterboro Students Enrollment Projections

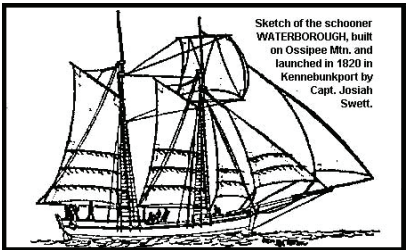
| Town of Waterboro Projected School Enrollment 2013-14 through 2025-26 | |
|---|-------|
| October 1 st Enrollment | |
| School Year | K-12 |
| 2013-14 | 1,298 |
| 2014-15 | 1,272 |
| 2015-16 | 1,238 |
| 2016-17 | 1,200 |
| 2017-18 | 1,167 |
| 2018-19 | 1,146 |
| 2019-20 | 1,147 |
| 2020-21 | 1,134 |
| 2021-22 | 1,138 |
| 2022-23 | 1,125 |
| 2023-24 | 1,119 |
| 2024-25 | 1,108 |
| 2025-26 | 1,095 |
| Notes: Enrollment data contains all Waterboro resident students attending private or public schools. Source: Projected by Planning Decisions. | |

PAST,* PRESENT,* AND PROJECTED** WATERBORO POPULATION DATA
IN TIMELINE FORMAT WITH
MAJOR WATERBORO, MAINE OR UNITED STATES HISTORICAL EVENTS

*OBTAINED FROM RESEARCHING ANNUAL COPIES OF THE MAINE REGISTER, CENSUS REPORTS, THE BOOK *REFLECTIONS OF WATERBORO*, AND INFORMATION PROVIDED BY JAMES CARLL OF THE WATERBORO HISTORICAL SOCIETY AS WELL AS INFORMATION PROVIDED BY SOUTHERN MAINE REGIONAL PLANNING COMMISSION.

**GENERATED WITH ASSISTANCE FROM
PLANNING DECISIONS

PREPARED BY
20/20 MASTER PLANNING COMMITTEE



Waterboro Historical Events

Waterboro "Settled"

Start of Revolutionary War Era

Waterboro "Incorporated"

Elder Grey Meeting House Estab-
lished and Built in North Waterboro

Maine Became a State
Schooner "Waterborough" Launched

Elder Grey Meeting House Moved
to Chadbournes Ridge

Start of Civil War Era

Portland To Rochester Railroad
Reached Town

Telegraph Came To Town

Legislature Changed Spelling of
Town to Waterboro

Fire Destroyed Much of South
Waterboro

Start of American Involvement in
World War One

| Year | 1683 | 1768 | 1770 | 1775 | 1783 | 1784 | 1787 | 1790 | 1800 | 1806 | 1810 | 1820 | 1830 | 1832 | 1840 | 1850 | 1860 | 1861 | 1868 | 1870 | 1880 | 1890 | 1900 | 1910 | 1911 | 1917 | |
|-------------------------|--|----------------------|----------------|---------------------------|------|-------|------|------|------|-------|-------|-------|------|------|-------|-------|-------|------|------|-------|-------|-------|-------|------|------|------|--|
| Waterboro Population | "A few Wood Cut- ters & Trap- pers" | "7 or 8 Families" | 118 "Souls" | "About 60 Families" | 971 | 1,253 | | | | 1,396 | 1,762 | 1,814 | | | 1,944 | 1,989 | 1,825 | | | 1,548 | 1,482 | 1,357 | 1,169 | 997 | | | |



2010
Waterboro Demographic
&
Income Profile

| | |
|-------------------------------|----------|
| Households | 2,775 |
| Families | 2,095 |
| Ave. Household Size | 2.77 |
| Owner Occupied Housing Units | 2,415 |
| Renter Occupied Housing Units | 360 |
| Median Age | 36.5 |
| Household Income | |
| \$00,000—\$15,000 | 4.9% |
| \$15,000—\$24,999 | 9.3% |
| \$25,000—\$34,999 | 8.4% |
| \$35,000—\$49,999 | 21.1% |
| \$50,000—\$74,999 | 32.4% |
| \$75,000—\$99,999 | 10.1% |
| \$100,000—\$149,999 | 10.1% |
| \$150,000—\$199,999 | 1.9% |
| \$200,000— | 1.8% |
| Ave Household Income | \$64,129 |

| | | |
|-------------------|-------|-------|
| Population by Age | | |
| 0-4 | 530 | 6.9% |
| 5-9 | 532 | 6.9% |
| 10-14 | 656 | 8.5% |
| 15-19 | 598 | 7.7% |
| 20-24 | 343 | 4.5% |
| 25-34 | 1,000 | 13.0% |
| 35-44 | 1,266 | 16.5% |
| 45-54 | 1,272 | 16.5% |
| 55-64 | 871 | 11.3% |
| 65-74 | 409 | 6.3% |
| 75-84 | 161 | 2.1% |
| 85+ | 57 | 0.7% |
| Median Age | 36.5 | |

| | | |
|-------------------------------|-------|-------|
| Population by Sex: | | |
| Male | | 58.8% |
| Female | | 49.2% |
| Population by Race/Ethnicity: | | |
| White Alone | 7,487 | 97.3% |
| Black Alone | 35 | 0.4% |
| American Indian Alone | 15 | 0.2% |
| Asian Alone | 50 | 0.7% |
| Pacific Islander Alone | 3 | 0.0% |
| Some Other Race Alone | 9 | 0.1% |
| Two or More Races | 95 | 1.2% |



Start of the
Great Depression Era

Start of American Involvement in
World War Two

Fire Destroys a Large Portion of
the Town

Start of American Involvement in
Korean War Era

Start of American Involvement in
Vietnam War Era
Railroad Tracks Abandoned and
Torn Up

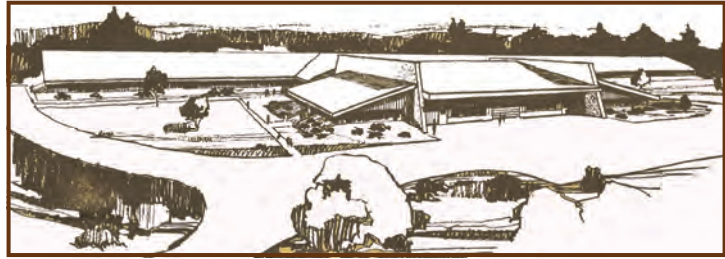
Library Opened at Medical Center

Start of American Involvement in
Gulf War Era

Start of American Involvement in
Iraq and Afghanistan War Eras

PROJECTED POPULATION SCENARIOS

| 1920 | 1929 | 1930 | 1940 | 1941 | 1947 | 1950 | 1960 | 1961 | 1970 | 1980 | 1985 | 1990 | 1993 | 2000 | 2010 | 2020 | | 2030 | |
|------|------|------|------|------|------|-------|-------|------|-------|-------|------|-------|------|-------|-------|----------------|-------|----------------|--------|
| 942 | | 914 | 947 | | | 1,071 | 1,059 | | 1,208 | 2,946 | | 4,510 | | 6,214 | 7,693 | Low | 8,469 | Low | 9,371 |
| | | | | | | | | | | | | | | | | Moderate | 8,847 | Moderate | 10,127 |
| | | | | | | | | | | | | | | | | High | 9,225 | High | 10,883 |
| | | | | | | | | | | | | | | | | Extremely High | 9,477 | Extremely High | 11,387 |



PAST,* PRESENT,* AND PROJECTED**

WATERBORO & SAD #57/RSU #57 ENROLLMENT DATA

IN TIMELINE FORMAT WITH MAJOR SCHOOL SYSTEM EVENTS

*OBTAINED FROM RESEARCHING SAD #57/RSU #57 ANNUAL REPORTS, BUDGET BOOKLETS, ANNUAL OCTOBER & APRIL STATE ENROLLMENT DATA, AND DATA ON THE STATE OF MAINE DEPARTMENT OF EDUCATION WEBSITE.

**GENERATED WITH ASSISTANCE FROM PLANNING DECISIONS

PREPARED BY
20/20 MASTER PLANNING COMMITTEE



SAD #57 /
RSU #57
School
System
Events

SAD #57 Authorized
By
State Board of Education

Massabesic High School
(Grades 7-12)
Opened

Massabesic Middle School
Opened

Lyman Elem Sch, Shapleigh
Mem Sch Addition, and Wa-
terboro Elem School Opened

Massabesic High School
Addition Opened

Alfred Elem Sch, Line Elem Sch,
Lyman Elem Sch Addition, & Water-
boro Elem Sch Addition Opened



RSU #57

Massabesic Middle School
Opened

| Year(s) | 1966-67 | 1969-70 | 1974-75 | 1979-80 | 1984-85 | 1986-87 | 1988-89 | 1989-90 | 1994-95 | 1999-00 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 | 2007-08 |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Waterboro Enrollment | 253 | 338 | 516 | 800 | 817 | | | 953 | 1,179 | 1,324 | 1,391 | 1,454 | 1,483 | 1,479 | 1,454 | 1,498 | 1,462 |
| SAD #57 / RSU #57 Enrollment | 1,127 | 1,350 | 1,985 | 2,582 | 2,694 | | | 2,985 | 3,284 | 3,457 | 3,580 | 3,760 | 3,740 | 3,718 | 3,646 | 3,680 | 3,628 |

Massabesic High School



Massabesic Middle School

School System Name Changed
From SAD #57 to RSU #57

PROJECTED ENROLLMENTS

| | | | | | | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected | Projected |
|--|---------|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 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 |
| | 1,436 | 1,417 | 1,413 | 1,352 | 1,332 | 1,298 | 1,272 | 1,238 | 1,200 | 1,167 | 1,146 | 1,147 | 1,134 | 1,138 | 1,125 | 1,119 | 1,108 | 1,095 |
| | 3,559 | 3,497 | 3,465 | 3,335 | 3,267 | 3,243 | 3,216 | 3,146 | 3,090 | 3,014 | 2,970 | 2,945 | 2,910 | 2,895 | 2,871 | 2,831 | 2,814 | 2,783 |