2018

Facility Study

February, 2018

Portsmouth Public Schools
801 Crawford Street
Portsmouth, VA 23704

RE: Facility Study Report

Dear Dr. Bracy,

We are pleased to submit this Facility Study Report for the Portsmouth Public School Division. Many thanks to you, your board, faculty and staff for welcoming us throughout the Division, conducting tours of each facility, and answering countless questions regarding each of them. Everyone went out of their way to assist us in accomplishing our goals of providing you a comprehensive facility study report, to which we are extremely grateful.

We look forward to continuing to work with you as you prepare a roadmap to continue your success in educating students.

Sincerely,
M.B. KAHN CONSTRUCTION CO., INC.

Robert H. Brax
Director of Preconstruction

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INTRODUCTION

Purpose of the Facility Study

In May 2017, the M.B. Kahn Construction Company, in partnership with the Portsmouth Public Schools, initiated a facility study with the following goals:

- To assess the Division's current facilities' conditions, uses, and maintenance needs.
- To offer options to address school operations issues, such as aging structures, declining enrollments, and overall demographic trends.
- To provide construction and maintenance strategies responsive to future uses and learning methods in light of funding constraints, existing projects and plans, and current facility conditions.

This study assesses existing facilities' conditions, needs, and future plans to provide a blueprint that will reinforce proactive, cost-effective and appropriate actions division-wide. Recommended implementation options offered in this resulting document provide construction and maintenance strategies that will result in safe, healthy and functional learning spaces, responsive to 21st Century learning methods and facility needs unique to each school. This is a collaborative study, drawing on input from stakeholders within the Portsmouth community including Division leadership, school leaders, teachers, and facility maintenance staff.

This study contains three sections. Section One provides community and school profiles, highlighting the demographic, economic, and environmental issues that may shape specific project implementation within the Portsmouth Public Schools. This section also includes an in-depth, school-based, demographic analysis conducted by the University of Virginia Demographics Research Group specifically for this project. Section Two provides implementation options and recommended action strategies in tandem with the needs identified by Portsmouth Public School System stakeholders, and within the realities of funding limitations. Section Three contains existing individual facility assessments which evaluate the thirteen elementary, three middle, and three high school campuses with a focus on the structural conditions, current uses, future needs, funding sources, and existing Division projects.

Though this plan focuses on the current and impending needs of the Division, it is a living document and will be most effective when Division stakeholders review and update action strategies as needed to reflect constraints and opportunities that may arise in the dynamic nature of School Division activities.

Study Development and Implementation

The initial task was a professional assessment of the physical and functional condition of each of the schools in the Division. Over the course of several weeks during the 2017 summer months, M.B. Kahn's inspectors visited the 19 Division schools. Inspectors reviewed key building components, such as the structural, electrical, and mechanical systems, along with the buildings' ages, occupant health and safety, location, current use, and future plans, to establish baseline data for the study. During the inspections, M.B. Kahn representatives interviewed principals and maintenance staff to address immediate and future needs. After much collaboration, this final Facility Study Report was developed.

Additionally, the Demographics Research Group, Weldon Cooper Center for Public Service, at the University of Virginia, conducted a demographic analysis of the school-age population in Portsmouth. Their findings comprise the demographics information contained in Section Two of this study and provide an in-depth analysis of demographic trends and enrollment projections for each school from 2016-2032.

The inclusion of comprehensive data as provided by Dr. Bracy and his team, allowed M.B. Kahn's staff to analyze each facility's core capacity, and to address areas that often limit growth. This can include internal components like cafeteria space, building ingress and egress, and existing floor plans, as well as with external factors such as building site, environmental constraints, fiscal challenges, and surrounding land uses. From this analysis, combined with input from the Division leadership, M.B. Kahn staff formulated a series of future use options and recommended action strategies for the Division. From the physical assessment, demographics study, and the Division input, it is the intent of this process to provide an adaptive, responsive study that will be a foundation for strategic planning and maintenance operations benefitting student learning and providing high-quality, safe and healthy facilities for the Portsmouth Public Schools in years to come.

One risk in conducting facility studies many consultants face is to treat each school campus as a self-contained entity. This is understandable, because when on a school campus, it can feel like a place that is separate and safe from the world surrounding it. While this is the goal for creating secure and conducive learning spaces, it is impossible to create meaningful plans without understanding the surrounding area. In this study, M.B Kahn staff included information to address outside planning efforts, environmental factors, and local community issues applicable to the Division's facility planning and maintenance programs. The City of Portsmouth Comprehensive Plan update, underway in 2017, the D2 Uptown Study, the City's 2017-2018 Budget and CIP projects, zoning, and environmental regulations, are examples of data included in the facility recommendations and Action Strategies outlined in this study.

Kahn

Acknowledgements

Portsmouth Public School leadership and staff have been great partners throughout this process. At every school without exception, the faculty and staff were extremely welcoming and helpful. Their insights into the inner workings of their schools and the Division is critical to this plan's success. For the countless emails, phone calls, meetings, and inspections, the M.B. Kahn staff wish to extend our greatest thanks and appreciation. We are grateful for the knowledge and patience the Portsmouth community extended us, and appreciate the opportunity to work together in building great spaces to provide healthy, safe, and productive spaces for all Portsmouth's students that enhance learning for the 21st Century.

Special appreciation is extended to the following:

SCHOOL BOARD

Mr. Claude C. Parent, *Chairman*
Mrs. Costella B. Williams, *Vice-Chair*
Ms. Angelia N. Allen
Ms. LaKeesha S. "Klu" Atkinson
Rev. Joseph A. Fleming
Mrs. Sarah Duncan Hinds
Mr. Ted J. Lamb
Rev. Cardell C. Patillo
Dr. Ingrid P. Whitaker

SUPERINTENDENT

Dr. Elie Bracy, III

DIVISION STAFF

Mr. Scott A. Ziegler, *Director of Human Resources and Operations*
Mr. Thomas Marsh, *Project/Contracts Manager*
School Principals and Staff

COMMUNITY AND SCHOOLS PROFILE

Community Demographics

The City of Portsmouth is unique in that it can be defined as a historic and modern industrial community. Portsmouth was an important part in Colonial America's establishment, and continues to serve as the epicenter for U.S. Navy shipbuilding and fleet maintenance. Even before its Charter in 1652, Portsmouth has been home to maritime industries and the U.S. Navy's Norfolk Naval Shipyard. Today, the modern city is a vibrant reflection of a rich history, supported by current military and industrial operations, and home to unique neighborhoods with a diverse population.

Bordering on the Elizabeth River and surrounded by the cities of Chesapeake and Norfolk, Portsmouth is unable to expand through annexation. The city grew from the early 20th Century to the 1960's to a peak population of nearly 115,000. It had since declined to a low of 95,535 by 1990;[1] however, this trend appears to be reversing. Since 1990, population increased by an average of 1.3% to an estimated 96,802 in 2014, and current projections estimate 102,838 residents by 2040.[2]
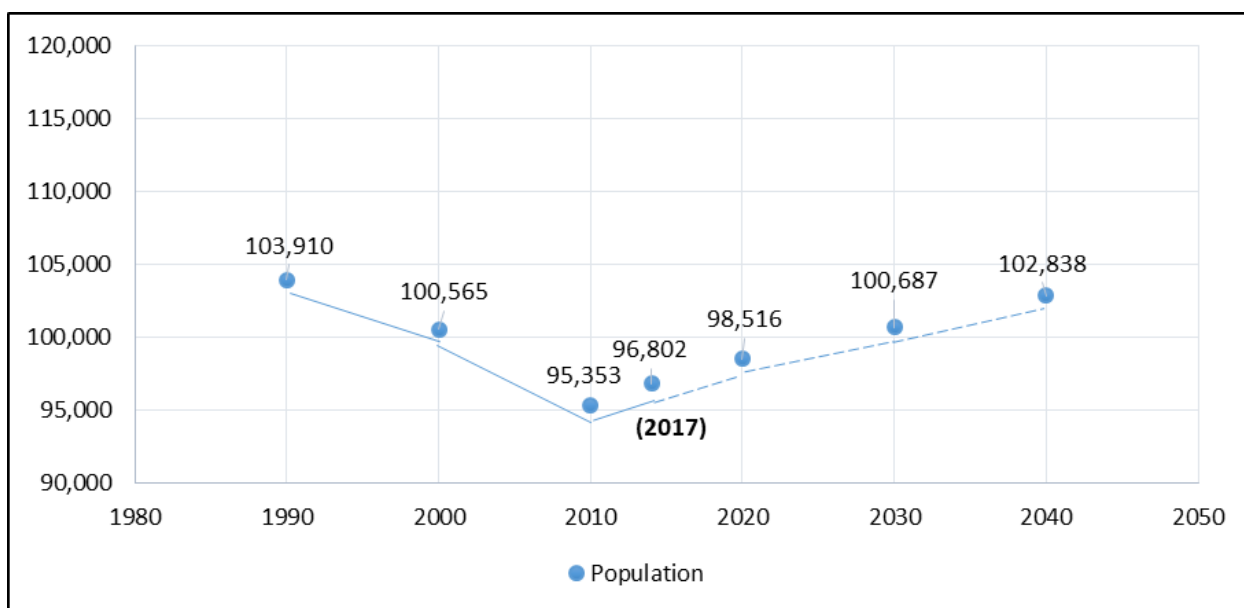
Figure 1: City of Portsmouth Population and Projections, 1990-2040

With little undeveloped land, Portsmouth's recent population growth comes in part, from existing urban redevelopment. The city has several initiatives underway, from housing to historic preservation; and substantial changes to development codes that promote residential development. Age groups contributing to this growth are mostly young adults in their 20's, and late middle-age residents likely to be empty-

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[1] American Fact Finder, US Census Bureau. Retrieved September 8, 2017.
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
[2] Portsmouth Demographic Study, p.6. June 2015. Demographics Research Group, Weldon Cooper Center for Public Service, University of Virginia. Accessed September 8, 2017. http://www.portsmouthva.gov/DocumentCenter/View/751

nesters or retirees. While these cohorts do not often have school-age children, the younger residents may add to future student population growth in years to come. [3]

Portsmouth's density is distributed fairly evenly throughout the city. While demolition and institutional uses created vacant areas, Portsmouth has a citywide population density of 3,524 persons per square mile (not including Craney Island and the Norfolk Naval Shipyard). According to the 2014 Portsmouth Demographics Study, Portsmouth is less dense than other population centers in Hampton Roads, including Norfolk, Newport News, and the northern half of Virginia Beach, despite being landlocked, and largely "built-out." [4] This is important in understanding the even distribution of existing school populations, and to forecasting future school population needs.
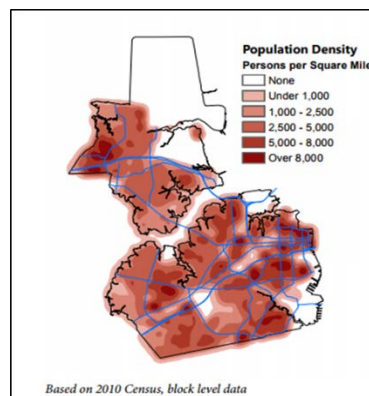

Figure 2: City of Portsmouth Population Density, 2014
Source: Portsmouth Demographics Study, 2014

Figure 3: Flooding at Westhaven Elementary School, September 2014

Community issues can become factors to population change. Tangible factors, such as the physical environment, traffic, crime, economy, and cultural amenities can bring people to a city, or push them away; as these tangible factors create intangible factors such as feelings of safety, welcoming, and quality of life. This study, though focused on school facilities and population, addresses apparent issues affecting school demographics, which in turn, affect school facility planning and maintenance programs. For example, in areas prone to flooding, recommendations may include mitigation strategies to reduce storm water runoff or impervious surfaces.

School Demographics

As of September 2017, the Division serves 14,340 students in three preschool centers, thirteen elementary schools, three middle schools, three high schools, one alternative and an adult learning center. The schools provide special education services to approximately 12.9% of the student body. The Division offers Advanced Placement, dual enrollment, and the First College program where high school students are given the opportunity to take college courses at Tidewater Community College. [5] Enrollment in Career and Technical Education Courses is popular, with over 26.2% of students enrolled in courses throughout the three high schools.

The Division employs 2,212 faculty and staff, with 1,041 teachers and 1,171 staff. The Board of Education guides policy for the Division, and the School Superintendent and leadership guide daily operations.

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[3] A Demographic Analysis of the School Age Population in Portsmouth City, Virginia, pp. 4-9. Demographics Research Group, Weldon Cooper Center for Public Service, University of Virginia. Accessed September 8, 2017
[4] Portsmouth Demographic Study, p.7. June 2015. Demographics Research Group, Weldon Cooper Center for Public Service, University of Virginia. Accessed September 8, 2017. p.7
[5] Portsmouth Public Schools Five Year Strategic Plan, SY 2016-2021, p.4.

Most of the City's land is owned by the federal government, resulting in a lower tax revenue than other cities of similar size. The City boasts a solid AA bond rating by maintaining tight fiscal controls and enforcing cost-controlling measures.
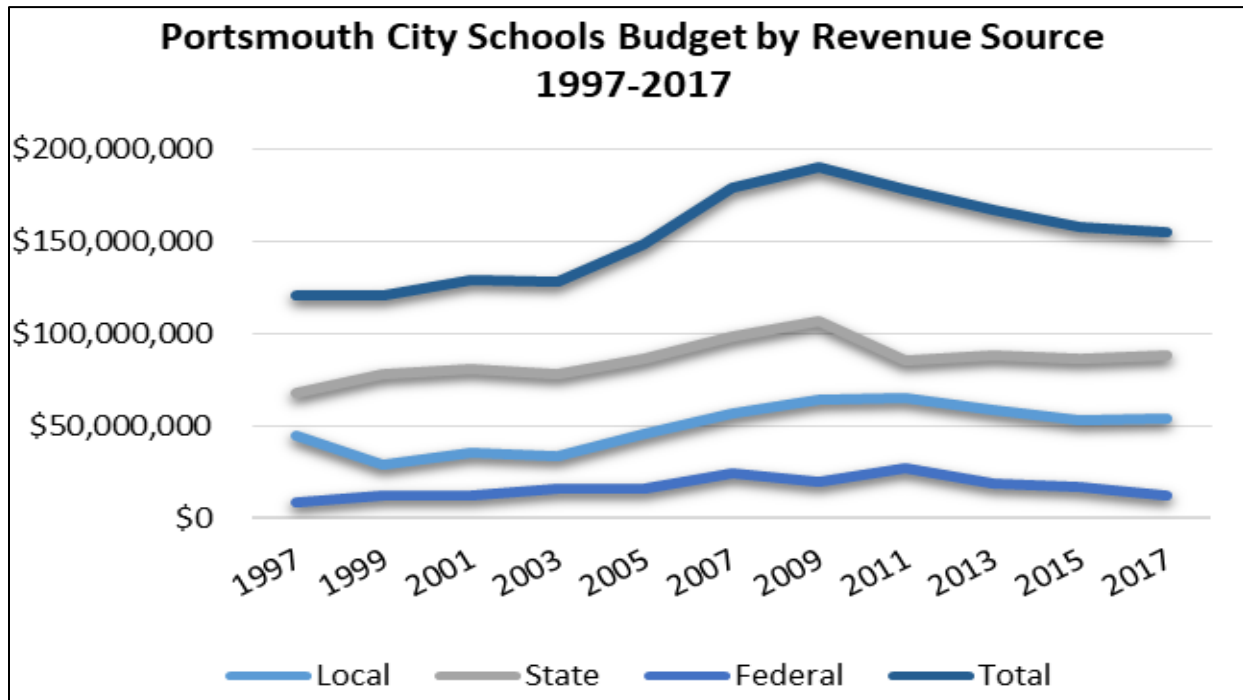
Figure 5: Portsmouth Public Schools Budget by Revenue Source, 2007-2017

Recently, declining enrollments, combined with cost-savings measures, prompted one preschool facility's closure in the summer of 2017 to enable teachers to receive salary increases as a part of recruitment and retention incentives. The Division is dedicated to providing educational facilities that are reflective of 21st century learning programs, including technology services, career and technical education programs, and flexible, safe learning environments.

Figure 4: Emily N. Spong Preschool Facility Closed

The Capital Improvements Plan (CIP) included in the City of Portsmouth's FY 2018 budget outlines nine school facility projects implemented over the next five years. FY 2018 appropriations include a proposed $6,999,500 towards CIP projects in the current year. Additional funding for maintenance projects not included in the project will depend on external funding or reallocation in the CIP in subsequent years. The current educational facilities projects in the FY 2018 CIP are as follows:

Table 1: Portsmouth Public Schools FY 2018 Proposed CIP Education Facility Projects[6]

Project	Appropriated to Date	FY2018 Adopted	5 Year Total	CIP Total
Brighton ES Roof Replacement	$ 78,000.00	$ 895,000.00	$ 895,000.00	$ 973,000.00
Churchland Academy Parking Lot Addition		$ 77,500.00	$ 377,500.00	$ 377,500.00
Churchland High HVAC	$ 1,162,009.00	$ 1,000,000.00	$ 3,700,000.00	$ 4,862,009.00
Churchland HS Stage/Sound/ Lighting Renovation		$ 345,000.00	$ 345,000.00	$ 345,000.00
Hodges Manor ES Roof Top Unit Replacement		$ 380,000.00	$ 380,000.00	$ 380,000.00
Mt. Hermon Preschool Roof Replacement	$ 69,000.00	$ 863,000.00	$ 863,000.00	$ 932,000.00
School Bus Fleet Replacement	$ 3,956,082.00	$ 1,000,000.00	$ 5,000,000.00	$ 8,956,082.00
Transfer to General Fund	$ 2,750,000.00			$ 2,750,000.00
Woodrow Wilson High School Roof	$ 1,509,516.00	$ 1,889,000.00	$ 1,889,000.00	$ 3,398,516.00
Woodrow Wilson HS HVAC Cooling Tower Rep		$ 550,000.00	$ 550,000.00	$ 550,000.00
Total	$ 9,524,607.00	$ 6,999,500.00	$ 13,999,500.00	$23,524,107.00

The following section presents results from "A Demographic Analysis of the School-Age Population in Portsmouth City, Virginia" by the Demographic Research Group, Weldon Cooper Center for Public Service, University of Virginia. In May 2017, M.B. Kahn commissioned the Center specifically for this study in conjunction with the facilities assessment study. The appendix contains the full results of the study, including school-level data. From 2000-2010, Portsmouth's kindergarten to 12th grade student enrollment declined by over 12 percent, but between 2010 and 2014, Portsmouth's student enrollment grew, in part, due to larger entering kindergarten classes. However, since 2014, student enrollment in Portsmouth has been declining in size. Many school divisions in the Hampton Roads Metropolitan Area have experienced declines in student enrollment since 2000, though the total K-12 student enrollment in the metro area has only declined by 6 percent from 2000-2016. Most of the decline in student enrollment in the Hampton Roads Metro Area has occurred since 2006 when the housing boom ended.
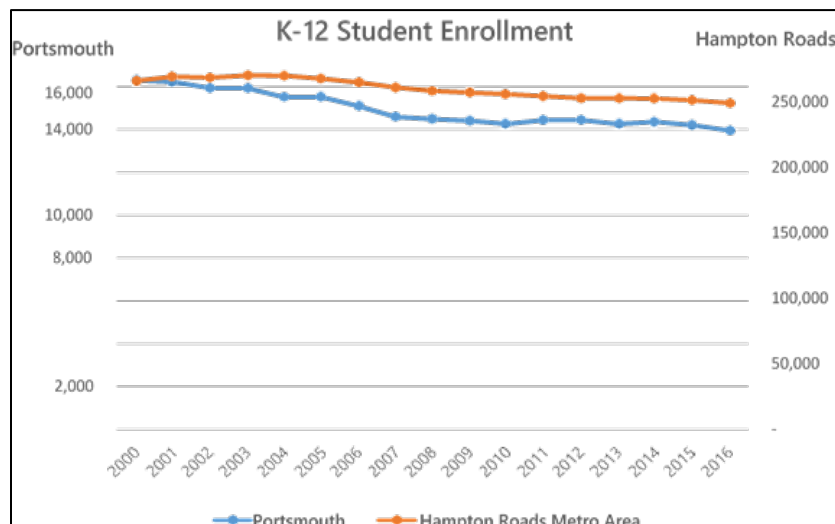

Figure 6: K-12 Student Enrollment 2000-2017
Source: Virginia Department of Education Fall Count

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[6] City of Portsmouth Adopted Operating Budget & Capital Improvement Program FY 2018, p.190-200

During the past two decades, the decline in public school enrollment in Portsmouth City has followed the decline in the city's school-age population. Public school enrollment has declined more slowly than Portsmouth's school-age population because the portion of Portsmouth children attending public school has risen to nearly 90 percent.
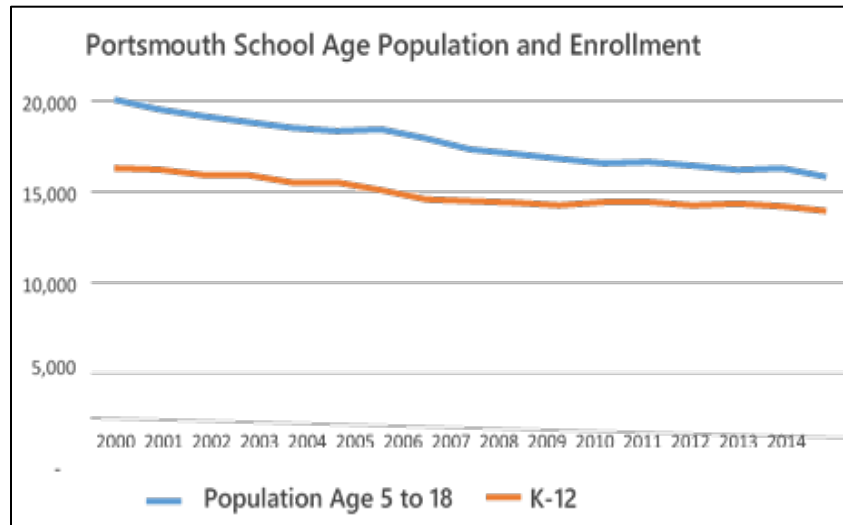
Figure 7: Portsmouth Public Schools Population and School Age Enrollment
Source: Virginia Department of Education Fall Count, Census Bureau Age Estimates, and Decennial Census

Changes in the school-age population and, consequently, student enrollment are driven by a combination of family migration and birth rates. During the early 2000s, the school-age population in some school divisions declined as families moved out of the region.

Since 2010, the school-age population has declined in nearly every school division within the Hampton Roads Metro Area. Virginia, overall, has experienced a small decline in its school-age population since 2010 as a result of families moving out of the state and the fall in births after the housing boom ended. The school-age population in Portsmouth was less affected by this trend because a large number of families had already moved out of the city.

One of the best ways to track whether a school division is gaining or losing families is to look at the ratio of its kindergarten

Table 2: Changes in School Age Population
Source: Census Bureau Age Estimates and Decennial Census, and Decennial Census

	2000 to 2006	2010 to 2016
Chesapeake	4%	-3%
Norfolk	-6%	-9%
Portsmouth	-8%	-6%
Suffolk	21%	-4%
Virginia Beach	-6%	-8%
Hampton Roads	-2%	-8%
Virginia	4%	-1%

enrollment to births five years earlier. If all the children born in Portsmouth in a given year—and only those children—enrolled in Portsmouth City Public Schools for kindergarten five years later, the kindergartner-to-birth ratio would be 100 percent. This rate of out-migration has been fairly consistent since at least 2000.   Similar to Portsmouth, most urban school divisions in the region already had a large share of their families move out of the region prior to the end of the housing boom. As a result, Hampton Road's urban school divisions have not experienced a significant rise in families moving away in recent years. In contrast, suburban school divisions in the region, such as Suffolk and Isle of Wight, have attracted

considerably fewer families in recent years, causing student enrollment in some suburban school divisions to decline.

Figure 8: Ratio of Portsmouth Kindergarten Enrollment to Birth Five Years Earlier
Source: Weldon Cooper Center Annual Births Tabulations

The decline in families moving to suburban school divisions in Hampton Roads is in large part tied to the end of the housing boom in 2007. Homeownership rates have fallen in the region and across the country as a result of the increased difficulty in obtaining mortgages. Since most of the suburban housing stock in Hampton Roads is owner occupied (rather than rental properties), fewer families have been able to afford to move to them, which has resulted in a boost in urban school division enrollment in most of Virginia's metro areas.

Although the projection for Portsmouth Public Schools shows a slight decline in student enrollment, this will be distributed over a large number of facilities. The need to maintain most all of the existing facilities and classroom space, continues for the next 10 years.

EDUCATIONAL PROGRAMMING

21st Century Learning Environments/Flexible Design-Based Curriculum

The modern workforce and expectations of colleges and universities both require students to obtain more, as well as different types, of skills and knowledge. While the traditional reading, writing, science, and math are still necessary and take center stage, teachers are adapting their styles to incorporate technology and collaborative learning, when and where space allows. These adaptations take into consideration the following:

Awareness that students respond to different types of instruction and learning styles. Flexible spaces and furniture can help to meet different learning styles.

photo credit: Craig Gaulden Davis

Traditional
classrooms in rows, chalkboards

Collaborative
spaces allow for flexibility and group learning

Increase in number of students who require special accommodations, many of which are now required by law (such as Americans with Disabilities Act, which requires equal access within the facility).

Need for programs and spaces that promote 21st century skills in environments that reflect a modern workspace, such as media centers and technology-ready classrooms.

Need for community gathering spaces – for athletics, student performances, student programs, drama/arts programs, etc.

Access to technology that puts Portsmouth Public Schools' students ahead of the curve.

Technology upgrades are being recommended for most schools as technology and education go hand in hand. Technology, by design, is always evolving into newer and better applications in the classroom and the school. We have allocated an "allowance" cost for technology upgrades to most schools, but it is not inclusive of all needs across the Division.

Even traditional career paths require new ways of using technology to enhance learning and product development.

Emphasis on new security procedures. The school access and entry should be limited and easily monitored by office staff with appropriate, modern equipment.

Plans for adaptations should include not only the consideration of physical programming needs, but also the effects of buildings on student performance and community which include:

Natural Light – Providing abundant natural light has been proven to increase students' test scores. Many Portsmouth City Schools, such as Churchland Middle, were not designed with adequate windows in the classrooms.

Collaboration – Just as employees do in the workforce, students must learn to collaborate in new ways to solve problems and create new products. The schools designed in the 1950s and 1960s were designed for individual factory workers, and not necessarily the modern workforce skills of the 21st century.

Perception – The front entrance of any public school is often the first impression for visitors and new residents. Factors such as landscaping, signs, and the front lobby can greatly enhance the perception of schools. Portsmouth City Schools is proving success and learning that is far above and beyond the "picture" or perception of the schools, due to the age of the buildings and grounds. Improvements to the schools would increase perception, improve morale among teachers and students, and attract more visitors and businesses.

Economic Impact – Good schools make good communities. The benefits of providing the best possible public education are well-known. The earlier children, especially those considered at-risk, can obtain interaction with public school programs, the better their chances for long-term success. The returns on investment for the entire community are:

- More educated workforce
- Reduced school dropout rates
- Less student discipline issues
- Lower crime rates
- Better teacher recruiting and retaining
- Higher wages
- Attraction of more businesses and quality jobs

A project based learning curriculum provides the format for students to gain knowledge and skills by working for an extended period of time on real-life, engaging and complex questions and problems. Project based learning is more than simply assigning a project to each student. It is a comprehensive approach and space to blending subjects into the learning process. Any school system seeking to add project based learning to its curriculum will need to consider the following impacts of a project based learning program:

- Facilities / Space
- Furniture and equipment
- Teacher training and development

In the charts below, we have rated each school's facility design, building condition, and furniture in regards to its ability to house a flexible, project based learning curriculum. It should be noted that project based learning can take place in ANY setting; however, ample space that allows for flexible classroom set-up, furniture and new technology are strong aspects of a modern curriculum design.

PROVIDE COURSES THAT...

Figure 9: The mission of a project-based learning curriculum

Flexible Curriculum Design
Rating Scale (1 – 10)

1	5	10
Does not meet flexible design	**Could meet with major renovations**	**Space meets now**
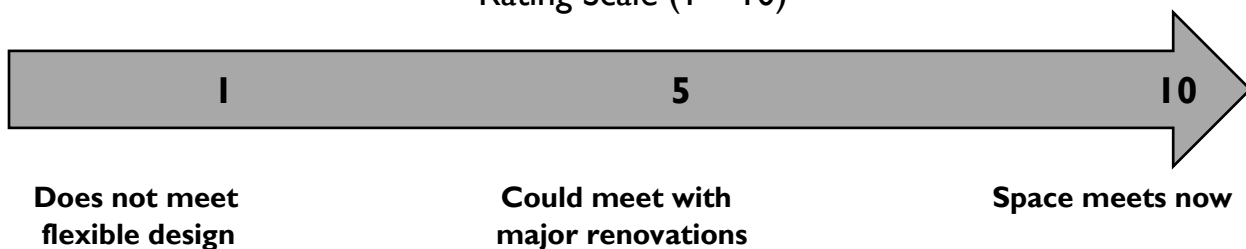
PRESCHOOLS		
NAME OF SCHOOL	**EDUCATIONAL CONSIDERATIONS**	**RATING**
Emily N. Spong Preschool	1957 design; Maintenance needs exceed feasibility for major renovations.	1
Mount Hermon Preschool	1953 design; Maintenance needs exceed feasibility for major renovations.	1
Olive Branch Preschool	1960 design; Maintenance needs exceed feasibility for major renovations.	1

ELEMENTARY SCHOOLS		
NAME OF SCHOOL	**EDUCATIONAL CONSIDERATIONS**	**RATING**
Brighton Elementary	Furniture and set-up needs	9
Churchland Academy	Traditional classroom. No collaborative space except media center	5
Churchland Elementary	1958 design; not feasible for structural changes or classroom additions.	3
Churchland Primary & Intermediate	Classrooms in "pods" that increase collaboration however too much noise in open spaces, especially those near restrooms and hallways.	5
Douglass Park Elementary	1965 design; not feasible for structural changes or classroom additions.	2
Hodges Manor Elementary	1956 design; Maintenance needs exceed feasibility for major renovations.	1
James Hurst Elementary	Classrooms in "pods" that increase collaboration however too much noise in open spaces, especially those near restrooms and hallways.	5
John Tyler Elementary	Furniture and set-up needs	8
Lakeview Elementary	1967 design; Maintenance needs might exceed feasibility for major renovations.	3
Park View Elementary	Furniture and set-up needs	8
Simonsdale Elementary	Furniture and set-up needs	9
Victory Elementary	1961 design; Maintenance needs exceed feasibility for major renovations.	1
Westhaven Elementary	1954 design; Maintenance needs exceed feasibility for major renovations.	1

MIDDLE SCHOOLS		
NAME OF SCHOOL	**EDUCATIONAL CONSIDERATIONS**	**RATING**
Churchland Middle	Stairwells and narrow hallways consume too space of the space. None to very little natural lighting.	1
Cradock Middle	1966 design. Traditional, very small rooms.	1
William E. Waters Middle	1966 design.	1

HIGH SCHOOLS		
NAME OF SCHOOL	**EDUCATIONAL CONSIDERATIONS**	**RATING**
Churchland High	Some space can be converted, for example, the media center, to be used for collaborative area.	6
I.C. Norcom High	Some computer lab areas and media center could be utilized for collaboration	7
Woodrow Wilson High	Large spaces consumed by lockers and outdated technology – could be converted to better use of space.	7

The above ratings are *only* for the facility's design, condition, layout and furniture as required for a flexible learning curriculum / project based learning. These ratings do not reflect the positive aspects of the school and its positive learning in a traditional setting, which is currently being used. **Recommendation:** The School Division should consider implementing a Pilot Program for project-based learning at one of the higher ranked designed schools, to begin the process of teacher training and development and to track student success.

STEM and STEAM courses have impacted the educational approach at schools nationwide, for all grade levels.

Many of the Portsmouth City Schools require technology upgrades to teach the modern skills expected in today's workforce.

Many Portsmouth Schools teachers have found creative ways to use project based learning principles and technology to teach students in the spaces they currently have. The principals and teachers should be commended for trying to adapt their older facilities into usable spaces that work. However, schools that are 50+ years old become more and more challenging each year - both educationally and maintenance-wise.

In addition to school programs, the school facilities and fields are used after school and summers for the following:

- ▪ Summer camps
- ▪ Community-wide sports leagues
- ▪ After school programs
- ▪ Training programs

The access to use the schools is an asset for the entire City and community. At the same time, wear and tear on the equipment and restrooms are both considerations for the School Division's planning and budgeting purposes. Many
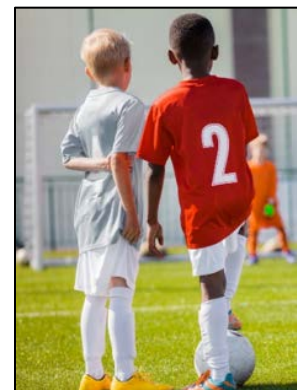
school divisions require fees and assistance with maintenance, equipment, and cleaning. These measures should be considered in the future budget process for Portsmouth City Schools.

Career and Technology Education (CTE)

A new Career & Technical Education Center (CTE) would provide an opportunity not only for students, but also the entire area. Involving students in courses that are relevant to their surroundings is an excellent way to help them achieve success. A new CTE facility that can be used by all of the schools will add creative courses and a fresh approach to learning. The following elements are recommendations to consider for the programming of a new CTE Center:

Naval yard – Ship building courses are directly relevant to Portsmouth City students. The area's rich history in ports activity and ship building lends itself to courses that provide training for local and international jobs in the ports industry.

Traditional job skills – Naturally relevant to the ports industry comes traditional building courses such as welding and masonry. These skills are highly sought after in today's market, and are timeless for many industries.

Specialized learning labs – We recommend that a Business Advisory Committee be formed to discuss possible specialized learning that would benefit students and their ability to seek higher education while also gaining college credits while in high school. This Committee would consist of 5 - 10 local business leaders who are interested and invested in the community. An example of a specialized learning lab might be "Logistics 101" course for handling international exports and imports of goods.

History and tourism – The Portsmouth area is rich in the history of our nation, including World War II history, African-American history and the downtown Portsmouth architecture. The recent multi-use bike and pedestrian trails project going throughout the Hampton Roads area is an example of a project that could benefit from student input through a course offered at the new CTE Center.

A new facility design allows educators to rethink the way students can:

- Engage
- Imagine
- Explore
- Emerge as leaders
- Map their careers
- Promote the City and region through positive programs for everyone – students, teachers, the community, and local businesses

Suggestions for the CTE's educational program and classroom design:

- Space for cross-collaboration: problem, design, product focused learning
- Flexible and modular furniture
- Competency based learning – both knowledge and skills

The above photo provides an example of a specialized learning lab for 3-D printing at the Institute of Innovation for Richland School District Two in Columbia, South Carolina. Student projects can be seen on the table at right. The building design is not expensive, but rather, concrete floors and high ceilings allow for flexibility and easier maintenance.

In summary, the School Division should build on its current strengths of a family atmosphere and connection to community by adding CTE courses in which students can see their own reflections and relate to. A new building provides an opportunity to create a shared vision and new opportunities.

Educational Funding

Since the School Board has no power to tax or to issue debt, the City will be the source for any financing required for needed capital projects. The City may elect to issue general obligation bonds in the public market based on its credit rating, or to participate in the Virginia Public School Authority (VPSA) pooled bond program for school projects.

There may be opportunities for the City to refund some of its current bonds to achieve interest savings. If such refinancing occurs the City could add new money to the issuance for school projects.

The School Board should work with the City Finance Department and City Council to add the needed projects identified in this study to the City's Capital Improvement Plan (CIP) and to the City's planned debt issuance schedule. The City's Financial Advisor can provide key assistance in determining the appropriate times for future debt issuance as some portions of the City's current bonds are retired. M.B. Kahn's team recommends buy-in from the city, coupled with cooperative efforts between the School Board and the City to address timing of financing while the City seeks to retain its AA bond rating and have some remaining debt capacity.

PROPOSED IMPROVEMENT PLAN

Division Plan Overview

Facility Age and Capacity Challenges

Facility Condition Challenges

Educational Program Challenges

Components of the Plan

Facility Age and Capacity

Facility Conditions

Educational Program

Proposed Improvement Plan Summary

Cost Summary

Schedule Summary

Cash Flow Summary

Conclusion

DIVISION PLAN OVERVIEW

Today, a student's physical environment plays a more significant role in the education process than ever before in the history of public schools. School divisions continually face challenges of meeting the demands of today, while planning for the needs of the future. The manner in which students learn has changed dramatically over the past few decades, so it makes sense that the facilities in which they learn should also change dramatically. Facilities that were once new and innovative are aging, requiring expensive upgrades to keep up with new technology and educational styles. Therefore, M.B. Kahn considered the following factors in preparing the Overall Division Plan for upgrading the Portsmouth Public Schools: age and capacity, condition, and educational challenges.

Facility Age and Capacity Challenges

Although the Division has continually invested in its facilities through site improvements, renovations and additions, the core ages of the buildings are ever increasing. The average age of the Division's schools is 43 years. The adjacent chart shows the ages of the schools in 20 year increments. As shown, there are five schools that are currently sixty years or older. At this age, the building has exceeded its useful life and should be scheduled for closure or replacement as soon as possible. Understanding this, schools in the 40-59 year range will most likely require substantial upgrades to sustain use for another decade. Not only are the schools aging, but many of the schools are nearing, if not exceeding maximum capacity limits specified by the Virginia Department of Education's standards. Two options can be considered to address capacity issues: building new schools, or adding additions to existing schools. If funds are limited, it is not always affordable to build new schools and additions are necessary. In this case, it is wise to put additions at the youngest schools to get the most out of the service life. However, a point is reached where it is more cost efficient to replace the school than to add a new addition to a building whose core age is significantly older. Since the majority of the Division's schools are over 40 years in age, it is imperative that a plan be created and schools scheduled for replacement.

Age of Schools (Years)

10 Schools
40-59 years

5 Schools
60+ years

5 Schools
1-19 years

2 Schools
20-39 years
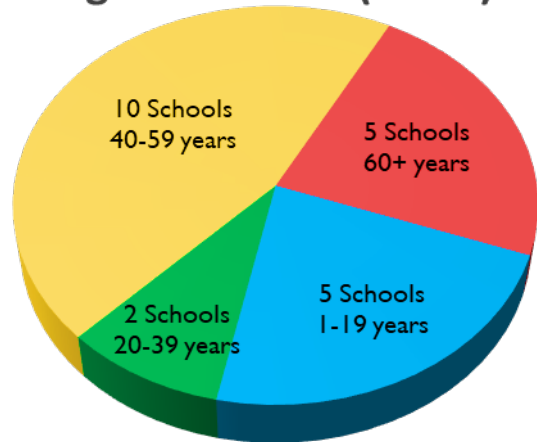
Facility Condition Challenges

As buildings age over time, the physical condition begins to play a critical role in maintaining the facility. The Division's maintenance program has done a great job maintaining the facilities with the resources available. However, maintenance budgets can only go so far to cover the regular maintenance on many of the facilities' aging systems. Throughout the Division, there are recurring deficiencies in the infrastructure of the schools including needs for electrical, technology and HVAC upgrades. Not only should physical condition be considered, but also health and safety concerns as well. Many schools in the Division require significant improvements to security systems and upgrades to meet standard accessibility requirements. Items include adding

security vestibules to control access to the building during school hours, renovating restrooms to meet ADA requirements, and upgrading interior and exterior lighting for safe access and mobility. When assessing the Division's facilities, it was also found that many schools are in need of general renovations to improve the quality of the school environment. Schools in the 40-59 year range will require the majority of funds attributed to addressing facility condition challenges.

Educational Program Challenges

The Division's aging and deteriorating facilities also restrict instructional capability. With ongoing changes to educational programming, it is frequently discovered that the original design intent for the facility is not sufficient for current educational needs. Today's educational process requires facilities be more flexible for newer approaches to education. Examples of the newer approaches include project-based learning, STEM programs, collaborative learning, and integration of technology into education. The lack of flexibility within the instructional spaces results in additional educational challenges for the teachers and staff. Not only that, studies show that the quality of the school environment significantly influences students' academic performance. For example, many studies have shown that natural light and bright colors improve the focus and creativity of students. Another educational challenge many divisions are facing is the career and technology education. As discussed previously, involving students in courses that are relevant to their surroundings is an excellent way to help them achieve success. The Division's current course offerings for CTE are limited and should be expanded significantly.

For each facility and the Division as a whole, M.B. Kahn staff assessed the factors discussed above and prepared a Proposed Improvement Plan for the Division.

COMPONENTS OF THE PLAN

Developing and maintaining this proposed improvement plan aids the Division in using funding wisely to ensure the schools will support the quality of learning the community expects. In any type of plan, if only partial funding is available, proper prioritization is critical. Prioritization of a school division's projects typically requires consideration of multiple factors. Safety concerns, building component failure, and worsening physical conditions are prioritization factors easily assessed by construction professionals. However, factors such as educational impact, equity, public perception, and other opinionated issues can greatly effect prioritization, and can only be assessed by the Division's governing body, the School Board, and the public. M.B. Kahn has prepared this plan in a way that can be easily modified, depending on how the needs in each area change over time, and can be completed in phases. Once a final plan is adopted, it is the "road map" to follow. This plan is a living document and should be reviewed for updates periodically.

When determining the main components of Portsmouth Public School Division's improvement plan, M.B. Kahn's team looked at many factors. It was determined that a long term Division Plan for Portsmouth Public Schools should include a combination of providing improvements that assist with the educational and operational aspects of the facilities, replacing the oldest schools, adding space to meet capacity requirements, and repairing or replacing major building components. To address all these areas, M.B. Kahn's team created a proposed improvement plan with the following main components:

FACILITY AGE AND CAPACITY

FACILITY CONDITION

EDUCATIONAL PROGRAM

Facility Age and Capacity

<u>Purpose</u>

The purpose of this component is to address two characteristics of the Divisions' facilities: age and capacity. Although the Division has continually invested in its facilities over time, the core building ages are an average of 43 years. Typically, buildings should be considered for replacement when they have reached the 40-50 year range; however, to create an affordable and efficient plan for the Division, M.B. Kahn's team provides facility age recommendations to address facilities that are closest to the end of their life-span (50-60 years). Not only should age be considered, but also capacity requirements. The Virginia Department of Education (VADOE) provides minimum standards for school facilities. M.B. Kahn's team analyzed the Division's current facilities in comparison to the standards and provides recommendations to address facilities that are not meeting the minimum square footage per student requirements.

<u>Process</u>

The process for developing the facility age recommendations involved analyzing the age of each facility individually and then as a part of the Division as a whole. The facility age was determined from the core building age without considering the facility's addition ages and the results are presented in the adjacent table. Two of the four preschools are over 60 years in age. One has already been closed and students relocated. The Division should consider replacing the second facility or relocating the preschool students to another facility as previously managed. Six of the thirteen elementary schools in the Division are over 50 years in age. Replacing the three oldest, would be a good start to a long-term plan of replacing all six elementary schools. Therefore, it is recommended that the three oldest elementary schools be considered for replacement. All three middle schools in the Division are nearing the end of their expected life-spans. Therefore, it is recommended that all three middle schools be considered for replacement. All three high schools are below the 50-60 year age range, thus no recommendations were made in regards to age.

Table 3: The Division Facility Ages

School Name	Year Built	Age
MOUNT HERMON PRESCHOOL CENTER	1953	65
EMILY SPONG PRESCHOOL CENTER	1957	61
OLIVE BRANCH PRESCHOOL CENTER	1960	58
CHURCHLAND PRESCHOOL CENTER	1986	32
WESTHAVEN ELEM	**1954**	**64**
HODGES MANOR ELEM	**1956**	**62**
CHURCHLAND ELEM	**1958**	**60**
VICTORY ELEM	1961	57
DOUGLASS PARK ELEM	1965	53
LAKEVIEW ELEM	1967	51
CHURCHLAND PRIMARY & INTERMEDIATE	1976	42
JAMES HURST ELEM	1978	40
CHURCHLAND ACADEMY ELEM	1986	32
JOHN TYLER ELEM	2002	16
BRIGHTON ELEM	2004	14
PARK VIEW ELEM	2009	9
SIMONSDALE ELEM	2011	7
CRADOCK MIDDLE	**1966**	**52**
WM. E. WATERS MIDDLE	**1966**	**52**
CHURCHLAND MIDDLE	**1970**	**48**
WOODROW WILSON HIGH	1971	47
CHURCHLAND HIGH	1992	26
I.C. NORCOM HIGH	1999	19
STEPHEN H. CLARKE ACADEMY	1957	61
INSTRUCTIONAL RESOURCE CENTER (IRC)	1967	51
DIAGNOSTIC, ADJUSTIVE AND CORRECTIVE CENTER FOR LEARNING (DAC)	1971	47

Finally, although the IRC, DAC, and Stephen H. Clarke facilities are aging, the Division should prioritize the age issues at the elementary, middle, and high schools. Therefore, no recommendations were made for the IRC, DAC, or Stephen H. Clarke facilities in regards to age.

The process for developing the facility capacity recommendations began with calculating the current square footage per student (using the proposed enrollments) for each school. When determining enrollments, the following factor was considered: the Division intends to move all 6th grade students from

the elementary schools to the middle schools. The result was then compared to VADOE's minimum standards for square footage per student. A factor for "flexibility" was added to the sf/student requirements listed in the VADOE guidelines based on discussions with the Division and assuming bare minimum sized schools are not preferred. The comparison revealed that the high schools currently exceed VADOE's minimum standards but all of the middle and some of the elementary schools will be below the minimum standards. The results of the middle and elementary school comparisons are shown in the following tables.

Table 4: Middle School Capacity Comparison – Adding 6th grade students to middle schools

Middle School Capacity Comparison						
School Name	Age	Current Enrollment	NEW Enrollment (with 6th graders)	Building Size (SF)	Virginia DOE Minimum SF/Student (+Flexibility)	NEW Oversize/ (Undersize)
CRADOCK MIDDLE	**52**	**503**	**771**	**106,220**	**153**	**(11,743)**
WM. E. WATERS MIDDLE	**52**	**543**	**841**	**104,601**	**153**	**(24,072)**
CHURCHLAND MIDDLE	**48**	**863**	**1,259**	**136,937**	**138**	**(36,805)**
TOTAL:		1,909	2,871	(50%) More		

Table 5: Elementary School Capacity Comparison – Moving 6th grade students from elementary schools

Elementary School Capacity Comparison						
School Name	Age (years)	Current Enrollment	NEW Enrollment (without 6th graders)	Building Size (SF)	Virginia DOE Minimum SF/Student (+Flexibility)	NEW Oversize/ (Undersize)
WESTHAVEN ELEM	64	579	505	65,077	113	8,012
HODGES MANOR ELEM	**62**	**593**	**515**	**50,133**	**113**	**(8,062)**
CHURCHLAND ELEM	**60**	**834**	**736**	**76,647**	**107**	**(2,105)**
VICTORY ELEM	57	598	534	78,142	113	17,800
DOUGLASS PARK ELEM	53	683	597	73,775	107	9,896
LAKEVIEW ELEM	51	439	396	60,009	117	13,677
CHURCHLAND PRIMARY & INTERMEDIATE	42	543	464	71,150	113	18,718
JAMES HURST ELEM	40	589	528	75,105	107	18,609
CHURCHLAND ACADEMY ELEM	32	684	593	96,000	107	32,549
JOHN TYLER ELEM	**16**	**646**	**585**	**61,040**	**107**	**(1,555)**
BRIGHTON ELEM	14	469	412	56,566	117	8,362
PARK VIEW ELEM	9	544	477	79,622	113	25,721
SIMONSDALE ELEM	7	687	584	81,165	107	18,677
TOTAL:		7,888	6,926	(12%) Less		

As shown above, three middle schools and three elementary schools do not meet the VADOE's minimum standards. All three middle schools and two of the elementary schools with insufficient capacity are also recommended for replacement due to age requirements, so these results emphasize the need to replace these facilities. Moving the 6th graders to the middle schools creates a capacity issue at all three schools; however, constructing large additions on facilities of this age may not be a wise investment. Therefore, it is recommended that all three middle schools be replaced and a fourth middle school added to account for the capacity issues at the middle school level. The third elementary school with capacity issues, John Tyler, is only 16 years in age and thus has many years left in its life-span. Instead of replacing or adding an addition to this school, it is recommended that the Division build the three elementary schools already recommended for replacement with enough capacity to account for the deficiency at John Tyler. This recommendation will require slight changes to the current Division boundaries, but will be the most cost effective option. Finally, the three high schools and three preschools exceed the VADOE's minimum standards, thus no recommendations were made in regards to capacity.

Facility Condition

Purpose

The purpose of the facility condition recommendations is to review the existing conditions at each facility and to recognize and address deficiencies. The Division's maintenance program has done a great job maintaining the facilities with the resources available. However, maintenance budgets can only go so far to cover the regular maintenance on many of the facilities' aging systems. Therefore, M.B. Kahn's team prepared recommendations to support and expand the efforts of the Division.

Process

The process for developing the facility condition recommendations began by the M.B. Kahn team visiting each facility within the Division and conducting thorough reviews of the existing conditions. Interviews were held with principals, maintenance staff, and Division leaders to ensure all areas of concern were noted. Once the information was gathered, an analysis was conducted to determine the recurring deficiencies and develop broad categories for them. Upon completion of the analysis, each deficiency was placed into three categories, safety/security/accessibility, infrastructure, and general renovations. The following chart shows typical deficiencies that fall into each category:

Safety/Security/Accessibility

- Secure Vestibules
- Security Systems
- Door hardware
- Interior/Exterior Lighting
- Handrails & ramps
- Hardscaping
- Restrooms

Infrastructure

- Roof
- Windows
- HVAC
- Electrical Service/Capacity
- Parking/Drives
- Canopies
- Kitchen Equipment
- Playground Equipment
- Athletic Facilities (Title IX)
- Technology

General Renovations

- Flooring
- Ceilings
- Signage
- Paint
- Cabinets
- Chalkboards
- Front Entrance
- Furniture

The Division is in need of upgrades to facilities' safety, security and accessibility elements. Items such as security vestibules, ADA compliant restrooms, hardware, and accesses, and interior/exterior lighting upgrades are needed throughout the Division's facilities; therefore, it is recommended that the Division address safety/security/accessibility deficiencies. The Division needs to address failing infrastructure at many of its facilities. Original systems that are in schools 50-60 years old are nearing the end of their life-span. Often, the cost of maintaining these systems ends up being more than the cost of replacing them. Therefore, it is recommended that the Division address failing infrastructure. Also, many of the facilities in the Division need general renovations. General renovations include items that may seem superficial but ultimately increase the appeal of the facility, as well as provide comfortable learning and work environments for the students and staff. Therefore, it is recommended the Division address general renovation needs. For the purposes of this section, the deficiencies for all the Division's facilities were grouped; however, detailed information for each facility is listed in the Individual Recommendation Sheets section. The reason for assessing each facility individually, is to ensure each facility's needs are noted and addressed.

Educational Program

Purpose

The intent of the educational program recommendations is to address the limited course offerings for career and technology education at Portsmouth Public Schools. The Division currently offers CTE courses at each high school; however, not only are these courses limited, many of the lab spaces are having to be modified for office or classroom use. Throughout the facility study process, the Division's leadership continuously stressed the desire to improve the CTE course offerings; therefore, M.B. Kahn's team prepared recommendations to support and expand the efforts of the Division.

Process

The process for developing the educational program recommendations involved analyzing the existing CTE course offerings and then developing a plan for expanding them. Two options were evaluated: to

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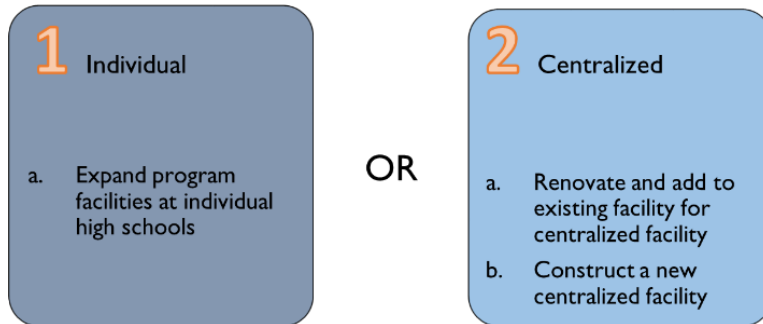
expand program facilities at the individual high schools, or to build a centralized facility. During the analysis, it was determined that it was not cost efficient to build at the existing high schools due to having to duplicate labs at all three campuses. Therefore, the centralized option was chosen and three locations were evaluated: Lakeview ES, Olive Branch PS, and the

DAC Center. Lakeview ES seemed like a valid option in the beginning because of the extensive property already owned by the Division. There were two major concerns that led the team to eliminate this option.

First, the existing site conditions were unsuitable and could prove costly if this site were chosen. Secondly, the property was not located centrally within the three high schools. Olive Branch PS was the next location evaluated. This location was more centrally located than the Lakeview property and the school was already being closed by the Division. Two defining factors led the team to eliminate this site as an option. First, the location is surrounded by residential areas which means it is not convenient to a freeway. Second, this location would not be conducive for the exhibition of a statement building.
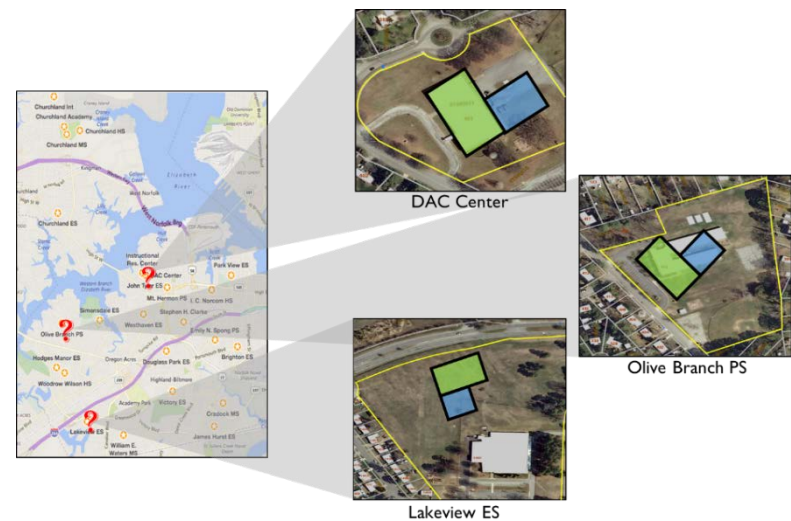
Figure 10: Locations considered for New CTE Facility

The evaluation of the final facility, the DAC Center, was two-fold. The team first looked at renovating the existing facility and adding an addition which would provide the high-bay lab space. Not only was this a more costly option, this also meant that the design options would be limited. The final option, was using the DAC Center, but demoing the existing facility and designing a new state of the art facility that could be used as a statement facility for the Division's improvement plan. Since this site is centrally located, conducive for the exhibition of the statement building, and eliminates a facility that is currently vacant, the team felt this was the most effective option for the Division. After comparing the expansion of program facilities at the individual high schools to building a centralized facility, and evaluating three different sites, it was determined that a new CTE center at the DAC Center site would be the most effective option. This also allows for the new CTE center to be a statement building within the Division's overall improvement plan. Therefore, it is recommended the Division build a new, centralized CTE center at the DAC Center site.

PROPOSED IMPROVEMENT PLAN SUMMARY

Cost Summary

The process of preparing the proposed program cost was based on the team's extensive experience in the areas of facilities planning, design, and construction. In evaluating the challenges of each school, careful analysis was given to identify a direction or goal for remedying each issue. The team investigated alternative options for achieving the remedies identified, and then assessed the feasibility of each option. The selection of the preferred or best approach was then assessed for the anticipated cost. The cost figures utilized for this exercise are intended to be sufficient enough for facilities and systems that represent in value and cost what taxpayers conceptualize as a "good buy". This means that a facility or system is physically appealing, functions well, is initially affordable, and will have reasonable operational and maintenance costs. In short, the goal is to get the most long-term value for the money spent.

The Proposed Program Cost, shown on the following page, and estimates included in the "Individual Facility Assessments" section of this plan are intended to be all inclusive costs for the projects. The amounts listed include costs for design fees, site development, construction, furniture and equipment, technology, and anticipated inflation (two-five years). The proposed program budget can be modified to accommodate funding availability and prioritization.

Following the Proposed Program Cost, are the Proposed Program Priorities. This list is meant to provide the Division direction as to which projects in the proposed program need immediate attention and which can be deferred to later in the program. Each project is placed into categories for 1st, 2nd and 3rd priority. This list can also be modified to accommodate funding availability and additional Division needs that may arise in the dynamic nature of School Division activities.

PROPOSED PROGRAM COST

Portsmouth Public Schools – Facility Study

FACILITY AGE AND CAPACITY IMPROVEMENTS   **$ 221,500,000**

New Middle School – 900 students *(#4)*	*$38,500,000*
New Middle School – 700 students *(William E. Waters)*	*$34,500,000*
New Middle School – 900 students *(Churchland)*	*$40,000,000*
New Middle School – 600 students *(Cradock)*	*$31,000,000*
New Elementary School – 750 students *(Churchland ES)*	*$29,500,000*
New Elementary School – 550 students *(Hodges Manor)*	*$23,000,000*
New Elementary School – 600 students *(Westhaven)*	*$25,000,000*
	$221,500,00

FACILITY CONDITION IMPROVEMENTS   **$ 53,000,000**

Safety/Security/Accessibility	*$13,000,000*
Infrastructure	*$25,500,000*
General Renovations	*$14,500,000*
	$53,000,000

EDUCATIONAL PROGRAM IMPROVEMENTS   **$ 35,000,000**

New Career and Technology Center	*$35,000,000*
	$35,000,000

TOTAL PROGRAM COST $ 309,500,000

PROPOSED PROGRAM PRIORITIES

Portsmouth Public Schools – Facility Study

1st PRIORITY	
New Middle School – 900 students *(#4)*	$38,500,000
New Elementary School – 750 students *(Churchland ES)*	$29,500,000
New Career and Technology Center	$35,000,000
Individual Schools – (Safety/Infrastructure/Renovations)	$23,100,000
1st Priority TOTAL:	**$126,100,000**
2nd PRIORITY	
New Elementary School – 550 students *(Hodges Manor)*	$23,000,000
New Elementary School – 600 students *(Westhaven)*	$25,000,000
New Middle School – 900 students *(Churchland)*	$40,000,000
Individual Schools – (Safety/Infrastructure/Renovations)	$15,400,000
2nd Priority TOTAL:	**$103,400,000**
3rd PRIORITY	
New Middle School – 600 students *(Cradock)*	$31,000,000
New Middle School – 700 students *(William E. Waters)*	$34,500,000
Individual Schools – (Safety/Infrastructure/Renovations)	$14,500,000
3rd Priority TOTAL:	**$80,000,000**
TOTAL PROGRAM COST:	**$ 309,500,000**

Schedule Summary

The purpose of a schedule is to organize and complete projects in a timely, quality and financially responsible manner. When preparing a schedule for school projects, there are three important aspects to consider: the design/construction process, project funding, and the typical school calendar. The design/construction process drives the duration (length of time) of the schedule and includes time for procuring an architect, designing the project, approving the design, sending the design out for bid, and completing construction of the facility. Project funding drives the start of a project because projects cannot begin until funding is available. The school calendar influences the placement of the overall project duration so that the facility will be finished in time to open at the beginning of a semester. Upon consideration of these aspects, M.B. Kahn's team determined that using an aggressive approach (assuming funding becomes available in year 2018), and maintaining constant oversight, all recommended projects could be completed by the end of year 2023. The proposed program schedule, shown below, is a representation of a feasible schedule for the Division's program. Similar to the proposed program cost, it can be modified to accommodate funding availability and prioritization. As a reminder, a plan for relocating students while building new facilities will need to be developed.

PROPOSED PROGRAM SCHEDULE
Portsmouth Public Schools - Facility Study
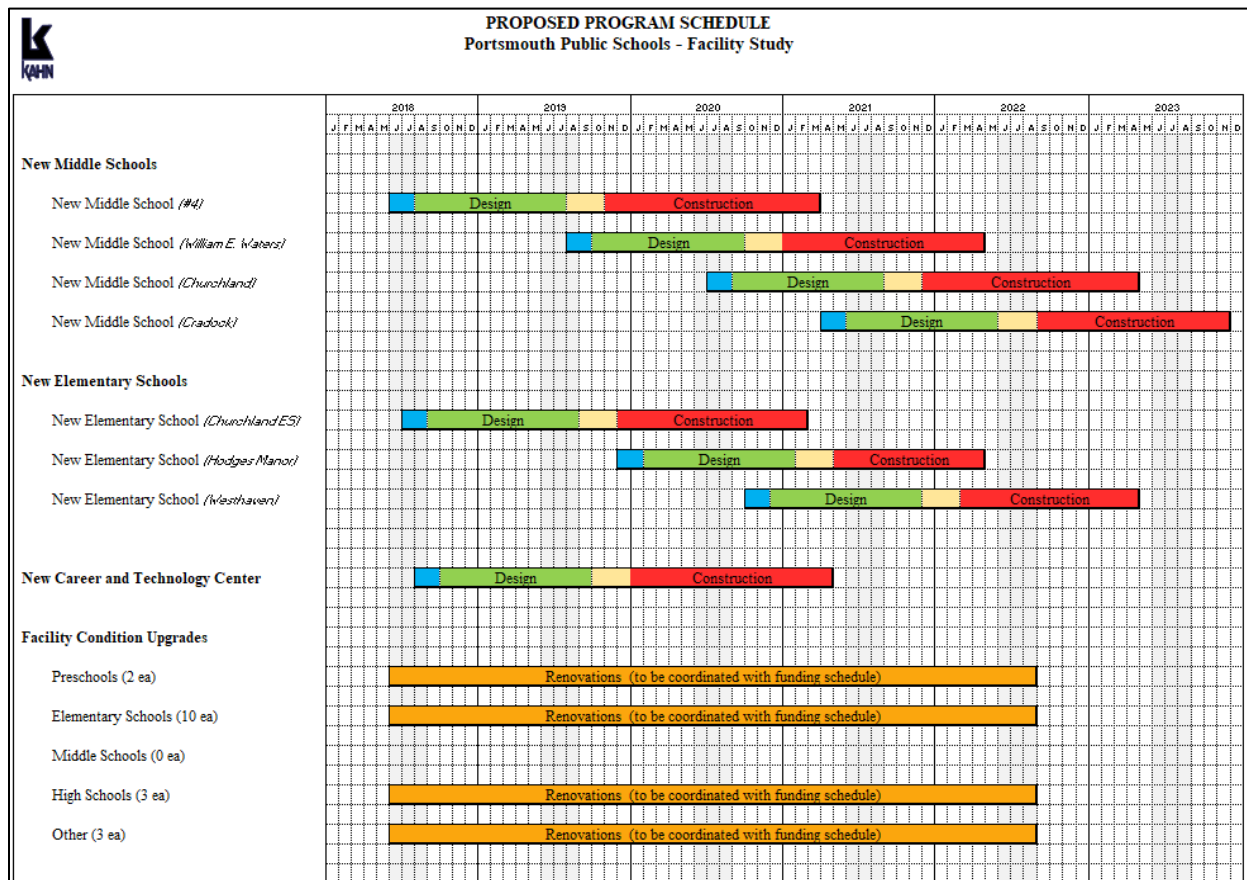
Cash Flow Summary

The purpose of a projected cashflow is to provide a forecast of funding needs for each project and the program as a whole. M.B. Kahn's team understands that proper management of cashflow is vital to implementing a successful improvement plan. Recognizing this, a cashflow analysis was prepared specific to the Division's Proposed Improvement Plan. The projected cashflow is based on the individual project estimates and anticipated expenditures associated with the program. This information has been applied to the proposed program schedule, with anticipated expenditures entered for the sub-period they are expected to occur. The cashflow includes anticipated expenditures for all project components including design fees, site development, construction, furniture and equipment, technology, and anticipated inflation (two-five years). Although the team utilizes a detailed methodology to improve the accuracy for forecasting cashflow, it is stressed that cashflow forecasts cannot be determined precisely. Variances may be incurred from design delays, material/equipment delays, weather delays, or other major project interruptions. For the purposes of submitting a cashflow at this time, it is believed that the information provided is as accurate as possible.

CAPITAL IMPROVEMENT PROGRAM
Portsmouth City Schools

PROJECTED CASHFLOW NEEDS

		QUARTERLY TOTAL		CUMULATIVE TOTAL	
2018	Q1	$ -		$ -	
	Q2	$ 1,262,972		$ 1,262,972	
	Q3	$ 4,476,639		$ 5,739,611	
	Q4	$ 4,626,579		$ 10,366,190	
2019	Q1	$ 4,626,579	$ 10,366,190	$ 14,992,769	$ 14,992,769
	Q2	$ 4,626,579		$ 19,619,348	
	Q3	$ 4,920,510		$ 24,539,859	
	Q4	$ 7,515,551		$ 32,055,410	
2020	Q1	$ 17,552,762	$ 21,689,220	$ 49,608,172	$ 49,608,172
	Q2	$ 27,279,007		$ 76,887,179	
	Q3	$ 27,007,600		$ 103,894,779	
	Q4	$ 20,888,947		$ 124,783,726	
2021	Q1	$ 21,442,285	$ 92,728,316	$ 146,226,011	$ 146,226,011
	Q2	$ 16,365,041		$ 162,591,052	
	Q3	$ 18,703,862		$ 181,294,913	
	Q4	$ 17,811,066		$ 199,105,979	
2022	Q1	$ 17,792,038	$ 74,322,253	$ 216,898,018	$ 216,898,018
	Q2	$ 20,783,396		$ 237,681,414	
	Q3	$ 18,611,275		$ 256,292,689	
	Q4	$ 16,672,249		$ 272,964,939	
2023	Q1	$ 16,139,328	$ 73,858,960	$ 289,104,267	$ 289,104,267
	Q2	$ 12,072,093		$ 301,176,360	
	Q3	$ 4,722,838		$ 305,899,198	
	Q4	$ 3,651,674	$ 36,585,933	$ 309,550,872	
TOTALS		$ 309,550,872	$ 309,550,872		$ 309,550,872

Conclusion

As a final point, when developing a project, it is important to note that scope, schedule, and cost are interrelated. In the construction industry, this relation has been commonly coined the "triple constraint". The triple constraint mandates that any adjustment to either scope, time, or cost, WILL affect the other two components.
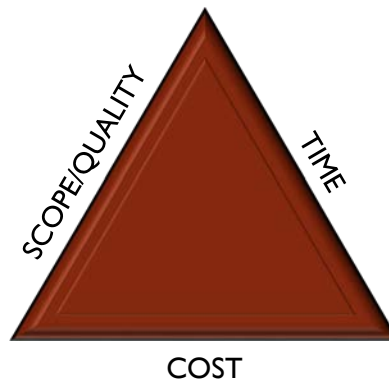
"Time" refers to the actual time required to complete a project. Naturally, the amount of time required to complete the project will be directly related to the extent of the project (scope) along with the total resources allocated to the project (cost). "Cost" is the estimation of money that will be needed to complete the project. The amounts listed in this report include costs for design fees, site development, construction, furniture and equipment, technology, and anticipated inflation (two-five years). "Scope/Quality" is the compilation of functional elements which make up the entire project. The scope is generally identified at the beginning of the project, although it can potentially change during the project life-cycle. The typical measure for successful completion of scope is the quality upon delivery.

The use of a triangle for the triple constraint, illustrates that one cannot adjust or alter one side without, in effect, altering the other sides. For example, if there is a request for a scope change mid-way through the execution of the project, the other two components (cost and time) will be affected. How much or how little is driven by the extent and complexity of the scope change. Therefore, it is crucial the Division be fully aware of the importance of its function and implications before implementing this proposed improvement plan.

As a final reminder, though this proposed improvement plan focuses on the current and impending needs of the Division, it is a living document and will be most effective when Division stakeholders review and update action strategies as needed to reflect constraints and opportunities that may arise in the dynamic nature of School Division activities.

INDIVIDUAL FACILITY ASSESSMENTS

Understanding the Recommendation Sheets

Individual Facility Recommendations

![Kahn logo]

UNDERSTANDING THE RECOMMENDATION SHEETS

The Division's schools were built over six decades, yet some common challenges were observed throughout. Each facility was assessed individually due to the varying degrees of necessary corrections. Results have been compressed into individual facility recommendation sheets. Each facility's report provides a description of the existing facility, current enrollment information, overall analysis, list of major concerns, and list of recommendations with cost estimates resulting in many hours of research. Careful analysis identified a viable process for successful improvements. After comparing alternative options and cost factors, M.B. Kahn's team selected the preferred approach offering the best value. The fundamental goal is to assist the Division in continuing efforts to improve its facilities as it continues to provide safe and efficient environments for its students, staff, and the public.

Recommendations for renovations and upgrades to the facilities were developed that address the identified issues of the existing facilities, and minimize the amount of resources required to be expended. The individual facility sheets include those recommendations, as well as proposed budgets to accomplish them. While reviewing these recommendations, the following should be noted:

General Information – This section of the report provides the basic information for the school facility, including the grade levels, current enrollment, and general size and age of the building.
Overall Analysis – This section of the report lists the overall condition, the adequacy for its intended use and an overall component rating (poor, fair, good, or excellent) of the facility. It is not intended that this be a complete and detailed analysis, but rather a summary of the observations made.
Major Concerns – This section of the report lists the major deficiencies noted with respect to the needs and overall condition of the facility. It is not intended that this be a complete and detailed list of maintenance items, but rather a summary of the larger issues and costly systems that require major renovations and upgrades. The concerns are not listed in priority.
Recommendations and Cost Breakdown – This section of the report provides a cost breakdown for the individual recommendations. The format is intended to allow the Division to have a better understanding of the overall cost, and allows "picking and choosing" issues based on available funding. The cost figures in this section are all-inclusive of construction costs, design fees, contingencies, etc. These cost figures do not include extended inflation costs.
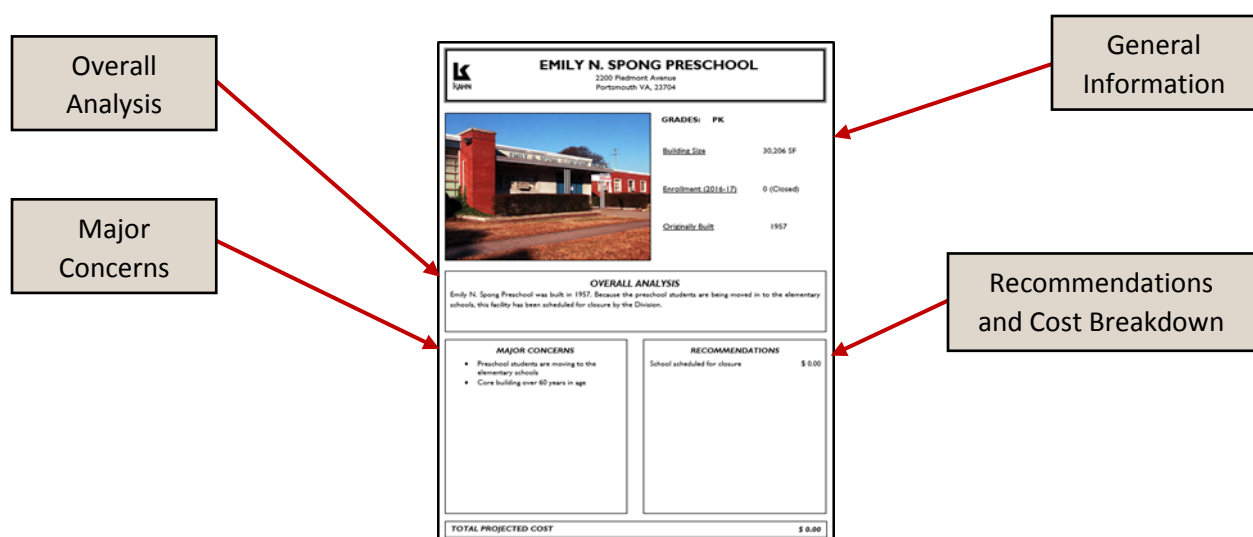
Individual Facility Recommendations

The following are individual facility recommendations for each facility. The facility reports are grouped by grade level (preschool, elementary, middle, high) and then alphabetized. The schools are followed by the New CTE Center, Diagnostic, Adjustive and Corrective Center for Learning (DAC), Instructional Resource Center (IRC), and Stephen H. Clarke facilities.

EMILY N. SPONG PRESCHOOL

2200 Piedmont Avenue
Portsmouth VA, 23704

KAHN

GRADES: PK

Building Size   30,206 SF

Enrollment (2017-18)   0 (Closed)

Originally Built   1957

OVERALL ANALYSIS

Emily N. Spong Preschool was built in 1957. In 2016 this facility was closed by the Division.

*It may be possible to use this facility as a "swing space" while replacing other schools in the division.

MAJOR CONCERNS

- Core building over 60 years in age

RECOMMENDATIONS

School closed by the Division in 2016 $ 0.00

*Consider facility use as a "swing space" while replacing other schools in the division.

TOTAL PROJECTED COST   **$ 0.00**

MT. HERMON PRESCHOOL

3000 North Street
Portsmouth, VA 23707

GRADES: PK

Building Size   36,317 SF

Enrollment (2017-18)   256

Originally Built   1953

OVERALL ANALYSIS

Mt. Hermon Preschool was built in 1953 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **poor** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations, unless students are moved to another location.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including electrical system and exterior lighting
- Compliance issues with ADA and Building Code requirements
- Core building over 60 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 2,783,000
- Security vestibule
- Exterior lighting upgrades
- ADA upgrades
- Repair site security fencing

Infrastructure Repair $ 750,000
- New entrance canopy
- Re-surface parking lots
- Add bus loop
- Upgrade power supply

General Renovations $ 665,000
- Ceiling tile replacement
- Floor replacement
- New casework in classrooms
- New dry erase boards
- New roller shades in cafeteria

TOTAL PROJECTED COST   **$ 4,198,000**

OLIVE BRANCH PRESCHOOL

415 Mimosa Road
Portsmouth, VA 23701

KAHN

GRADES: PK

Building Size   32,700 SF

Enrollment (2017-18)   227

Originally Built   1960

OVERALL ANALYSIS

Olive Branch Preschool was built in 1960 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **fair** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations, unless students are moved to another location.

MAJOR CONCERNS

- No security vestibule
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 142,000
- Security vestibule

Infrastructure Repair $ 417,000
- New canopy
- New parking lot

General Renovations $ 61,000
- Floor Replacement

TOTAL PROJECTED COST   *$ 620,000*

BRIGHTON ELEMENTARY

1100 Portsmouth Boulevard
Portsmouth, VA 23704

KAHN

GRADES: PK - 6

Building Size   56,566 SF

Enrollment (2017-18)   469

Originally Built   2004

OVERALL ANALYSIS

Brighton Elementary was built in 2004 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **excellent** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Limited ADA playground equipment

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 104,000
- Security vestibule

Infrastructure Repair $ 531,000
- New canopy
- Re-surface parking lots
- Catch basin repair
- Upgrade playground equipment

General Renovations
- Ceiling tile replacement $ 106,000
- Add sound panel in cafeteria

TOTAL PROJECTED COST   *$ 741,000*

CHURCHLAND ACADEMY
4061 River Shore Road
Portsmouth, VA 23703

GRADES: PK - 6

Building Size   96,000 SF

Enrollment (2017-18)   684

Originally Built   1986

OVERALL ANALYSIS

Churchland Academy was built in 1986 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **fair** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including windows and lighting systems
- Compliance issues with ADA and Building Code requirements

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 177,000
- Security vestibule
- ADA hardware upgrades
- ADA stage access

Infrastructure Repair $ 610,000
- Re-surface parking lots
- New mini-split
- Select window replacement

General Renovations $ 814,000
- Ceiling tile replacement
- Replace chalkboards
- Floor replacement

TOTAL PROJECTED COST   *$ 1,601,000*

CHURCHLAND ELEMENTARY

5601 Michael Lane
Portsmouth, VA 23703

GRADES: PK - 6

Building Size   76,647 SF

Enrollment (2017-18)   834

Originally Built   1958

OVERALL ANALYSIS

Churchland Elementary was built in 1958 and is nearing the end of its expected life-span. The cost associated with making this facility ADA and Building Code compliant would not be a sound investment for the School Division. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new elementary school.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including site drainage, foundation issues, and electrical systems
- Compliance issues with ADA and Building Code requirements
- Core building over 60 years in age

RECOMMENDATIONS

Site development $ 3,500,000
- Demolition
- Grading/Paving
- Utilities

New replacement school $ 26,000,000
- New elementary school
- Approx. 750 students

TOTAL PROJECTED COST   **$ 29,500,000**

CHURCHLAND PRIMARY AND INTERMEDIATE

5700 Hedgerow Lane
Portsmouth, VA 23703

GRADES: PK - 6

Building Size   71,150 SF

Enrollment (2017-18)   543

Originally Built   1976

OVERALL ANALYSIS

Churchland Primary and Intermediate was built in 1976 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **fair** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including roofing and electrical systems
- Open pod classrooms limit flexibility and cause noise and visual distractions to learning
- Limited ADA playground equipment

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 1,949,000
- Security vestibule
- ADA restroom upgrades
- ADA stage access
- Exterior lighting upgrades

Infrastructure Repair $ 623,000
- Repair/replace kitchen exhaust
- Upgrade playground equipment
- Repair site drainage
- Close open "pod" classrooms

General Renovations $ 644,000
- Ceiling tile replacement
- Add casework in classrooms
- Floor replacement
- Remove classroom storage mezzanines

TOTAL PROJECTED COST   **$ 3,216,000**

DOUGLASS PARK ELEMENTARY
34 Grand Street
Portsmouth, VA 23701

GRADES: PK - 6

Building Size   73,775 SF

Enrollment (2017-18)   683

Originally Built   1965

OVERALL ANALYSIS

Douglass Park Elementary was built in 1965 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **poor** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including roofing and electrical systems
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 1,117,000
- Security vestibule
- ADA restroom upgrades
- Upgrade interior lighting
- Replace exterior doors

Infrastructure Repair $ 2,083,000
- New canopy
- Site drainage repair
- Replace flat roof
- Upgrade intercom system
- Upgrade playground equipment

                                                                   $ 757,000
General Renovations
- Ceiling tile replacement
- Floor replacement

TOTAL PROJECTED COST   **$ 3,957,000**

HODGES MANOR ELEMENTARY

1201 Cherokee Road
Portsmouth, VA 23701

GRADES: PK - 6

Building Size   50,133 SF

Enrollment (2017-18)   593

Originally Built   1956

OVERALL ANALYSIS

Hodges Manor Elementary was built in 1956 and is nearing the end of its expected life-span. The cost associated with making this facility ADA and Building Code compliant would not be a sound investment for the School Division. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new elementary school.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including electrical systems
- Insufficient capacity for designated enrollment
- Compliance issues with ADA and Building Code requirements
- Core building over 60 years in age

RECOMMENDATIONS

Site development $ 3,000,000
- Demolition
- Grading/Paving
- Utilities

New replacement school $ 20,000,000
- New elementary school
- Approx. 550 students

TOTAL PROJECTED COST   *$ 23,000,000*

JAMES HURST ELEMENTARY

18 Dahlgren Avenue
Portsmouth, VA 23702

GRADES: PK - 6

Building Size   75,105 SF

Enrollment (2017-18)   589

Originally Built   1978

OVERALL ANALYSIS

James Hurst Elementary was built in 1978 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **fair** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including roofing, site drainage and electrical systems
- Open pod classrooms limit flexibility and cause noise and visual distractions to learning
- Damaged obsolete solar panels
- Insufficient stair railings

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 801,000
- Security vestibule
- Site security system (cameras)
- Replace stair railings
- Upgrade interior lighting

Infrastructure Repair $ 2,300,000
- Telecommunication upgrades
- Partial roof replacement
- Remove damaged solar panels
- Upgrade playground equipment
- Close open "pod" classrooms

General Renovations $ 917,000
- Ceiling tile replacement
- Floor replacement

TOTAL PROJECTED COST   *$ 4,018,000*

JOHN TYLER ELEMENTARY

3649 Hartford Street
Portsmouth, VA 23707

GRADES: PK - 6

Building Size   61,040 SF

Enrollment (2017-18)   646

Originally Built   2002

OVERALL ANALYSIS

John Tyler Elementary was built in 2002 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **good** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Insufficient capacity for designated enrollment
- Insufficient parking
- Limited roof access for maintenance
- Compliance issues with ADA and Building Code requirements
- Limited ADA playground equipment

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 117,000
- Security vestibule
- ADA stage access
- Larger roof access

Infrastructure Repair $ 550,000
- New canopy
- Parking lot expansion
- Upgrade playground equipment

General Renovations $ 249,000
- Kitchen ceiling replacement
- Floor replacement

TOTAL PROJECTED COST   **$ 916,000**

LAKEVIEW ELEMENTARY

1300 Horne Avenue
Portsmouth, VA 23701

GRADES: PK - 6

Building Size   60,009 SF

Enrollment (2017-18)   439

Originally Built   1967

OVERALL ANALYSIS

Lakeview Elementary was built in 1967 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **poor** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including HVAC and electrical systems
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades	$ 185,000

- Security vestibule
- ADA hardware upgrades
- Soil testing
- ADA stage access

Infrastructure Repair	$ 3,252,000

- New canopy
- Replace HVAC system
- Telecommunication upgrades

General Renovations	$ 719,000

- New school sign
- Replace flooring
- Replace ceiling tile
- Upgrade media center
- Replace casework in administrative spaces

TOTAL PROJECTED COST	**$ 4,156,000**

PARK VIEW ELEMENTARY

260 Elm Avenue
Portsmouth, VA 23704

KAHN

GRADES: PK - 6

Building Size   79,622 SF

Enrollment (2017-18)   544

Originally Built   2009

OVERALL ANALYSIS

Park View Elementary was built in 2009 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **excellent** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Limited use of courtyard due to lack of outdoor seating

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 148,000
- Security vestibule
- Stair rail repair
- Site security fencing repair

Infrastructure Repair $ 70,000
- Courtyard furniture (outdoor learning)
- Pavement marking/striping

General Renovations $ 165,000
- Replace flooring
- Replace ceiling tile
- Cafeteria partition track repair
- Paint canopy

TOTAL PROJECTED COST	*$ 383,000*

SIMONSDALE ELEMENTARY

4841 Clifford Street
Portsmouth, VA 23701

GRADES: PK - 6

Building Size   81,165 SF

Enrollment (2017-18)   687

Originally Built   2011

OVERALL ANALYSIS

Simonsdale Elementary was built in 2011, is the newest school in the Division, and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **excellent** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Damage to green-roof
- Incorrectly functioning occupancy sensors in classrooms
- Insufficient parking

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 104,000
- Security vestibule
- Replace occupancy sensors

Infrastructure Repair $ 261,000
- New parking lot
- Upgrade playground equipment
- Repair green roof

General Renovations $ 0.00

TOTAL PROJECTED COST	*$ 365,000*

VICTORY ELEMENTARY

2828 Greenwood Drive
Portsmouth, VA 23701

GRADES: PK - 6

Building Size   78,142 SF

Enrollment (2017-18)   598

Originally Built   1961

OVERALL ANALYSIS

Victory Elementary was built in 1961 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **fair** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including site drainage
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 352,000
- Security vestibule
- ADA restroom upgrades
- Site security fencing repair

Infrastructure Repair $ 557,000
- New Mini-Split
- New Canopy (2 ea)
- Upgrade playground equipment

General Renovations $ 286,000
- Replace flooring

TOTAL PROJECTED COST   **$ 1,195,000**

WESTHAVEN ELEMENTARY
3701 Clifford Street
Portsmouth, VA 23707

GRADES: PK - 6

Building Size   65,077 SF

Enrollment (2017-18)   579

Originally Built   1954

OVERALL ANALYSIS

Westhaven Elementary was built in 1954 and is nearing the end of its expected life-span. The cost associated with making this facility ADA and Building Code compliant would not be a sound investment for the School Division. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new elementary school.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including plumbing, HVAC, and electrical systems
- Flood damage
- Compliance issues with ADA and Building Code requirements
- Core building over 60 years in age

RECOMMENDATIONS

Site development $ 3,500,000
- Demolition
- Grading/Paving
- Utilities

New replacement school $ 21,500,000
- New elementary school
- Approx. 600 students

TOTAL PROJECTED COST   **$ 25,000,000**

CHURCHLAND MIDDLE

4051 River Shore Road
Portsmouth, VA 23703

K KAHN

GRADES: 7-8

Building Size   136,937 SF

Enrollment (2017-18)   863

Originally Built   1970

OVERALL ANALYSIS

Churchland Middle was built in 1970 and is nearing the end of its expected life-span. The cost associated with making a school ADA and Building Code compliant would not be a sound investment for the School Division. Also, integrating 6th grade students into the current facilities will cause significant capacity issues. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new middle school.

MAJOR CONCERNS

- Failing infrastructure including windows, HVAC, and electrical systems
- Insufficient capacity for designated enrollment
- Poor building design for current 21st century learning environments
- Compliance issues with ADA and Building Code requirements
- Core building nearing 50 years in age

RECOMMENDATIONS

Site development	$ 4,000,000
• Demolition	
• Grading/Paving	
• Utilities	
New replacement school	$ 45,000,000
• New middle school	
• Approx. 900 students	

TOTAL PROJECTED COST	**$ 49,000,000**

CRADOCK MIDDLE

21 Alden Avenue
Portsmouth, VA 23702

GRADES: 7-8

Building Size   106,220 SF

Enrollment (2017-18)   503

Originally Built   1966

OVERALL ANALYSIS

Cradock Middle was built in 1966 and is nearing the end of its expected life-span. The cost associated with making a school ADA and Building Code compliant would not be a sound investment for the School Division. Also, integrating 6th grade students into the current facilities will cause significant capacity issues. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new middle school.

MAJOR CONCERNS

- Failing infrastructure including roofing and electrical systems
- Insufficient capacity for designated enrollment
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Site development $ 3,500,000
- Demolition
- Grading/Paving
- Utilities

New replacement school $ 27,500,000
- New middle school
- Approx. 600 students

TOTAL PROJECTED COST   **$ 31,000,000**

WILLIAM E. WATERS MIDDLE

600 Roosevelt Boulevard
Portsmouth, VA 23701

GRADES: 7-8

Building Size   104,601 SF

Enrollment (2017-18)   543

Originally Built   1966

OVERALL ANALYSIS

William E. Waters Middle was built in 1966 and is nearing the end of its expected life-span. The cost associated with making a school ADA and Building Code compliant would not be a sound investment for the School Division. Also, integrating 6th grade students into the current facilities will cause significant capacity issues. Overall the facility is in **poor** condition; therefore, it is recommended that this school be replaced with a new middle school.

MAJOR CONCERNS

- Failing infrastructure including windows, HVAC controls and electrical systems
- Insufficient capacity for designated enrollment
- Compliance issues with ADA and Building Code requirements
- Core building over 50 years in age

RECOMMENDATIONS

Site development $ 3,500,000
- Demolition
- Grading/Paving
- Utilities

New replacement school $ 31,000,000
- New middle school
- Approx. 700 students

TOTAL PROJECTED COST   **$ 34,500,000**

FOURTH MIDDLE SCHOOL

Location TBD

GRADES: 7-8

Building Size   TBD

Enrollment   TBD

Originally Built   TBD

OVERALL ANALYSIS

The Division has expressed interest in moving the 6th graders to the middle schools. During analysis, it was determined that this creates a capacity issue at all three middle schools. Instead of building all three new middle schools larger, it is recommended that the Division add a fourth middle school to account for the capacity issues at the middle school level.

MAJOR CONCERNS

- None

RECOMMENDATIONS

Site development $ 3,500,000
  - Grading/Paving
  - Utilities

New replacement school $ 31,000,000
  - New middle school
  - Approx. 900 students

TOTAL PROJECTED COST	*$ 34,500,000*

CHURCHLAND HIGH

4301 Cedar Lane
Portsmouth, VA 23703

GRADES: 9-12

Building Size   262,000 SF

Enrollment (2017-18)   1,418

Originally Built   1992

OVERALL ANALYSIS

Churchland High was built in 1992 and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **good** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including site drainage, asphalt drives, and electrical systems
- Upgrades needed for current 21st century learning environments
- Athletic facility upgrades needed

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 340,000
- Security vestibule
- Exterior Lighting Upgrades
- ADA hardware upgrades

Infrastructure Repair $ 2,084,000
- New canopy
- Resurface parking lot and drives
- Upgrade athletic facilities

General Renovations $ 1,580,000
- Upgrade auditorium flooring and add orchestra pit cover
- Renovate media center (internet café)
- Replace flooring
- Replace ceiling tiles
- Renovate teacher workrooms

TOTAL PROJECTED COST	*$ 4,004,000*

I. C. NORCOM HIGH

KAHN

1801 London Boulevard
Portsmouth, VA 23704

GRADES: 9-12

Building Size   280,812 SF

Enrollment (2017-18)   1,092

Originally Built   1999

OVERALL ANALYSIS

I.C. Norcom High was built in 1999, is the newest high school in the Division, and has many years left in its expected life-span. The Division will need to extend the use of this facility for many years to come. Overall the facility is in **good** condition; therefore, it is recommended that this school receive funding to address any major safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including site drainage and electrical systems
- Upgrades needed for current 21st century learning environments
- Athletic facility upgrades needed

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 1,105,000
- Security vestibule
- Exterior lighting upgrades
- New driveway gates

Infrastructure Repair $ 4,429,000
- New canopy (2 ea)
- Repair site drainage
- Upgrade athletic facilities

General Renovations $ 1,033,000
- Interior paint
- Replace flooring
- Replace ceiling tiles

TOTAL PROJECTED COST   *$ 6,567,000*

WOODROW WILSON HIGH

1401 Elmhurst Lane
Portsmouth, VA 23701

KAHN

GRADES: 9-12

Building Size   261,665 SF

Enrollment (2017-18)   1,393

Originally Built   1971

OVERALL ANALYSIS

Woodrow Wilson High was built in 1971 and is nearing the end of its expected life-span. However, the Division will need to extend the use of this facility while addressing more immediate needs at other facilities. Overall the facility is in **good** condition; therefore, it is recommended that this school receive funding to address significant safety/security/accessibility upgrades, infrastructure repair, and general renovations.

MAJOR CONCERNS

- No security vestibule
- Failing infrastructure including site drainage and electrical systems
- Compliance issues with ADA and Building Code requirements
- Technology upgrades needed for current 21st century learning environments
- Athletic facility upgrades needed

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades $ 3,850,000
- Security vestibule
- Interior lighting upgrades
- ADA restroom upgrades
- ADA hardware upgrades
- Remove cafeteria partition

Infrastructure Repair $ 4,473,000
- Technology upgrades
- Upgrade electrical system

General Renovations $ 3,391,000
- Remove lockers
- Replace flooring
- Replace acoustical ceiling
- Clean interior brick throughout commons
- Upgrade teacher's lounge/storage

TOTAL PROJECTED COST   **$ 11,714,000**

NEW CTE CENTER
401 W Road
Portsmouth, VA 23707

GRADES: N/A

Building Size   TBD

Enrollment   TBD

Originally Built   TBD

OVERALL ANALYSIS

The Division's leadership has continuously stressed the desire to increase and improve the CTE course offerings. CTE courses are currently offered at each high school; however, over time many of the lab spaces have been modified for other uses. It is more cost efficient to offer a wide variety of courses at one facility as opposed to each individual high school; therefore, it is recommended that a new centralized CTE Center be built on the DAC Campus.

MAJOR CONCERNS

- Limited CTE course offerings currently available to students

RECOMMENDATIONS

Site Development $ 3,500,000
- Demolition
- Grading/Paving
- Utilities

New replacement facility $ 31,500,000
- New CTE Center

TOTAL PROJECTED COST	*$35,000,000*

DIAGNOSTIC, ADJUSTIVE AND CORRECTIVE CENTER FOR LEARNING (DAC)

401 W Road
Portsmouth, VA 23707

KAHN

GRADES: N/A

Building Size   31,500 SF

Enrollment (2017-18)   N/A

Originally Built   1971

OVERALL ANALYSIS

The Diagnostic, Adjustive, and Corrective Center for Learning (DAC) was built in 1971 and is nearing the end of its expected life-span. Overall the facility is in **poor** condition and is not currently being used; therefore, it is recommended that the site be repurposed for other School Division needs.

MAJOR CONCERNS

- Currently unoccupied
- Not conducive for 21st century learning environment

RECOMMENDATIONS

Repurpose site $ 0.00

TOTAL PROJECTED COST   *$0.00*

INSTRUCTIONAL RESOURCE CENTER (IRC)

3651 Hartford Street
Portsmouth, VA 23707

GRADES: N/A

Building Size   18,683 SF

Enrollment (2016-17)   N/A

Originally Built   1967

OVERALL ANALYSIS

The Instructional Resource Center (IRC) was built in 1967 and is nearing the end of its expected life-span. The cost associated with making this facility ADA and Building Code compliant would not be a sound investment for the School Division. Overall the facility is in **fair** condition; therefore, it is recommended that only limited upgrades be done at this time with consideration of replacing the facility within the next 15 years.

MAJOR CONCERNS

- Limited access to electrical panels
- Compliance issues with ADA and Building Code requirements
- Failing infrastructure including systems
- Core Building over 50 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades	$ 513,000
• ADA restroom upgrades	
Infrastructure Repair	$ 328,000
• Upgrade electrical system	
General Renovations	$ 162,000
• New building sign	
• Replace flooring	
• Replace ceiling tiles	

TOTAL PROJECTED COST   *$ 1,003,000*

STEPHEN H. CLARKE ACADEMY

2801 Turnpike Road
Portsmouth, VA 23707

Κ KAHN

GRADES: K-3 – 12, Adult Education

Building Size   108,200 SF

Enrollment (2016-17)   100

Originally Built   1957

OVERALL ANALYSIS

Stephen H. Clarke Academy was built in 1957 and is nearing the end of its expected life-span. The cost associated with making this facility ADA and Building Code compliant would not be a sound investment for the School Division. Overall the facility is in **poor** condition; therefore, it is recommended that only limited upgrades be done at this time with consideration of replacing the facility within the next 15 years.

MAJOR CONCERNS

- Renovations of current spaces are needed to match current use
- Compliance issues with ADA and Building Code requirements
- Failing infrastructure including site drainage and electrical systems
- Core building over 60 years in age

RECOMMENDATIONS

Safety/Security/Accessibility Upgrades	$ 991,000

- ADA restroom upgrades

Infrastructure Repair	$ 2,176,000

- Upgrade electrical system
- Repair site drainage
- New parking lot

General Renovations	$ 2,804,000

- New casework in main office
- Renovate administration spaces
- Renovate "boy's" gym to be a workshop
- Add overhead doors in workshop
- Replace flooring
- Replace ceiling tiles

TOTAL PROJECTED COST	*$ 5,971,000*

APPENDIX

Facility Photos

Facility Data Sheet

University of Virginia Demographics Report

FACILITY PHOTOS

Emily N. Spong Preschool
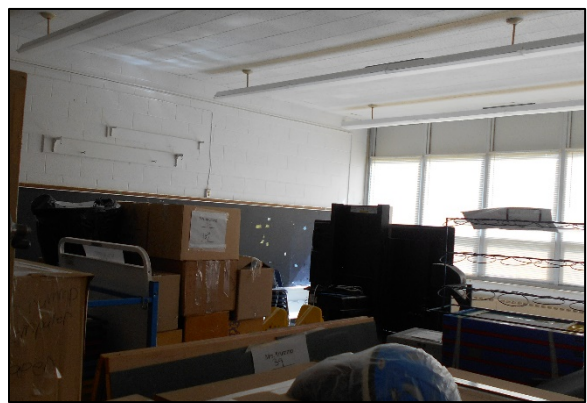
FACILITY PHOTOS

Mt. Hermon Preschool
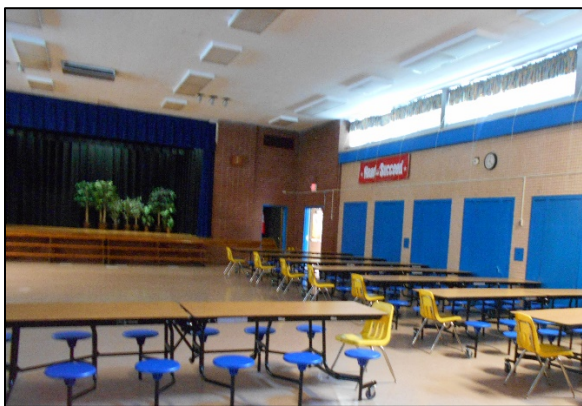
FACILITY PHOTOS

Olive Branch Preschool

FACILITY PHOTOS

Brighton Elementary School

FACILITY PHOTOS

Churchland Academy Elementary School

FACILITY PHOTOS

Churchland Elementary School

FACILITY PHOTOS

Churchland Primary and Intermediate Elementary School
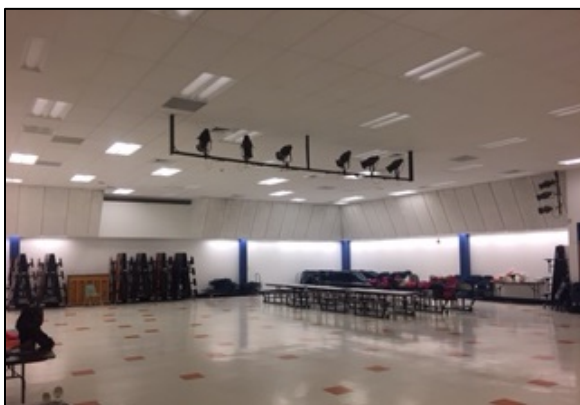
FACILITY PHOTOS

Douglass Park Elementary School

FACILITY PHOTOS

Hodges Manor Elementary School

FACILITY PHOTOS

James Hurst Elementary School

FACILITY PHOTOS

John Tyler Elementary School
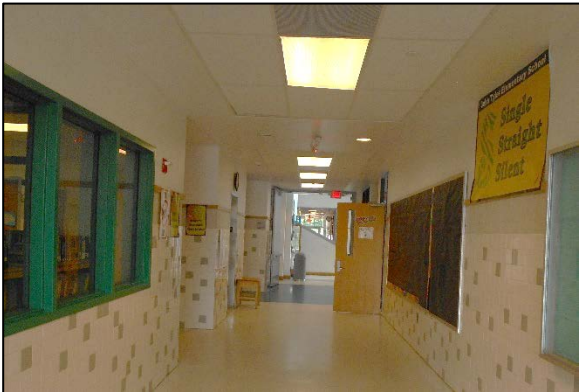
FACILITY PHOTOS

Lakeview Elementary School

FACILITY PHOTOS

Park View Elementary School

FACILITY PHOTOS

Simonsdale Elementary School

FACILITY PHOTOS

Victory Elementary School

FACILITY PHOTOS

Westhaven Elementary School
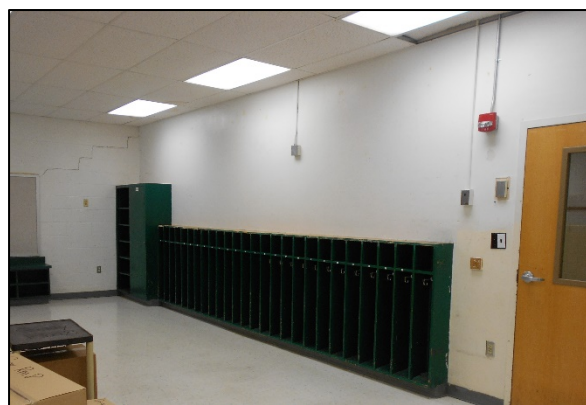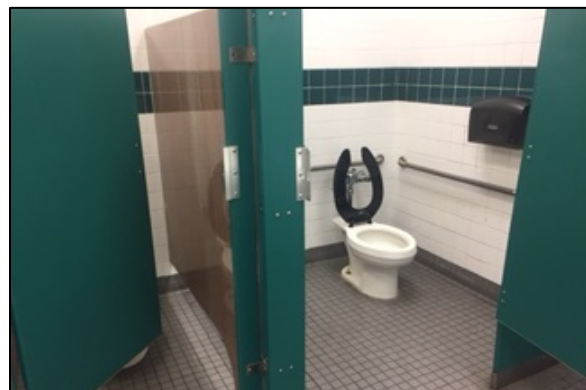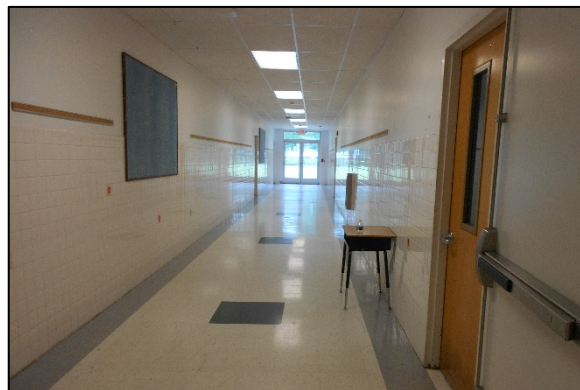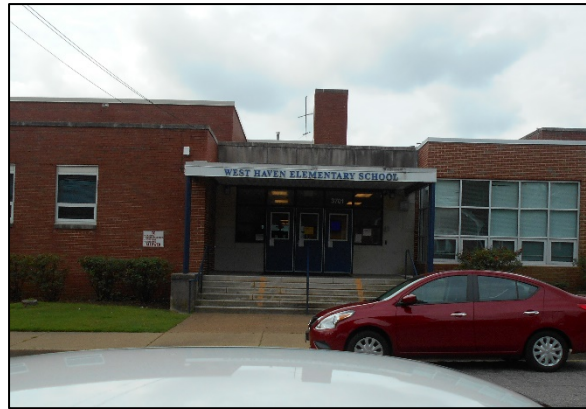
FACILITY PHOTOS

Churchland Middle School
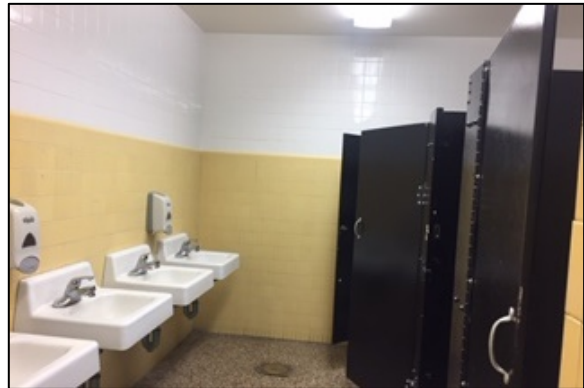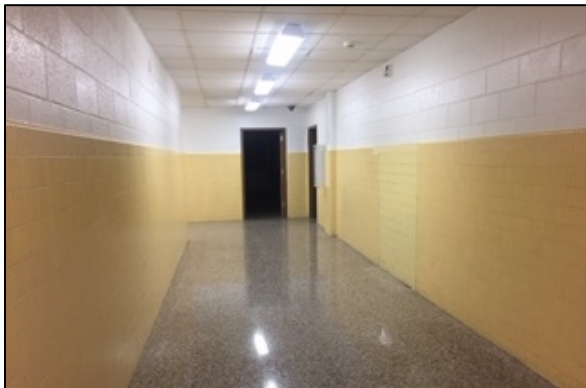
FACILITY PHOTOS

Cradock Middle School
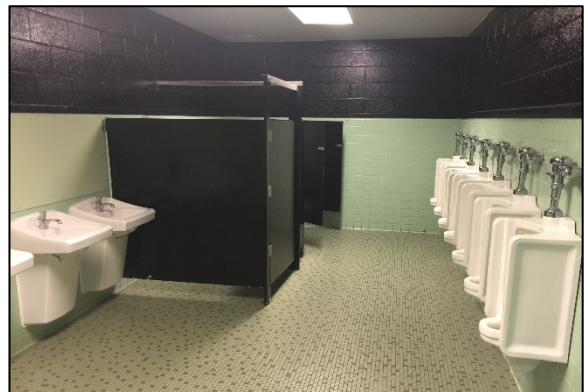
FACILITY PHOTOS

William E. Waters Middle School

FACILITY PHOTOS

Churchland High School

![Kahn logo]
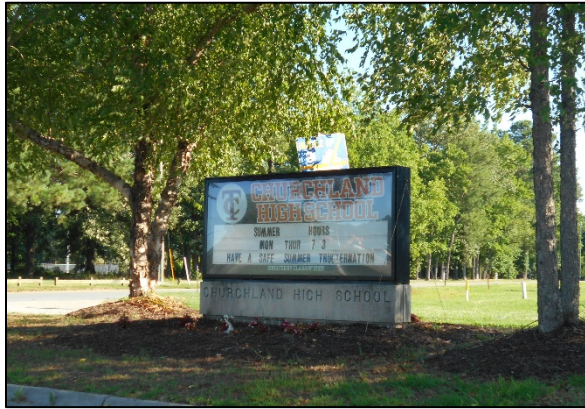
FACILITY PHOTOS

I.C. Norcom High School

FACILITY PHOTOS

Woodrow Wilson High School

FACILITY PHOTOS

Diagnostic, Adjustive and Corrective Center for Leaning (DAC)
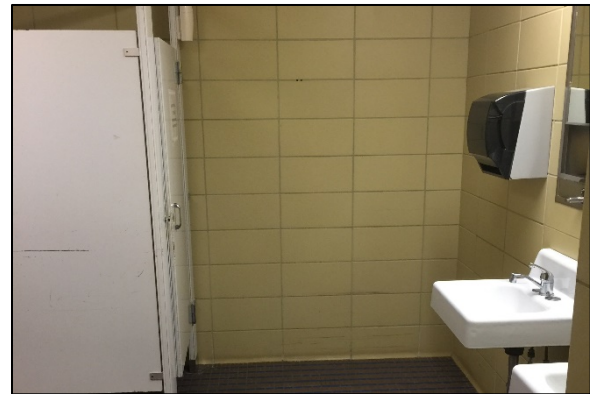
FACILITY PHOTOS

Instructional Resource Center (IRC)
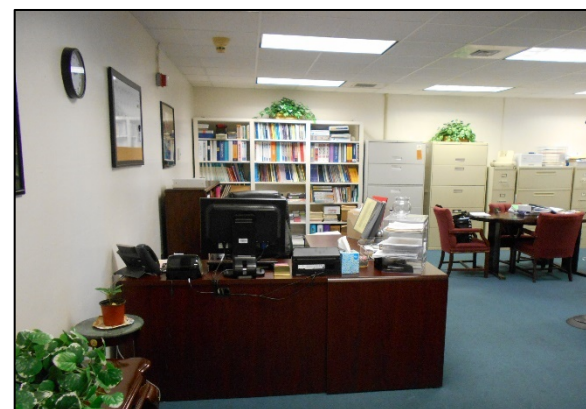
FACILITY PHOTOS

Stephen H. Clarke

FACILITY DATA SHEET

SCHOOL/BUILDING	2017-18 Enrollment	BUILDING SIZE (SQUARE FEET)	YEAR BUILT, ADDED TO	SITE SIZE (ACRES)
FACILITY DATA SHEET				
Emily N. Spong Preschool	0	30,206	1957, 1966	2.3
Mount Hermon Preschool	256	36,317	1953	6.6
Olive Branch Preschool	227	32,700	1960	9.2
Churchland Preschool*	156	96,000	1986	12
Brighton Elementary	469	56,566	2004	8.8
Churchland Academy*	684	96,000	1986	12
Churchland Elementary	834	76,647	1958, 1969, 2005, 2012	19.1
Churchland Primary & Intermediate	543	71,150	1976, 2011	13.8
Douglass Park Elementary	683	73,775	1965, 2002	11.6
Hodges Manor Elementary	593	50,133	1956, 1969, 2005	15.1
James Hurst Elementary	589	75,105	1978, 2010	11.6
John Tyler Elementary	646	61,040	2002, 2005	24.2**
Lakeview Elementary	439	60,009	1967, 2005	21.9
Park View Elementary	544	79,622	2009	10.91
Simonsdale Elementary	687	81,165	2011	23.06
Victory Elementary	598	78,142	1961, 1970, 1975, 2007	11.83
Westhaven Elementary	579	65,077	1954, 1956, 1969, 2002	11.2
Churchland Middle	863	136,937	1970	35.2
Cradock Middle	503	106,220	1966	18
William E. Waters Middle	543	104,601	1966	20.5
Churchland High	1,418	262,000	1992	89.4
I.C. Norcom High	1,092	280,812	1999	31.1
Woodrow Wilson High	1,393	261,665	1971	46.2
DAC Center	0	31,500	1971	24.2**
Instructional Resource Center (IRC)	0	18,683	1967	24.2**
Stephen H. Clarke	100	108,200	1957, 1962	18.7
TOTAL		**2,430,272**		

*Combined facility
**Combined acreage

UNIVERSITY OF VIRGINIA DEMOGRAPHICS REPORT

Begins on next page

A *Demographic Analysis*
of the School-Age Population
in Portsmouth City, Virginia

UNIVERSITY*of*VIRGINIA
DEMOGRAPHICS RESEARCH GROUP

Part I: Demographic Analysis

Overview

From 2000-2010, Portsmouth's kindergarten to 12th grade student enrollment declined by over 12 percent, but between 2010 and 2014, Portsmouth's student enrollment grew, in part, due to larger entering kindergarten classes. However, since 2014, student enrollment in Portsmouth has been declining in size.

Source: Virginia Department of Education Fall Count

Many school divisions in the Hampton Roads Metropolitan Area have also experienced declines in student enrollment since 2000, though the total K-12 student enrollment in the metro area has only declined by 6 percent from 2000-2016. Most of the decline in student enrollment in the Hampton Roads Metro Area has occurred since 2006 when the housing boom ended.

Enrollment Change 2000 to 2006

- ■ Decline more than 10 percent
- ■ -5 to -10 Percent
- ■ -2.5 to -5 Percent
- ■ 0 to -2.5 Percent
- □ Increased

Hampton Roads Metro Area
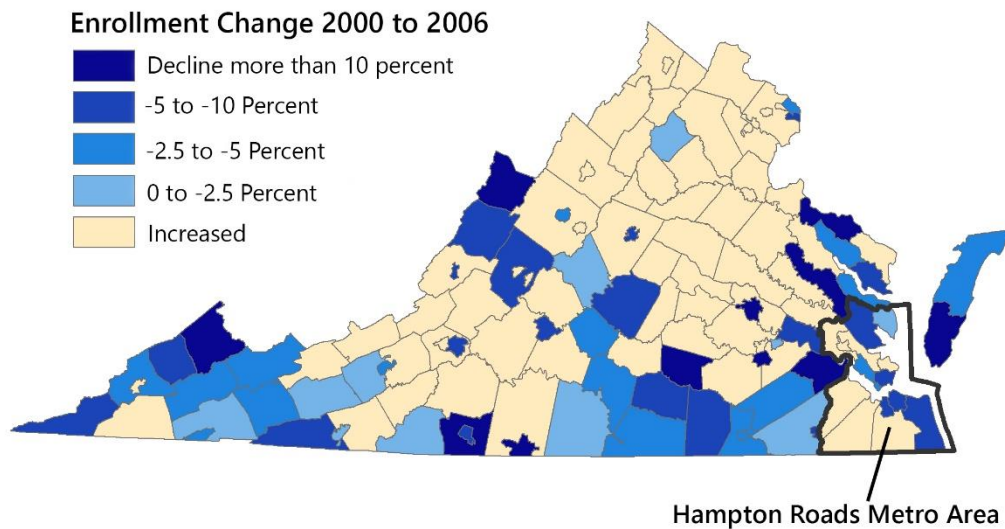
Source: Virginia Department of Education Fall Count

Prior to 2006, student enrollment was growing in many of the suburban school divisions near Portsmouth, including Chesapeake, Suffolk and Isle of Wight. Other urban school divisions in Hampton Roads: Hampton, Newport News and Norfolk also experienced declines in student enrollment from 2000-2016. Since 2010, the only metro area school division south of the James River still experiencing student enrollment growth has been Chesapeake, while 10 out of the 13 school divisions in Hampton Roads have experienced declines in their student enrollment.

Enrollment Change 2010 to 2016

- ■ Decline more than 10 percent
- ■ -5 to -10 Percent
- ■ -2.5 to -5 Percent
- ■ 0 to -2.5 Percent
- □ Increased

Hampton Roads Metro Area
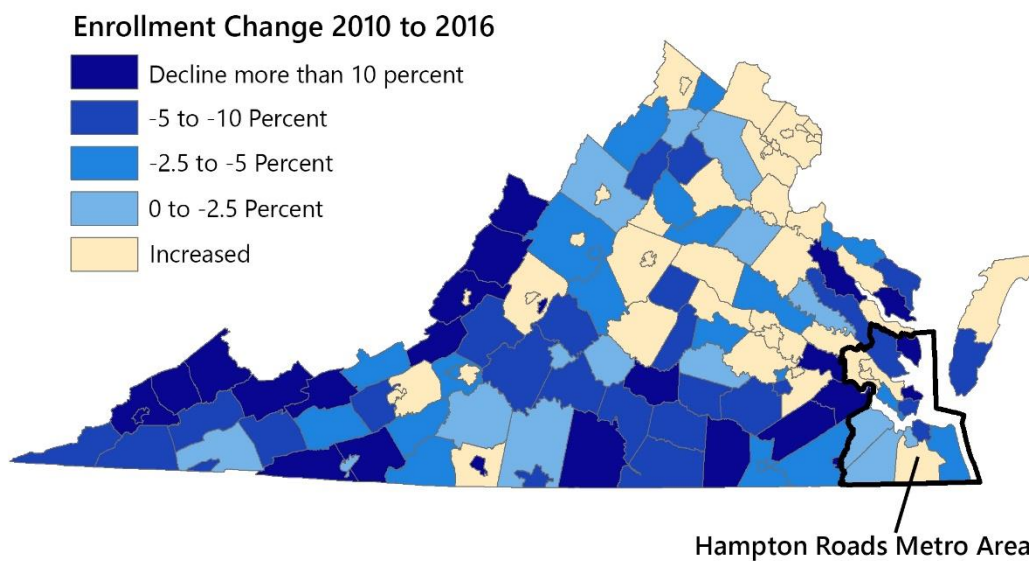
Source: Virginia Department of Education Fall Count

Why is Portsmouth's student enrollment declining?

During the past two decades, the decline in public school enrollment in Portsmouth City has followed the decline in the city's school-age population. Public school enrollment has declined more slowly than Portsmouth's school-age population because the portion of Portsmouth children attending public school has risen to nearly 90 percent.

Portsmouth School Age Population and Enrollment
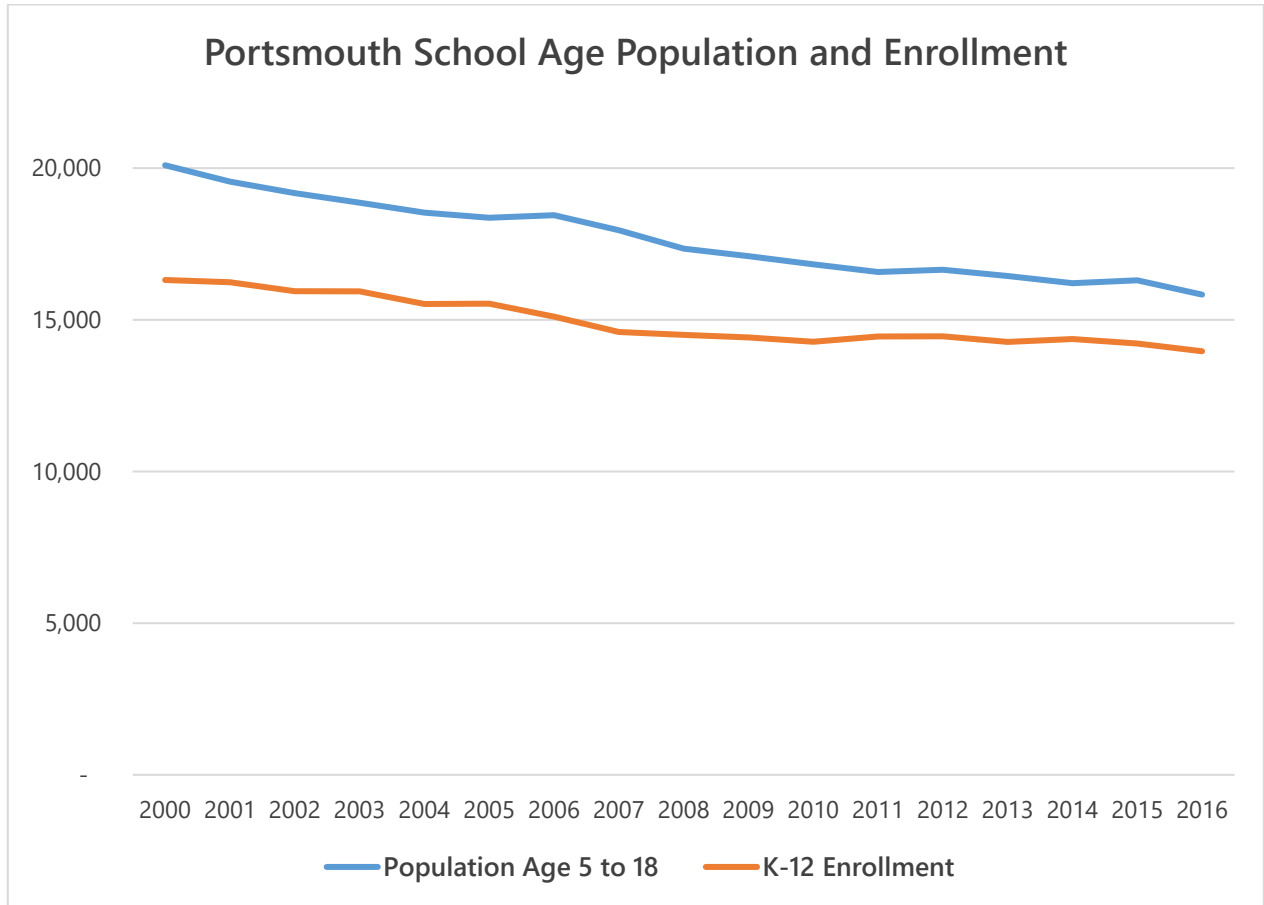
Source: Virginia Department of Education Fall Count, Census Bureau Age Estimates, and Decennial Census

Changes in the school-age population and, consequently, student enrollment are driven by a combination of family migration and birth rates. During the early 2000s, the school-age population in some school divisions in Hampton Roads declined as families moved out of the region, though most suburban school divisions, such as Chesapeake and Suffolk, attracted families and experienced growth in the their school-age population.

Since 2010, the school-age population has declined in nearly every school division within the Hampton Roads Metro Area. Virginia, overall, has experienced a small decline in its school-age population since 2010 as a result of families moving out of the state and the fall in births after the housing boom ended. The school-age population in Portsmouth was less affected by this trend because a large number of families had already moved out of the city.

Change in School-Age Population		
	2000 to 2006	**2010 to 2016**
Chesapeake	4%	-3%
Norfolk	-6%	-9%
Portsmouth	-8%	-6%
Suffolk	21%	-4%
Virginia Beach	-6%	-8%
Hampton Roads	-2%	-8%
Virginia	4%	-1%

Sources: Census Bureau Age Estimates and Decennial Census

One of the best ways to track whether a school division is gaining or losing families is to look at the ratio of its kindergarten enrollment to births five years earlier. If all the children born in Portsmouth in a given year—and only those children—enrolled in Portsmouth City Public Schools for kindergarten five years later, the kindergartner-to-birth ratio would be 100 percent.

As the chart below shows, Portsmouth's ratio of kindergartners to births has hovered around 80 percent since 2000. When you also take into consideration the fact that 90 percent of those born five years earlier would be expected to enroll in kindergarten—given that 90 percent of Portsmouth's children attend public school—the kindergarten-to-birth ratio of around 80 percent indicates that 10 percent of Portsmouth's families move out of the division before enrolling their children in school. This rate of out-migration has been fairly consistent since at least 2000.

Ratio of Portsmouth Kindergarten Enrollment to Births Five Years Earlier

The red line is the share of Portsmouth children enrolled in public school
A percentage below 80% indicates more families are leaving than entering the school division.
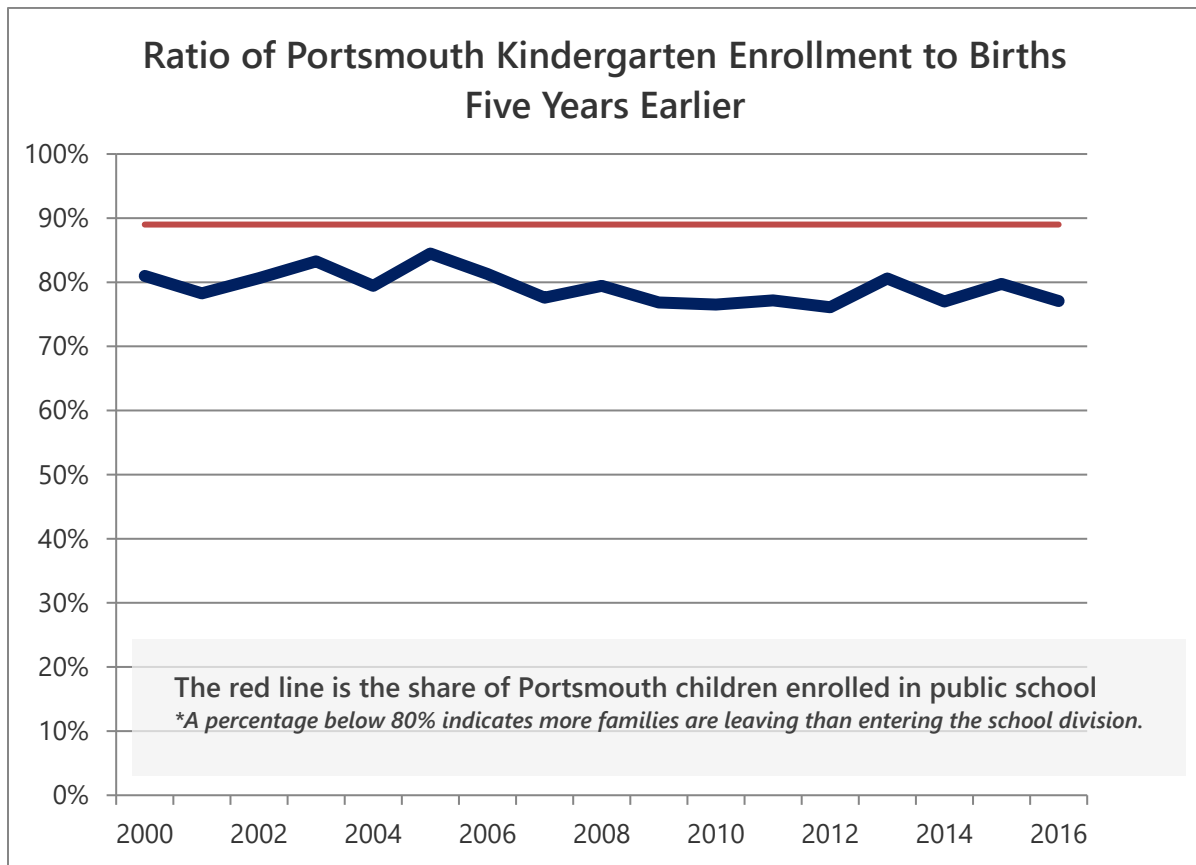
Sources: Virginia Department of Education Fall Count and Weldon Cooper Center Annual Births Tabulations

Similar to Portsmouth, most urban school divisions in the region already had a large share of their families moving out of the division prior to the end of the housing boom. As a result, Hampton Road's urban school divisions have not experienced a significant rise in families moving away in recent years. In contrast, suburban school divisions in the region, such as Suffolk and Isle of Wight, have attracted considerably fewer families in recent years, causing student enrollment in some suburban school divisions to decline.

Difference between Kindergarten enrollment and births five years prior
● 2016   ● 2006
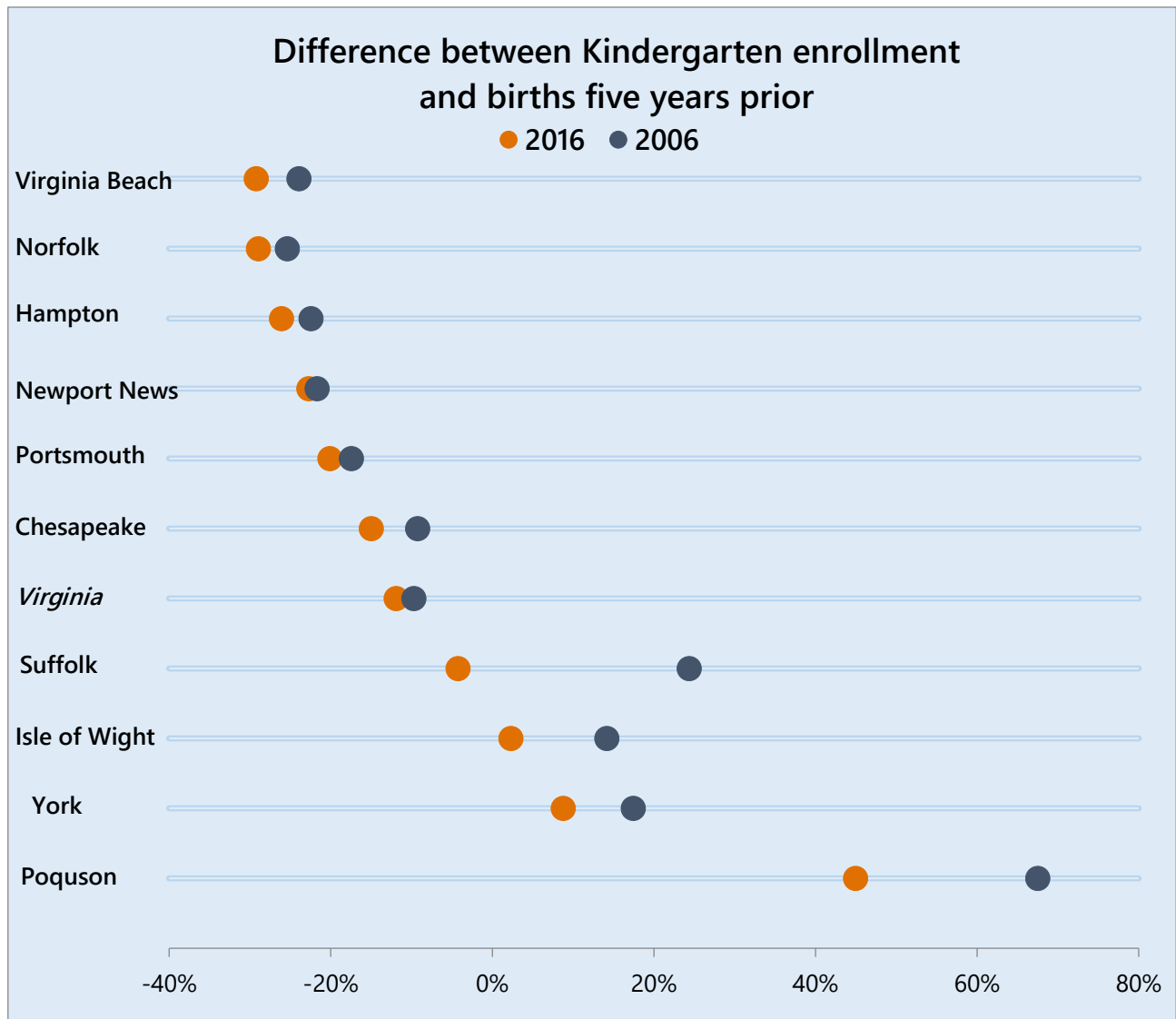
A negative difference indicates that some kindergarteners are enrolled in private school or have moved away from the division. A positive difference indicates the division is attracting families with children.

Source: Virginia Department of Education Fall Count and Weldon Cooper Center Annual Birth Tabulations

The decline in families moving to suburban school divisions in Hampton Roads is in large part tied to the end of the housing boom in 2007. Homeownership rates have fallen in the region and across the country as a result of the increased difficulty in obtaining mortgages. Since most of the suburban housing stock in Hampton Roads is owner occupied (rather than rental properties), fewer families have

been able to afford to move to them, which has resulted in a boost in urban school division enrollment in most of Virginia's metro areas. However, the region's relatively weak economy, likely due in part due to the Federal Budget Sequestration, has caused many families to move out of the region instead.

Will Portsmouth City's enrollment continue to decline?

From 2000-2010, Portsmouth's student enrollment declined because its school-age population also declined as many families moved out of the city. Then a rise in births during the housing boom temporarily boosted student enrollment during the early 2010s. Today, however, unless Portsmouth attracts more families or fewer of its families leave, student enrollment will likely continue to decline. In the coming years, the fall in births since 2007 may have an even larger impact on Portsmouth's student enrollment than families moving out of the school division.
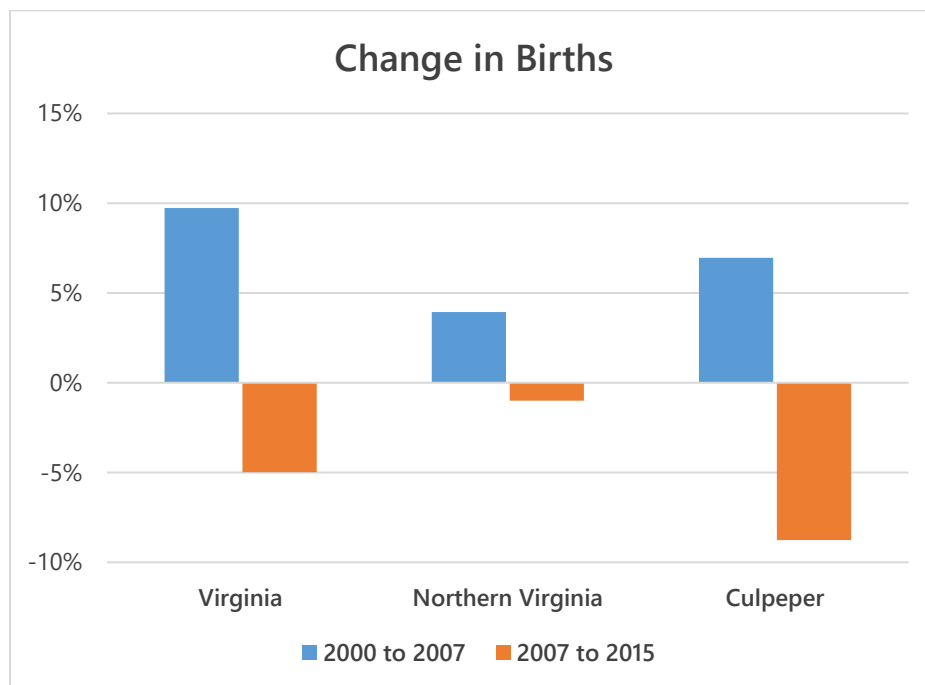
Source: Weldon Cooper Center Annual Births Tabulations

The number of births declined in Virginia and throughout the U.S. when the housing boom ended in 2007 and the last recession began. Births in Portsmouth declined more rapidly than in most school divisions, and like Virginia overall, birth rates have not rebounded in Portsmouth even though the recession ended before 2010. One possible explanation is that most of the decline in births since 2007 was concentrated among teenagers, which may be part of a long-term societal shift to having births later in life. In Portsmouth, the number of teen pregnancies has declined by over 75 percent since 2007.

The fall in Portsmouth's birth rate began to have an effect on student enrollment in 2012 when the entering kindergarten class sizes started to decline. Over the last five years, Portsmouth's kindergarten enrollment has fallen by 100 students. Because the number of births in Portsmouth has continued to decline, it is likely that the size of future kindergarten classes will also continue to decline, possibly to below 1,200 this decade and below 1,100 during the next decade.

Even if Portsmouth's birth rate does not rebound, student enrollment could stop declining if fewer families move away or more families move to the city. This has been the case for some urban school divisions in Virginia, like Richmond and Roanoke, where their school enrollment increased as a result of fewer families moving out of the city.

In recent decades, Portsmouth has attempted to retain more of its families by redeveloping large areas of the city. Though the redevelopment efforts may have helped stop the decline in Portsmouth's total population, the number of households with children in the city has declined by over 2,500 since the year 2000.
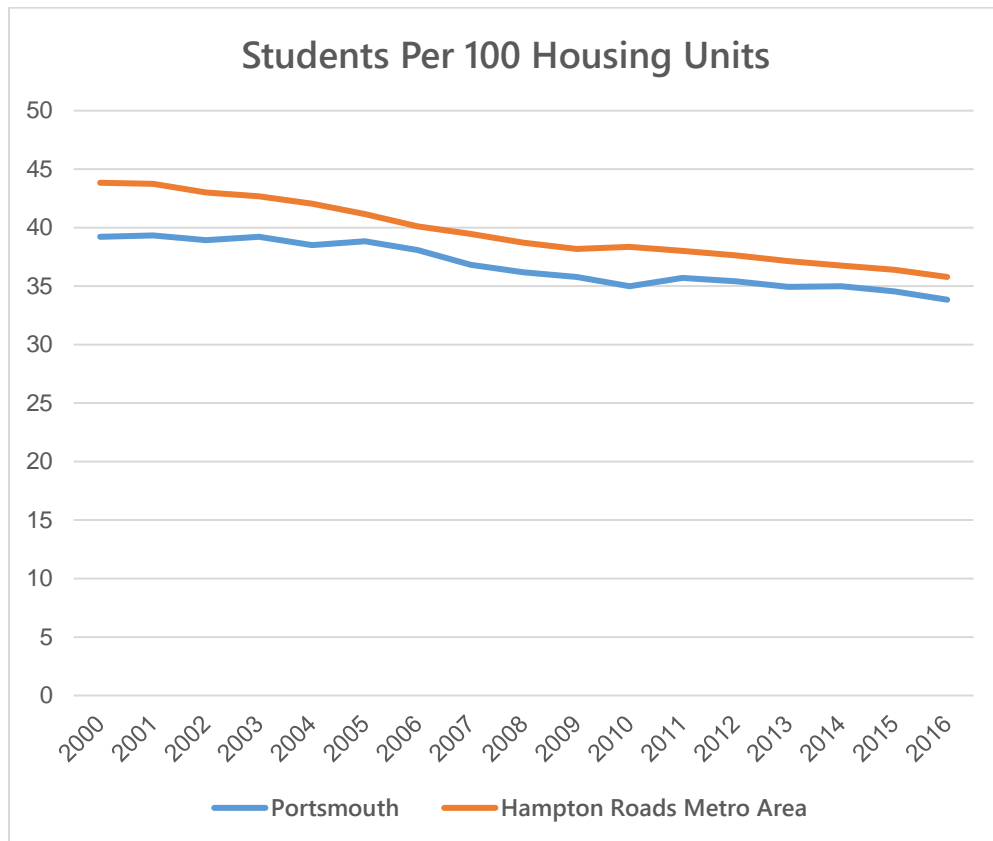
Source: Virginia Department of Education Fall Count, Census Bureau Decennial Housing Unit Counts and Weldon Cooper Center Housing Unit Estimates

The increase in housing stock in Portsmouth and Hampton Roads combined with a declining student enrollment has resulted in the number of students per housing unit to steadily fall since 2000. If the number of students per housing unit continues to shrink in Portsmouth, future housing developments will likely have even less of an impact on student enrollment than those built in recent decades (as depicted in the chart above). Since Portsmouth is largely built out, any planned housing developments large enough to impact enrollment would likely require rezoning from the city before building permits could be issued and construction started, providing Portsmouth City more time to prepare for the impact on student enrollment.

The reason that school-age populations in Portsmouth and Hampton Roads have declined while their total populations have grown is that their older adult populations (those outside the common age range to have children) have continued to grow, particularly their 65-and-older populations. The aging of Portsmouth's population means that more residents over age 65, instead of families with children, are moving into new homes.

65+ Population's Share of Virginia's Total Population Growth
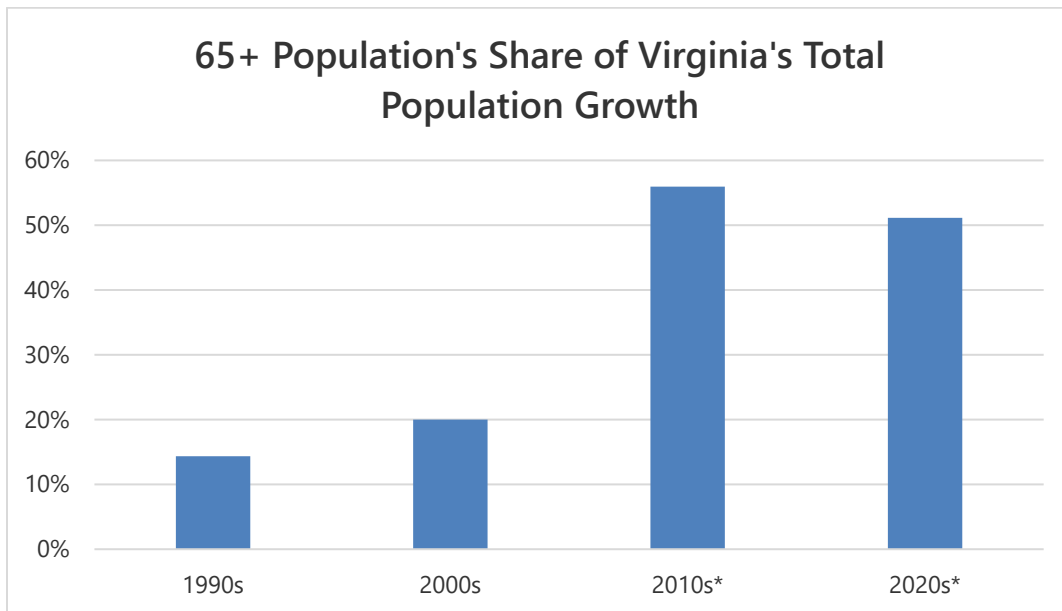
Sources: Decennial Census and Weldon Cooper Center Virginia Population Projections

Between now and 2030, the Weldon Cooper Center projects that Virginia's 65-and-older population is expected to account for the majority of the Commonwealth's population growth. In contrast, fewer births since the recession means that there will be less growth in the school-age population over the next five years. In the longer term, as the large Millenial generation continues to age, the Weldon Cooper Center projects that within many Virginia communities, including Portsmouth, there will be a decline in the size of the population likely to have children.

Student Enrollment Projections

The first step in producing the fifteen-year student enrollment projections for Portsmouth City was to project births in the city over the next ten years. As noted earlier, the number of births in Portsmouth should continue to gradually decline as the number of women of child-bearing age declines.

Three different projection scenarios were then developed based on short-, medium- and long-term student enrollment trends in Portsmouth City. All three projections show enrollment declining steadily by 2,000 or more students between the 2016-2017 school year and the 2031-2032 school year. Overall, there is fairly little difference between the three enrollment projections.

Portsmouth Enrollment and Projection Scenarios

Legend:
- Short Term Trends Projection
- Medium Term Trends Projection
- Long Term Trends Projection
- Enrollment
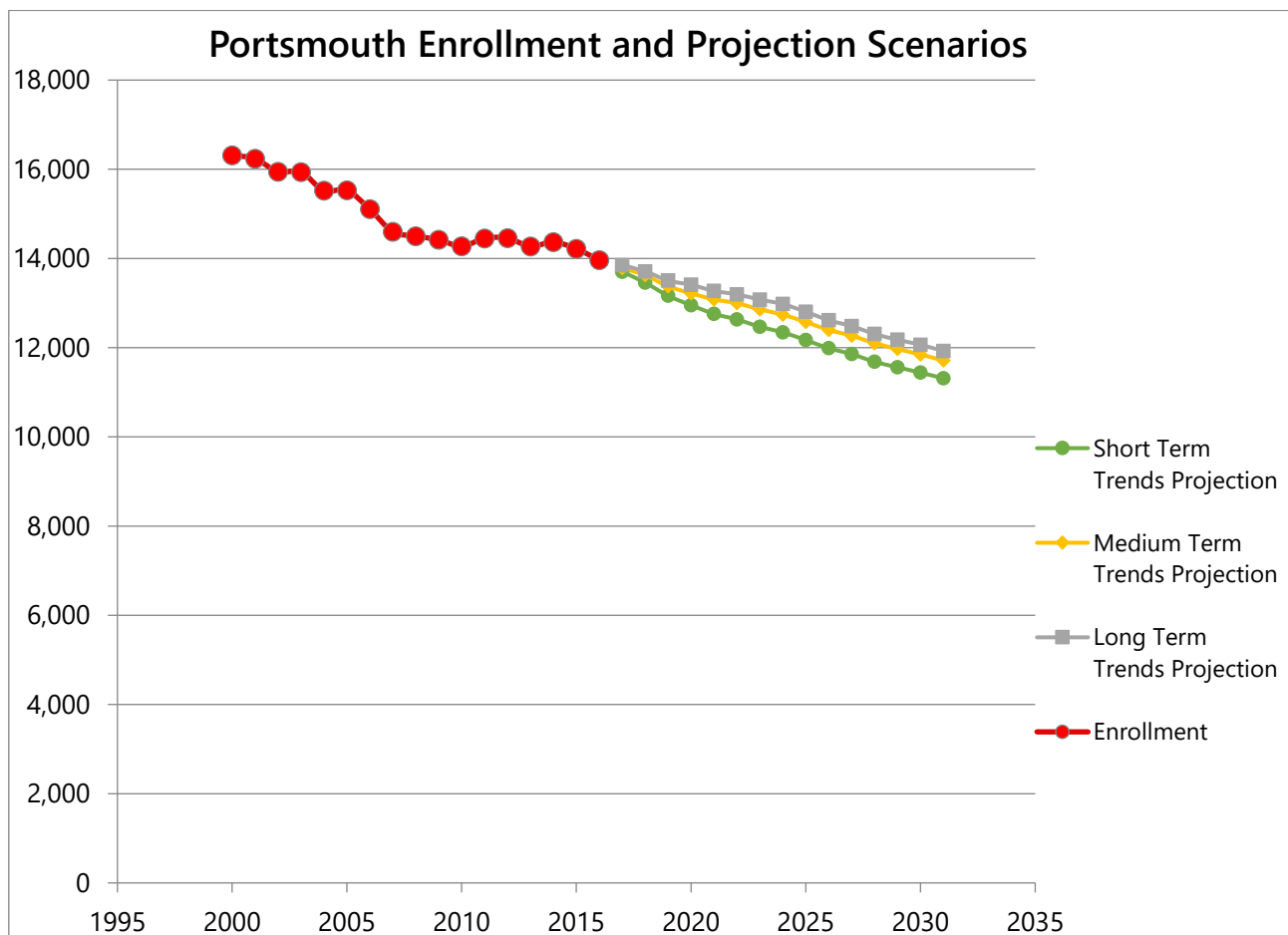
The medium-term trends scenario was used for the enrollment projection since it balances out longer term trends which project slightly less enrollment decline with short term trends which project more enrollment decline.

Enrollment Projections by Grade

	K	1	2	3	4	5	6	7	8	9	10	11	12	Total K-12
2016-17	1,222	1,247	1,167	1,204	1,116	1,030	1,031	962	1,029	1,139	1,027	879	911	13,964
2017-18	1,210	1,198	1,214	1,134	1,136	1,067	995	980	936	1,135	1,004	882	895	13,786
2018-19	1,211	1,183	1,171	1,181	1,071	1,082	1,027	947	956	1,034	999	862	903	13,626
2019-20	1,157	1,176	1,151	1,140	1,106	1,018	1,036	966	921	1,053	909	859	885	13,377
2020-21	1,203	1,128	1,149	1,123	1,068	1,055	972	974	942	1,012	927	785	882	13,219
2021-22	1,205	1,175	1,100	1,118	1,055	1,018	1,013	919	949	1,038	890	797	804	13,083
2022-23	1,177	1,175	1,146	1,071	1,050	1,005	976	957	896	1,045	914	766	817	12,997
2023-24	1,149	1,146	1,146	1,116	1,005	1,000	963	920	932	986	919	787	786	12,858
2024-25	1,121	1,121	1,119	1,117	1,048	958	959	909	897	1,026	868	792	806	12,740
2025-26	1,094	1,093	1,093	1,089	1,049	998	919	905	885	988	903	747	811	12,575
2026-27	1,086	1,067	1,067	1,065	1,023	999	957	867	882	975	869	778	766	12,399
2027-28	1,078	1,059	1,041	1,039	1,000	975	958	903	845	971	858	748	797	12,269
2028-29	1,070	1,051	1,033	1,013	975	953	934	904	880	930	854	739	767	12,102
2029-30	1,062	1,043	1,025	1,006	951	929	913	881	880	969	818	736	757	11,971
2030-31	1,054	1,035	1,018	998	944	907	891	861	859	969	852	705	754	11,847
2031-32	1,046	1,027	1,010	991	937	900	869	840	839	946	853	734	722	11,715

2016-2021 PROJECTION

During the next five years, Portsmouth is likely to experience its largest projected decline in enrollment. Total enrollment is projected to decline by 745 students by the fall of 2021. Nearly half the decline in enrollment should be concentrated in the high school grades as smaller student cohorts currently in the middle and upper elementary grades progress to high school.

Enrollment 2016 to 2021
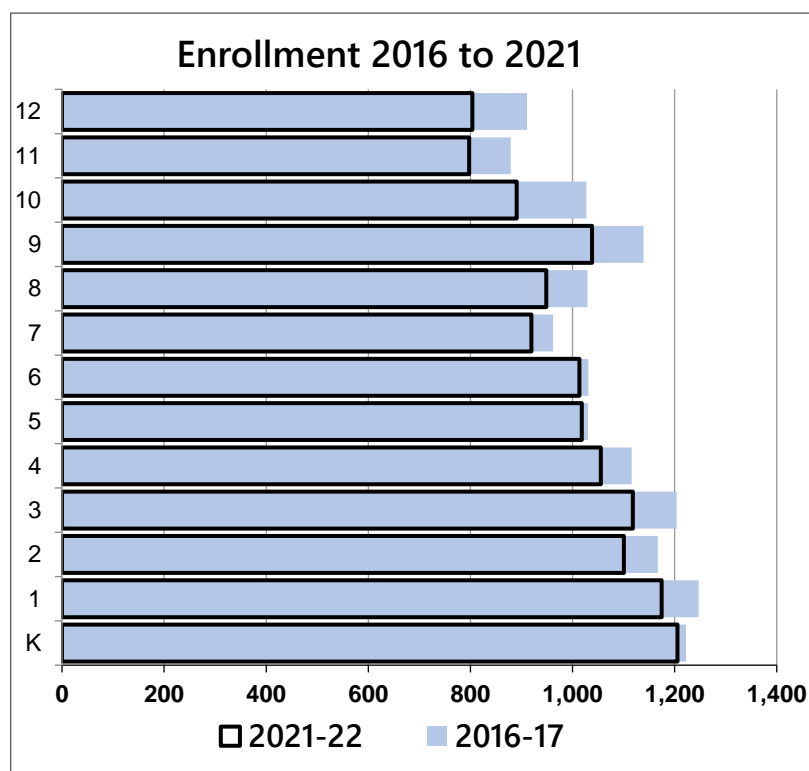
2021 – 2026 PROJECTION

From the fall of 2021 until 2026, enrollment is projected to continue to fall by 685 students. Much of the projected decline in enrollment is expected to be concentrated in the lower elementary grades as a result of the expected decline in Portsmouth's births.

Enrollment 2021 to 2026

Legend: ☐ 2026-27 ■ 2021-22
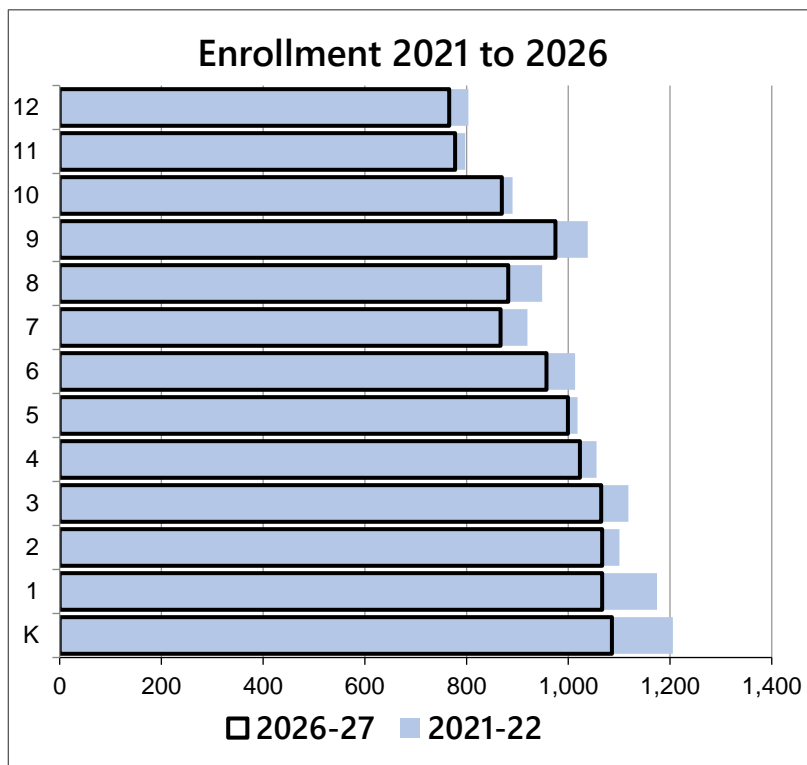
2026-2031 PROJECTION

Between the fall of 2026 and 2031, student enrollment is projected to continue declining at a steady rate: 684 students. Enrollment decline is projected to spread throughout the grades, with some of the largest declines expected to be in the upper elementary grades as smaller student cohorts progress.

Enrollment 2026 to 2031

Legend: ☐ 2031-32 ■ 2026-27

Portsmouth K-12 Enrollment
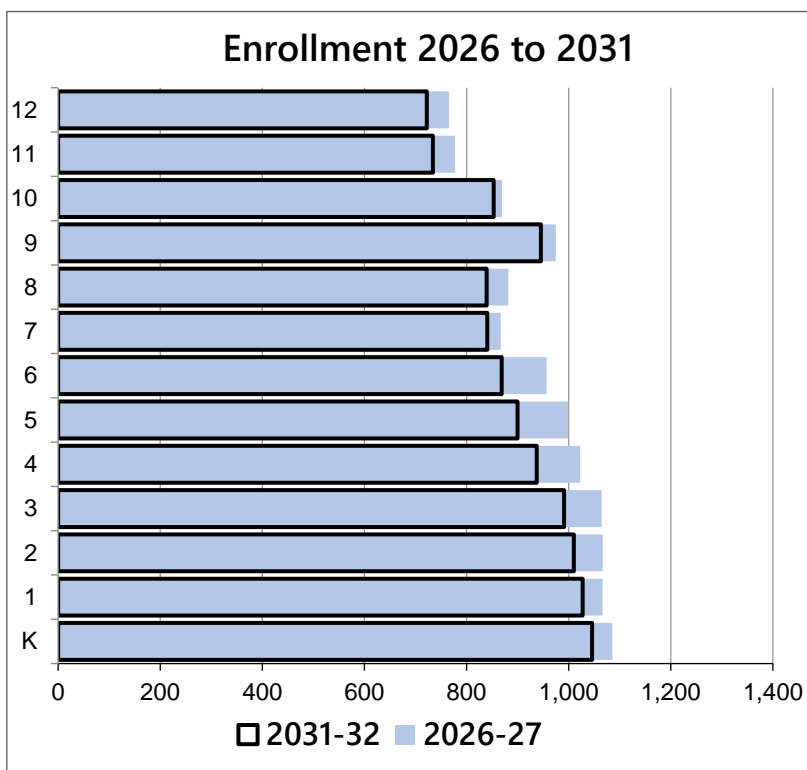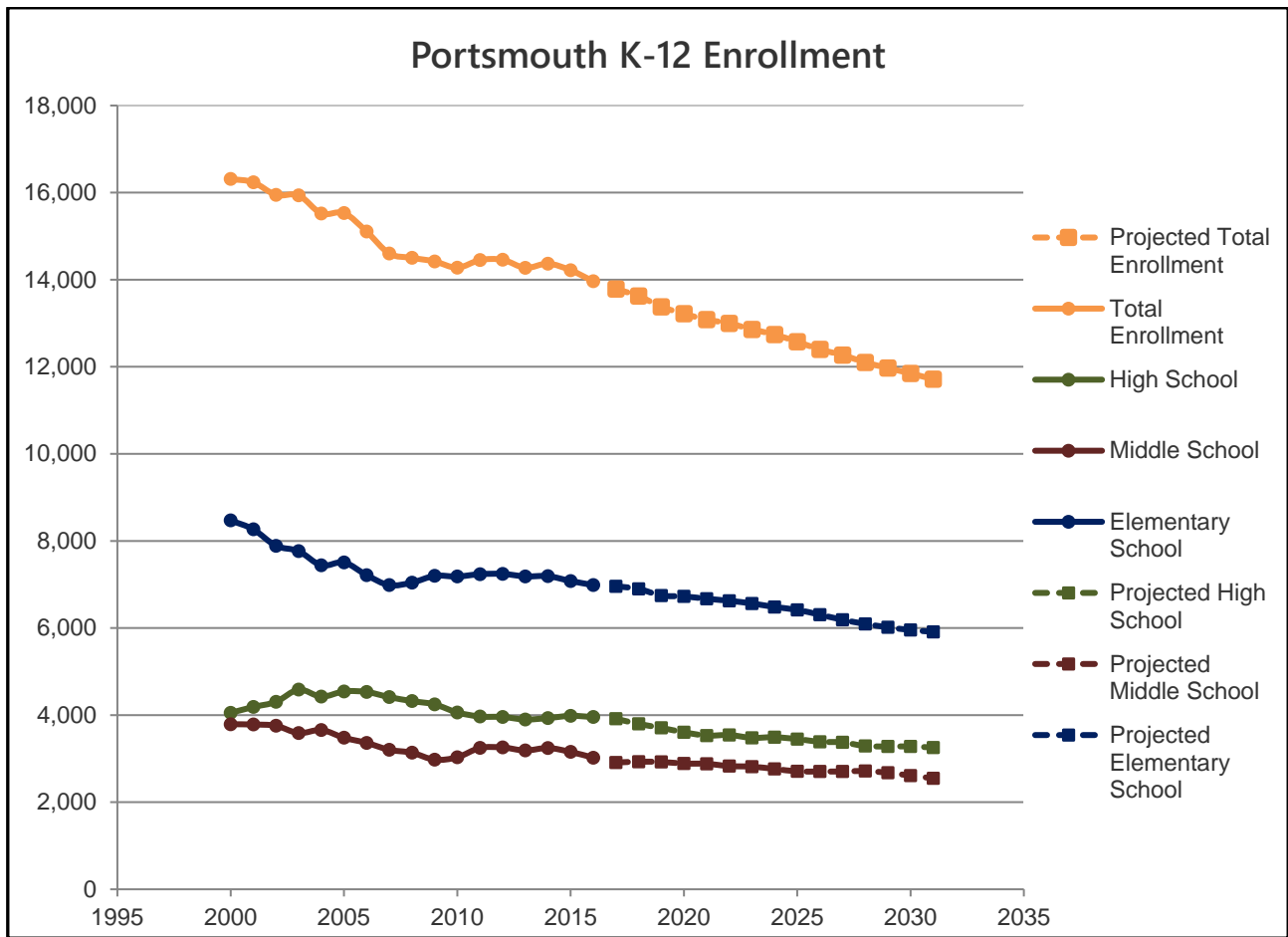
Since there is less than a six percent difference among the projected student enrollments in all three scenarios, the enrollment projections should have relatively low margins of error. The two factors mentioned earlier that could change enrollment trends—births and family migration—will need to be monitored by Portsmouth City Public Schools (note that Portsmouth can obtain birth data from the Weldon Cooper Center). If births began to increase after 2017 or if a large housing development is approved in Portsmouth City, these projections should be reexamined.

Part II: School Enrollment Projections

Brighton Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	69	83	69	69	70	58	57	476
2017-18	69	82	69	69	70	58	57	475
2018-19	72	73	75	76	54	67	54	472
2019-20	70	75	67	82	59	51	58	462
2020-21	71	73	69	73	65	55	46	454
2021-22	72	75	67	76	57	62	50	459
2022-23	71	76	69	73	59	54	56	457
2023-24	69	74	69	75	57	56	49	449
2024-25	67	72	67	75	59	54	50	445
2025-26	65	70	66	74	59	56	49	439
2026-27	65	68	64	72	58	56	50	433
2027-28	64	68	63	70	56	55	50	427
2028-29	64	67	62	69	55	53	49	420
2029-30	63	67	62	68	54	52	48	414
2030-31	63	66	61	68	53	51	47	409
2031-32	62	66	61	67	53	50	46	405
Change	-7	-17	-9	-2	-17	-8	-11	(70)

Brighton Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32   ■ 2016-17

Brighton Elementary 2016-17 School Enrollment Projections

Total Enrollment

Legend:
- Projected Enrollment
- Historic Enrollment

Churchland Academy 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	109	113	96	70	90	93	90	661
2017-18	111	102	111	84	64	87	88	646
2018-19	111	102	93	93	75	61	83	619
2019-20	105	104	96	77	85	73	59	597
2020-21	110	97	98	81	70	82	69	608
2021-22	110	102	91	82	73	67	78	604
2022-23	107	102	96	76	75	71	64	591
2023-24	105	100	96	81	69	72	68	590
2024-25	102	98	93	80	73	66	69	582
2025-26	100	95	91	78	73	71	63	571
2026-27	99	93	89	77	71	70	67	566
2027-28	98	92	87	75	70	69	67	557
2028-29	98	91	86	73	68	67	65	548
2029-30	97	91	86	72	66	66	64	541
2030-31	96	90	85	72	66	64	62	535
2031-32	95	89	84	71	65	63	61	530
Change	-14	-24	-12	1	-25	-30	-29	(131)

Churchland Academy 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

Churchland Academy 2016-17 School Enrollment Projections
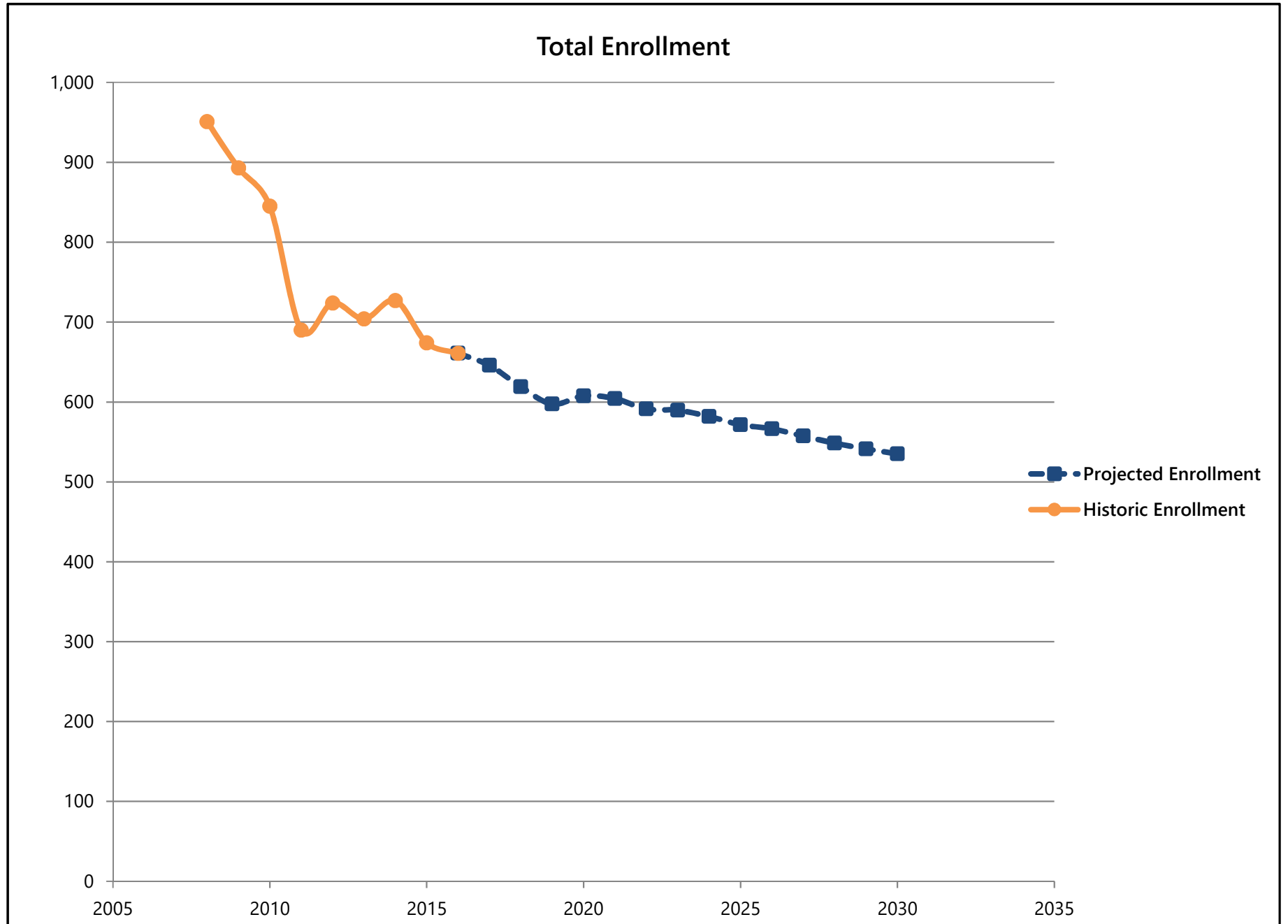
Total Enrollment

Churchland Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	109	120	130	119	116	107	110	811
2017-18	112	116	110	133	122	109	108	811
2018-19	111	119	110	114	137	116	113	819
2019-20	105	116	112	114	115	131	119	813
2020-21	111	111	109	116	116	109	134	805
2021-22	110	117	104	113	118	111	112	785
2022-23	108	116	110	108	115	112	114	783
2023-24	105	114	109	114	110	109	115	775
2024-25	102	111	106	113	116	105	111	764
2025-26	100	108	104	111	115	110	107	755
2026-27	99	106	102	108	112	109	113	749
2027-28	99	105	99	105	110	107	112	736
2028-29	98	104	98	103	107	104	110	724
2029-30	97	103	98	102	104	102	107	713
2030-31	96	103	97	101	104	99	104	705
2031-32	96	102	96	101	103	99	102	698
Change	-13	-18	-34	-18	-13	-8	-8	(113)

Churchland Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

■ 2031-32   ■ 2016-17

Churchland Elementary 2016-17 School Enrollment Projections

Total Enrollment

Legend:
- Projected Enrollment
- Historic Enrollment
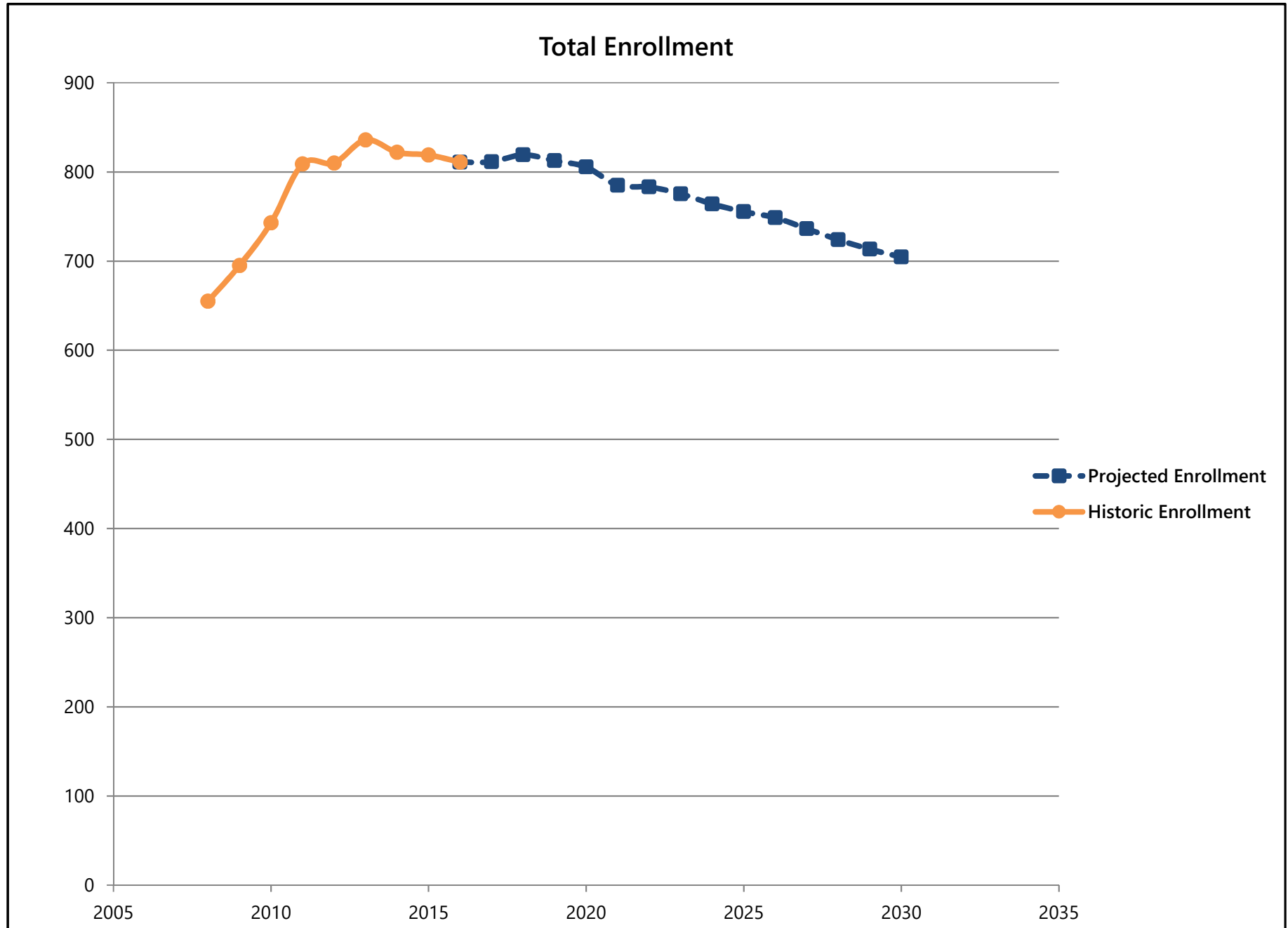
Churchland Primary and Intermediate 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	75	95	72	108	76	92	86	604
2017-18	74	79	96	74	106	76	99	604
2018-19	79	79	81	97	73	106	83	598
2019-20	72	83	80	85	95	75	112	602
2020-21	76	76	84	82	84	96	81	579
2021-22	77	80	78	87	81	85	103	591
2022-23	75	81	82	80	85	82	90	576
2023-24	73	78	82	84	79	86	88	571
2024-25	71	77	80	84	83	80	92	567
2025-26	69	75	78	82	83	84	86	558
2026-27	69	73	76	80	81	84	90	554
2027-28	68	73	74	78	79	82	90	545
2028-29	68	72	74	76	77	80	88	535
2029-30	67	71	73	76	75	78	86	527
2030-31	67	71	73	75	75	76	84	521
2031-32	66	70	72	75	74	76	82	515
Change	-9	-25	0	-33	-2	-16	-4	(89)

Churchland Primary and Intermediate 2016-17 School Enrollment Projections
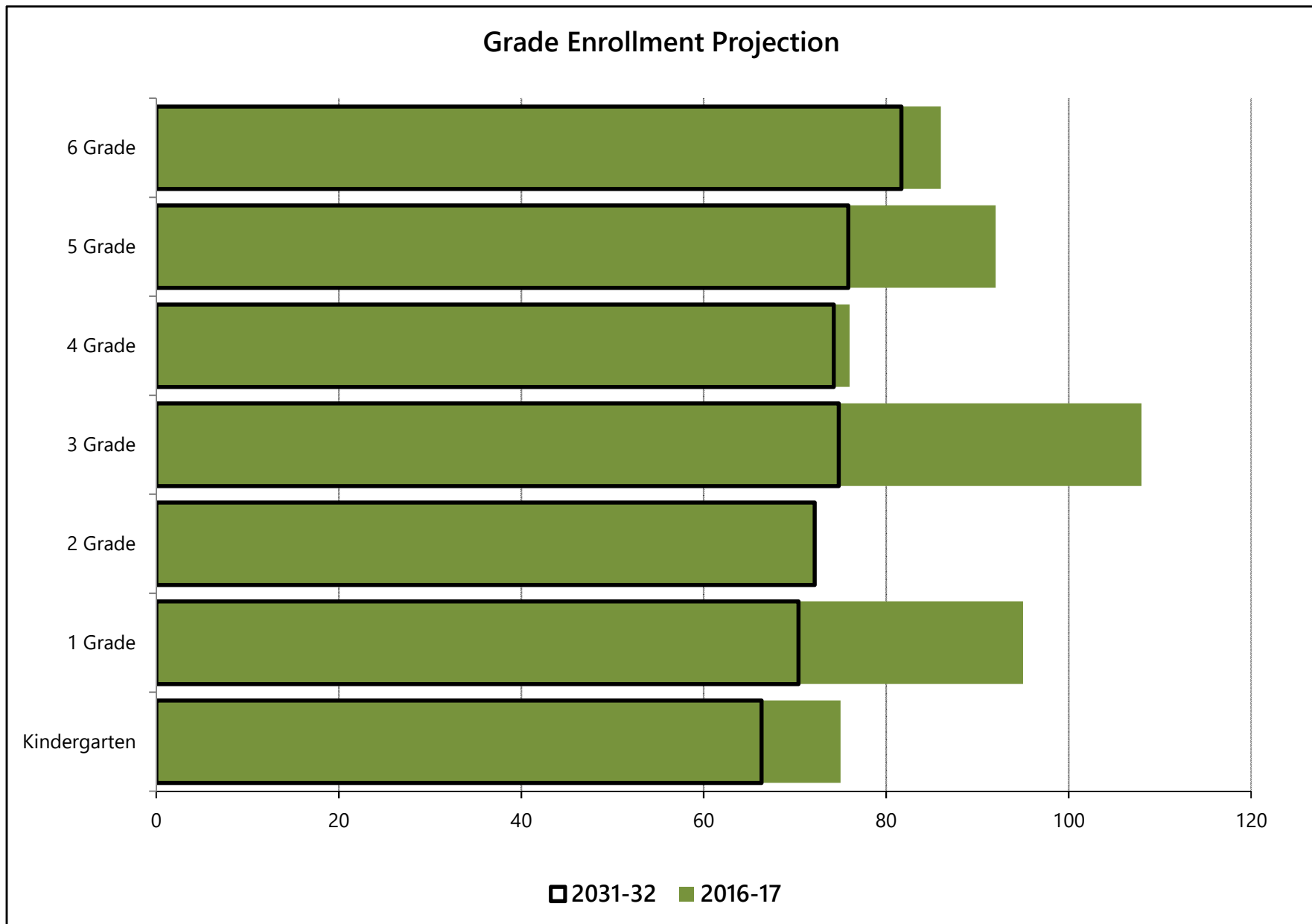
Grade Enrollment Projection

Legend: ☐ 2031-32 ■ 2016-17

Churchland Primary and Intermediate 2016-17 School Enrollment Projections
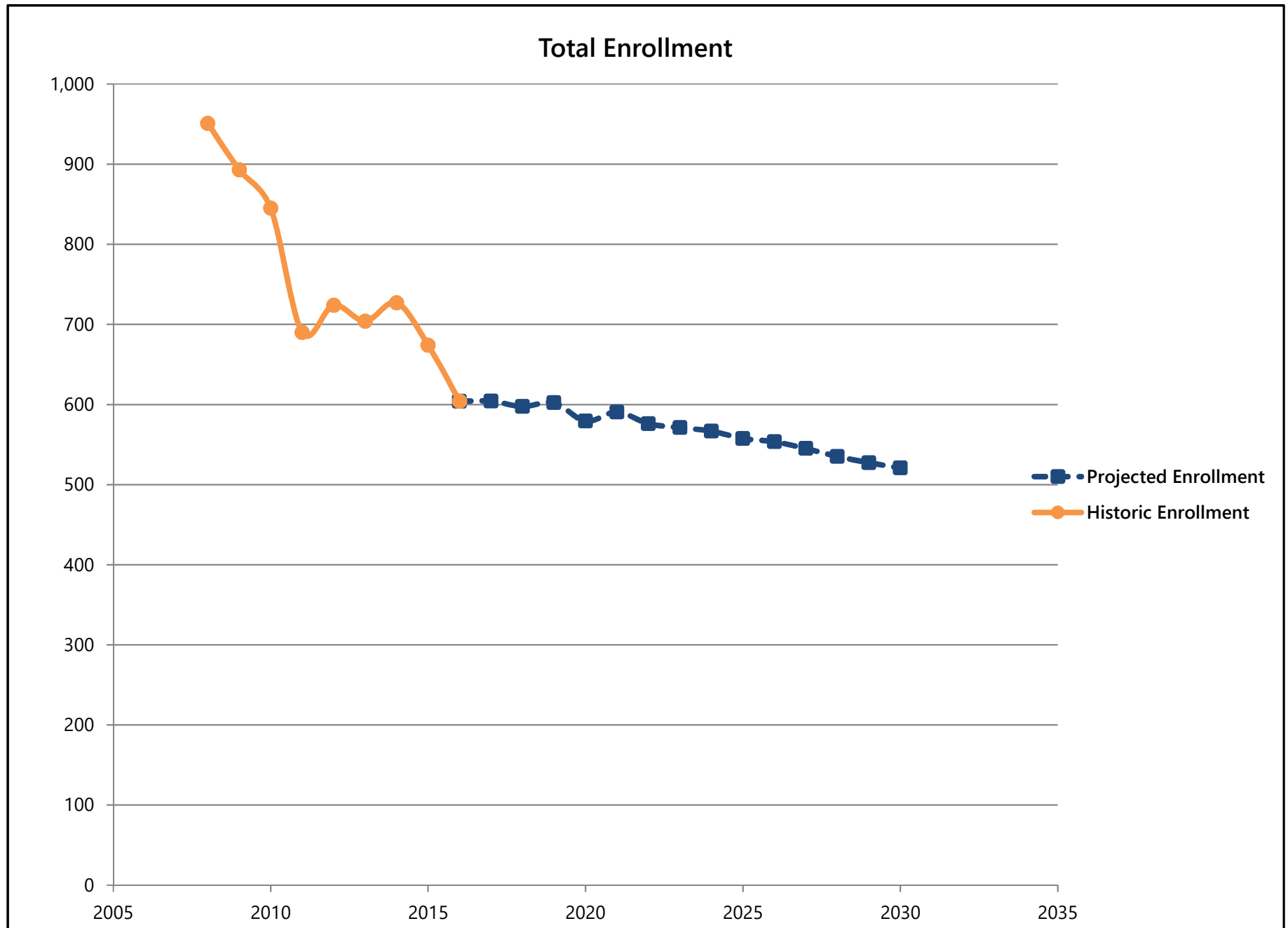
Total Enrollment

Douglas Park Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	114	111	108	109	88	91	106	727
2017-18	111	110	110	110	96	90	87	714
2018-19	111	103	106	111	91	97	84	703
2019-20	102	101	102	106	91	94	92	687
2020-21	106	95	102	104	87	97	91	682
2021-22	105	100	96	103	85	92	93	674
2022-23	103	100	100	98	87	89	89	666
2023-24	101	98	101	103	82	92	86	662
2024-25	98	95	98	102	85	87	88	653
2025-26	96	93	96	100	85	90	84	643
2026-27	95	90	93	97	83	90	87	637
2027-28	94	90	91	95	81	88	87	627
2028-29	94	89	90	93	79	86	85	617
2029-30	93	88	90	92	78	84	83	608
2030-31	92	88	89	91	77	82	81	601
2031-32	92	87	89	91	76	81	79	595
Change	-22	-24	-19	-18	-12	-10	-27	(132)

Douglas Park Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: ☐ 2031-32 ■ 2016-17

Douglas Park Elementary 2016-17 School Enrollment Projections

Total Enrollment

Legend:
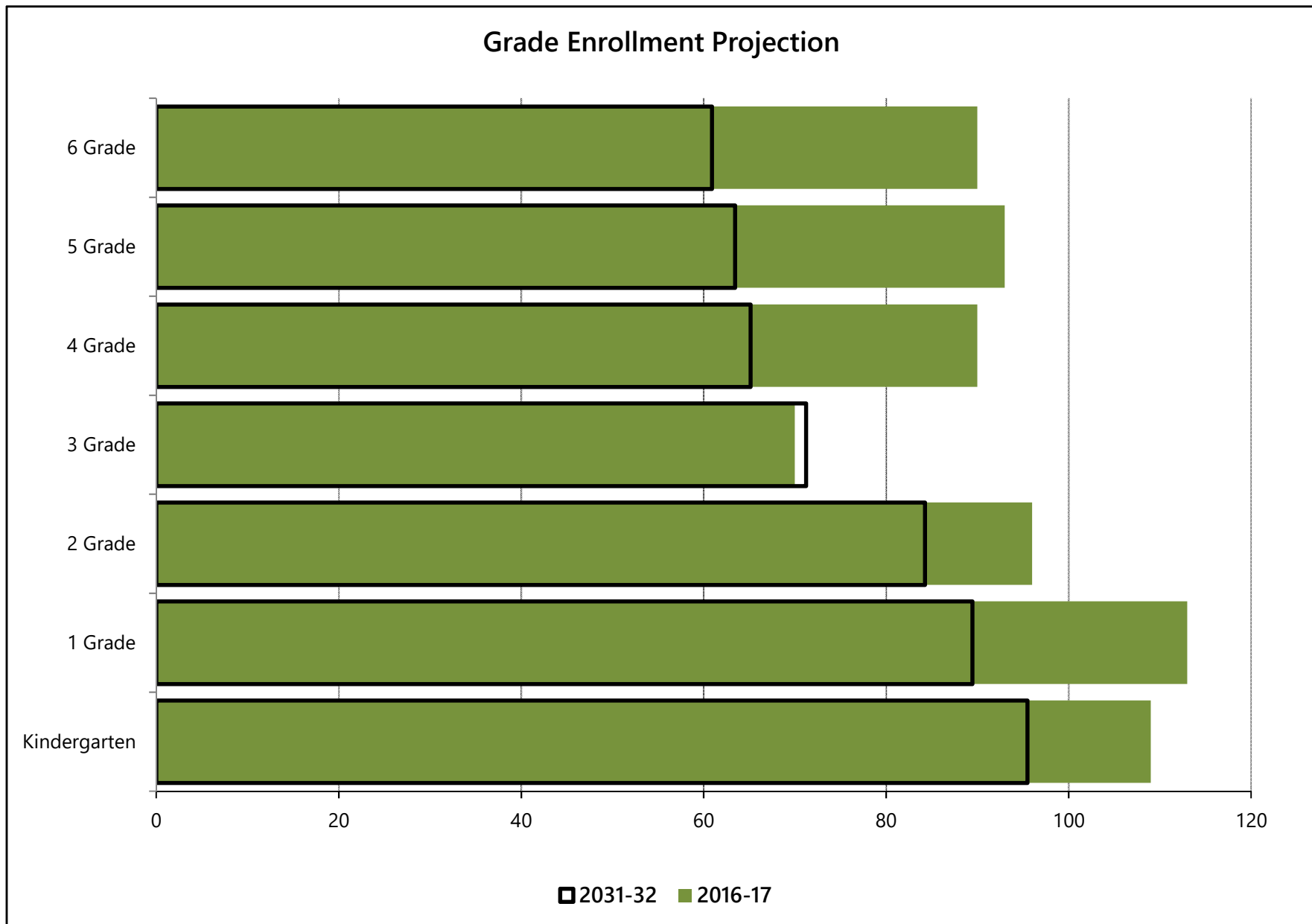- Projected Enrollment
- Historic Enrollment
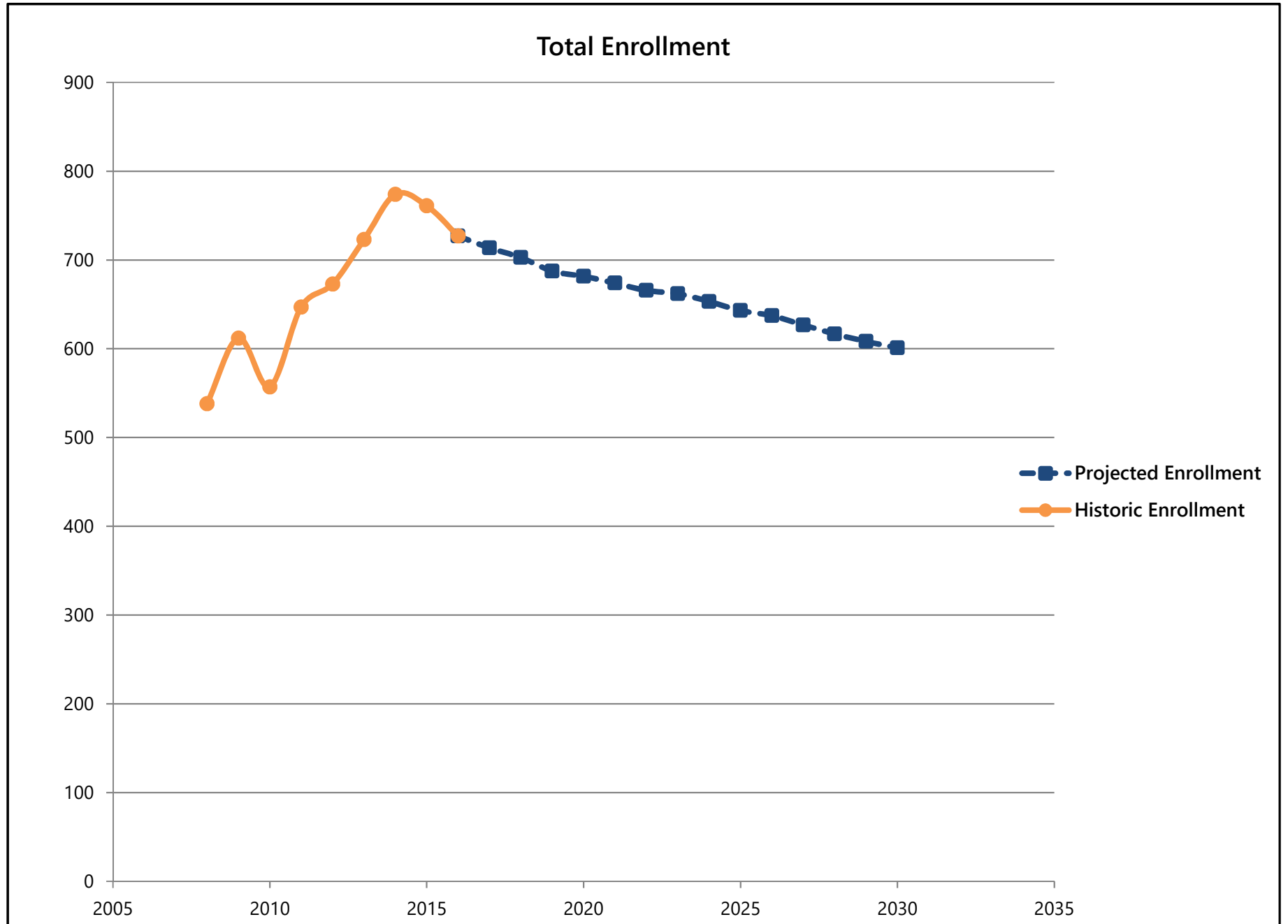
Hodges Manor Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	84	81	87	84	80	80	82	578
2017-18	72	86	87	88	83	77	78	572
2018-19	74	77	92	88	88	80	76	576
2019-20	72	79	83	93	88	84	78	576
2020-21	77	75	86	83	93	84	81	580
2021-22	76	79	82	86	84	89	82	579
2022-23	73	80	86	83	86	80	87	575
2023-24	72	77	86	86	83	82	78	564
2024-25	70	75	83	86	86	79	80	560
2025-26	69	74	82	84	87	82	77	554
2026-27	68	72	80	82	84	83	81	549
2027-28	67	71	78	80	82	80	81	539
2028-29	67	71	77	78	80	78	78	530
2029-30	67	70	76	78	78	77	77	522
2030-31	66	70	76	77	78	75	75	516
2031-32	66	69	75	77	77	74	73	511
Change	-18	-12	-12	-7	-3	-6	-9	(67)

Hodges Manor Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Horizontal axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

Categories (top to bottom): 6 Grade, 5 Grade, 4 Grade, 3 Grade, 2 Grade, 1 Grade, Kindergarten

Legend: ☐ 2031-32   ■ 2016-17

Hodges Manor Elementary 2016-17 School Enrollment Projections
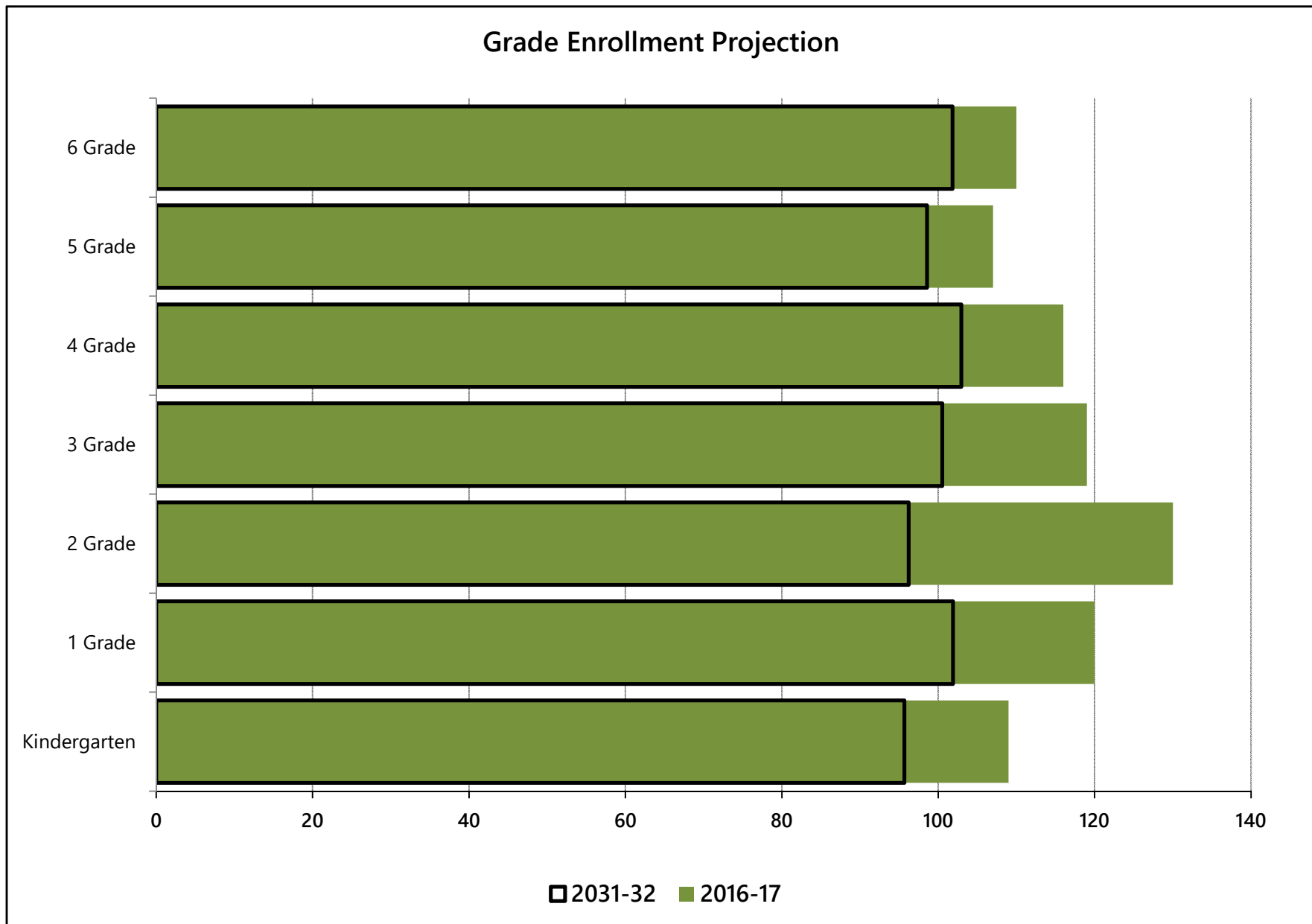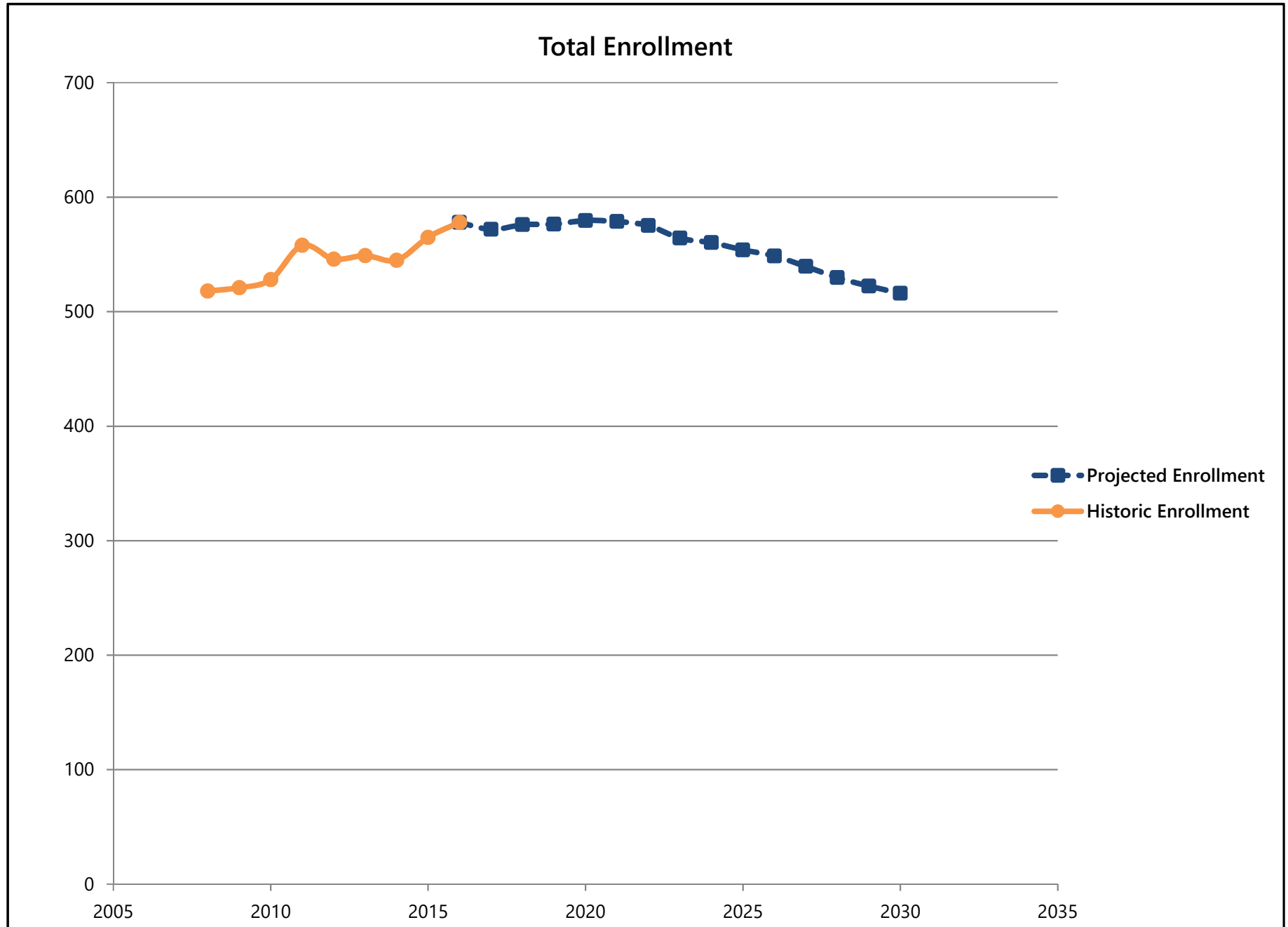
Total Enrollment

James Hurst Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	105	114	102	94	100	77	74	666
2017-18	108	118	105	97	103	80	76	688
2018-19	107	105	110	100	89	102	78	690
2019-20	105	98	96	99	90	85	96	669
2020-21	102	104	96	94	94	90	87	666
2021-22	106	98	97	92	86	94	89	661
2022-23	107	102	92	94	85	85	90	654
2023-24	104	104	98	90	89	85	83	652
2024-25	102	100	97	94	83	87	83	646
2025-26	99	97	94	93	86	82	85	635
2026-27	96	97	93	91	87	86	80	629
2027-28	95	92	90	89	84	85	83	619
2028-29	94	92	87	88	83	83	83	609
2029-30	94	91	87	84	81	82	81	600
2030-31	93	90	86	84	78	81	80	592
2031-32	92	90	85	83	78	78	79	585
Change	-13	-24	-17	-11	-22	1	5	(81)

James Hurst Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: ☐ 2031-32 ■ 2016-17

James Hurst Elementary 2016-17 School Enrollment Projections
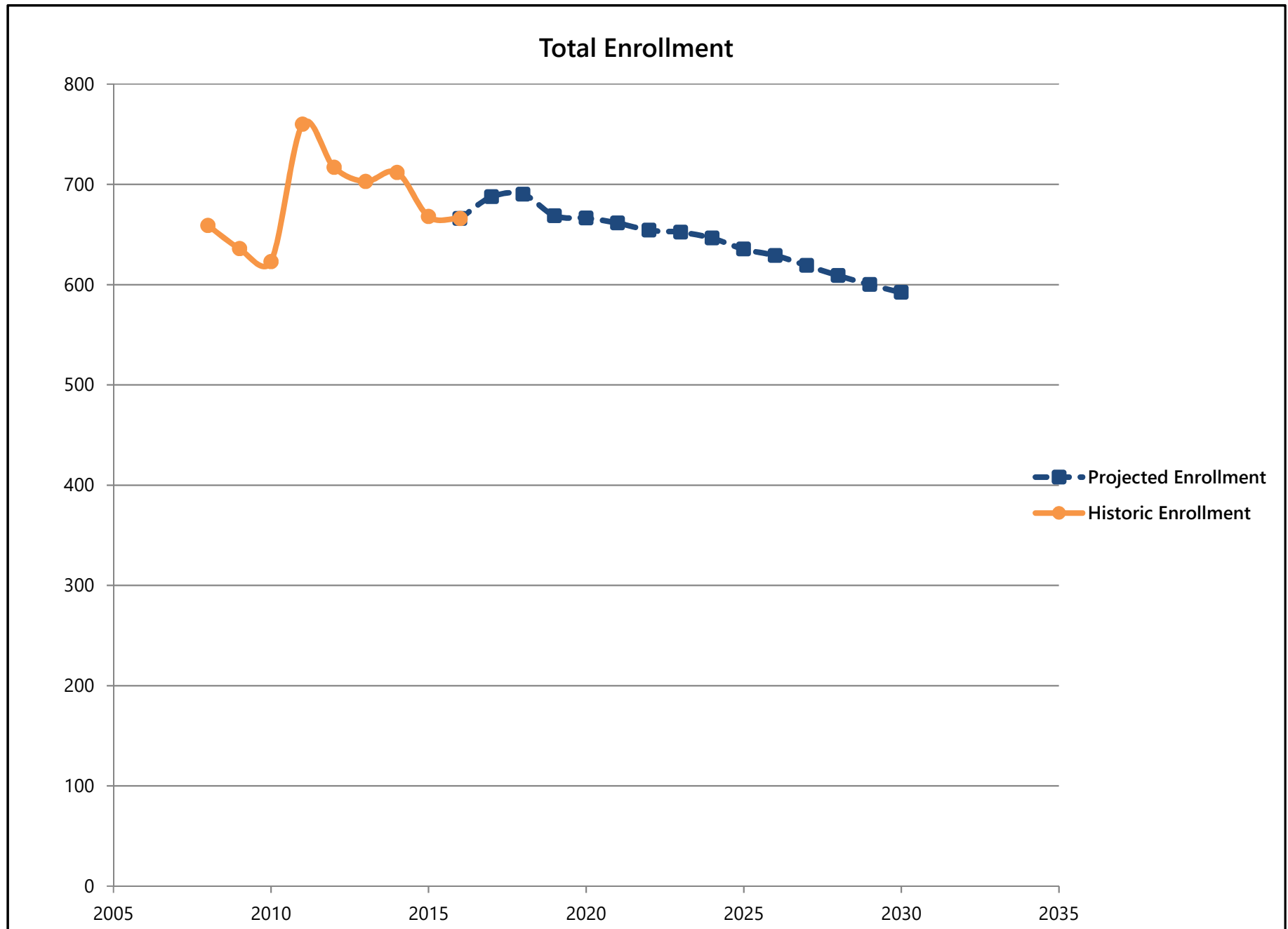
Total Enrollment

John Tyler Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	120	100	105	102	100	70	66	663
2017-18	119	110	87	98	95	94	62	665
2018-19	121	110	98	82	94	89	83	677
2019-20	114	107	97	92	77	86	77	650
2020-21	117	100	96	92	86	72	74	637
2021-22	119	105	91	92	87	81	62	636
2022-23	116	107	93	86	87	82	70	641
2023-24	113	104	95	88	81	81	70	633
2024-25	110	101	93	90	83	75	69	621
2025-26	107	98	90	88	85	78	65	612
2026-27	107	96	88	86	83	79	67	606
2027-28	106	96	86	83	81	78	68	598
2028-29	105	95	85	81	79	75	67	588
2029-30	104	94	85	81	77	73	65	579
2030-31	104	93	84	80	76	72	63	573
2031-32	103	93	83	80	76	71	62	568
Change	-17	-7	-22	-22	-24	1	-4	(95)

John Tyler Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: 2031-32, 2016-17

John Tyler Elementary 2016-17 School Enrollment Projections
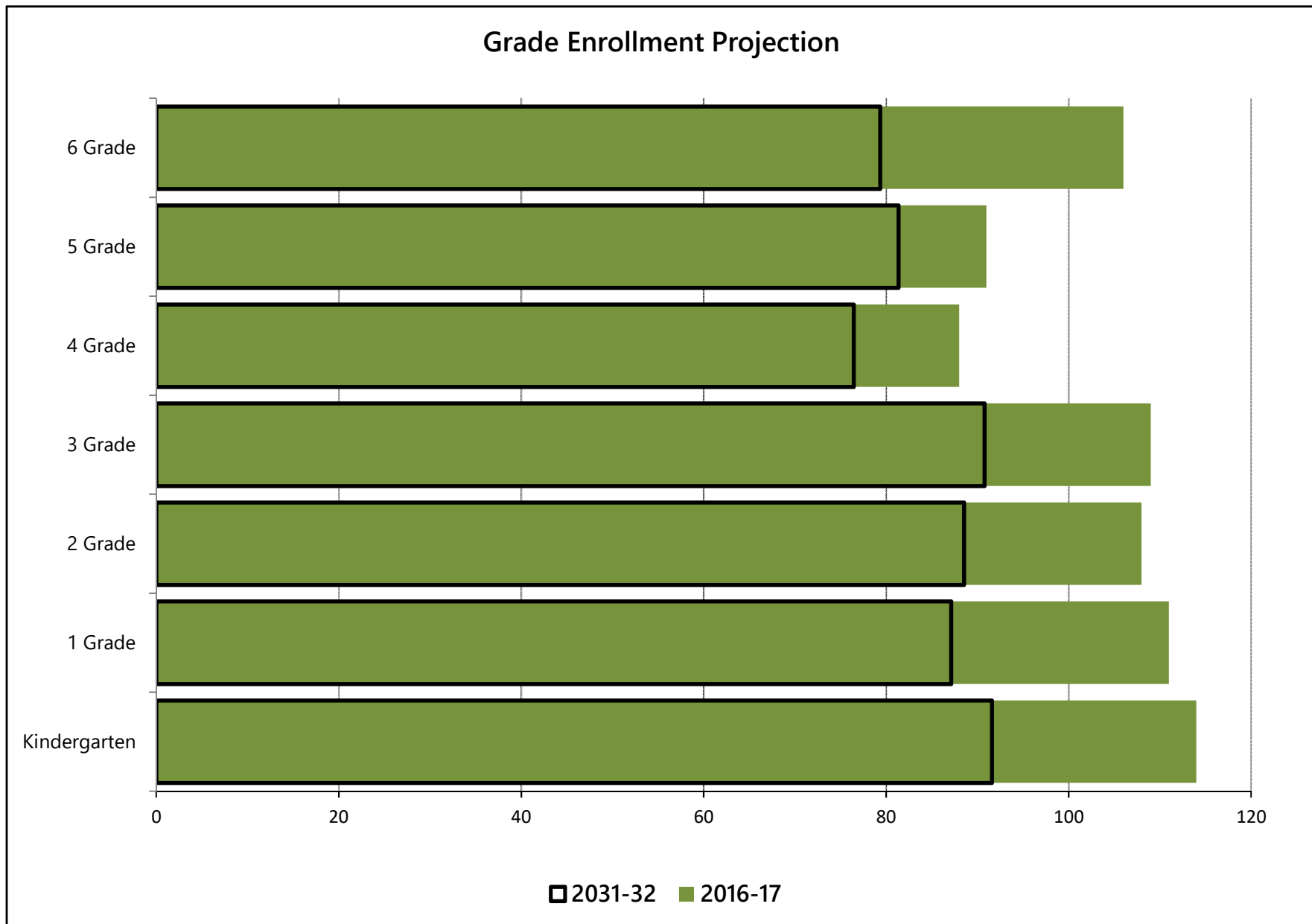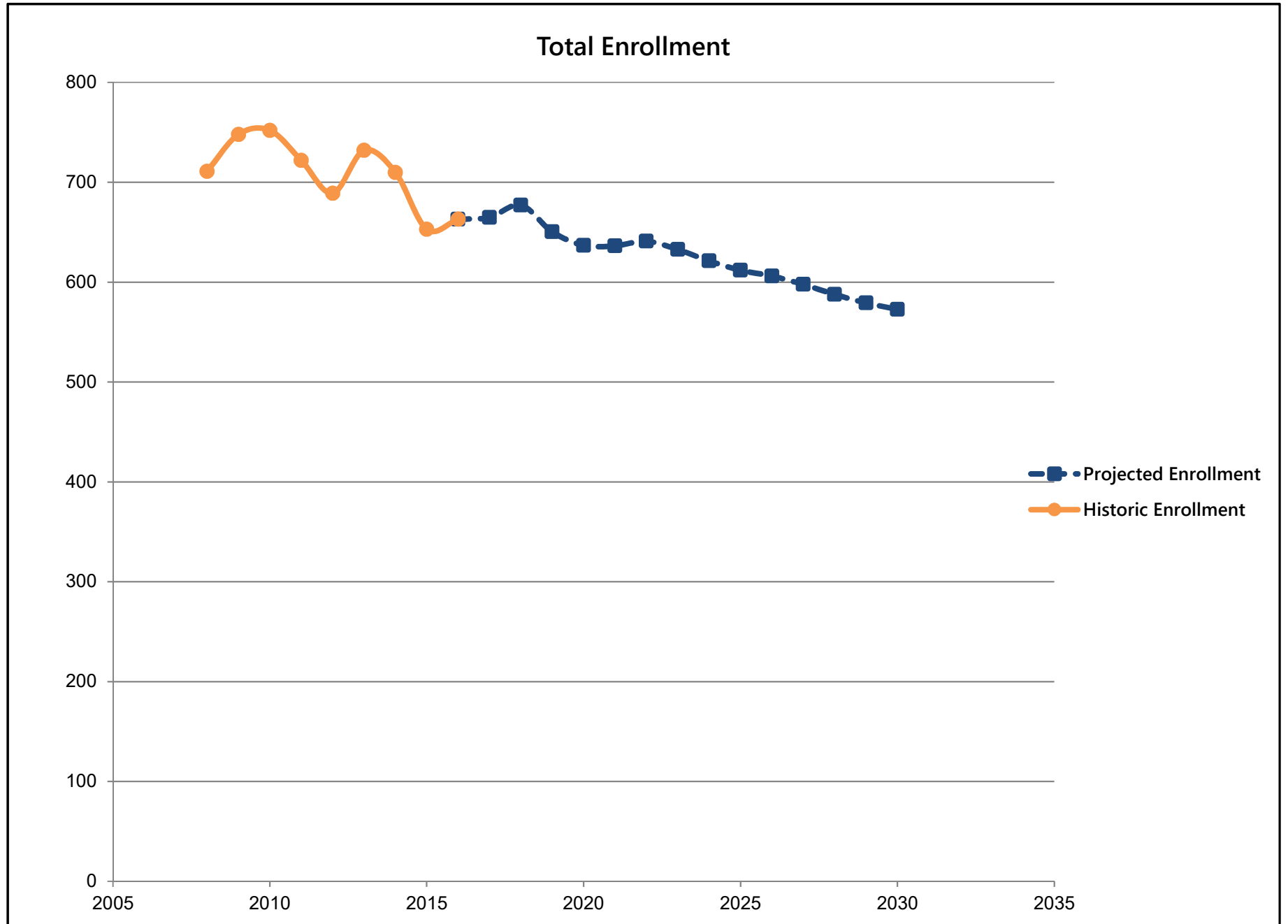

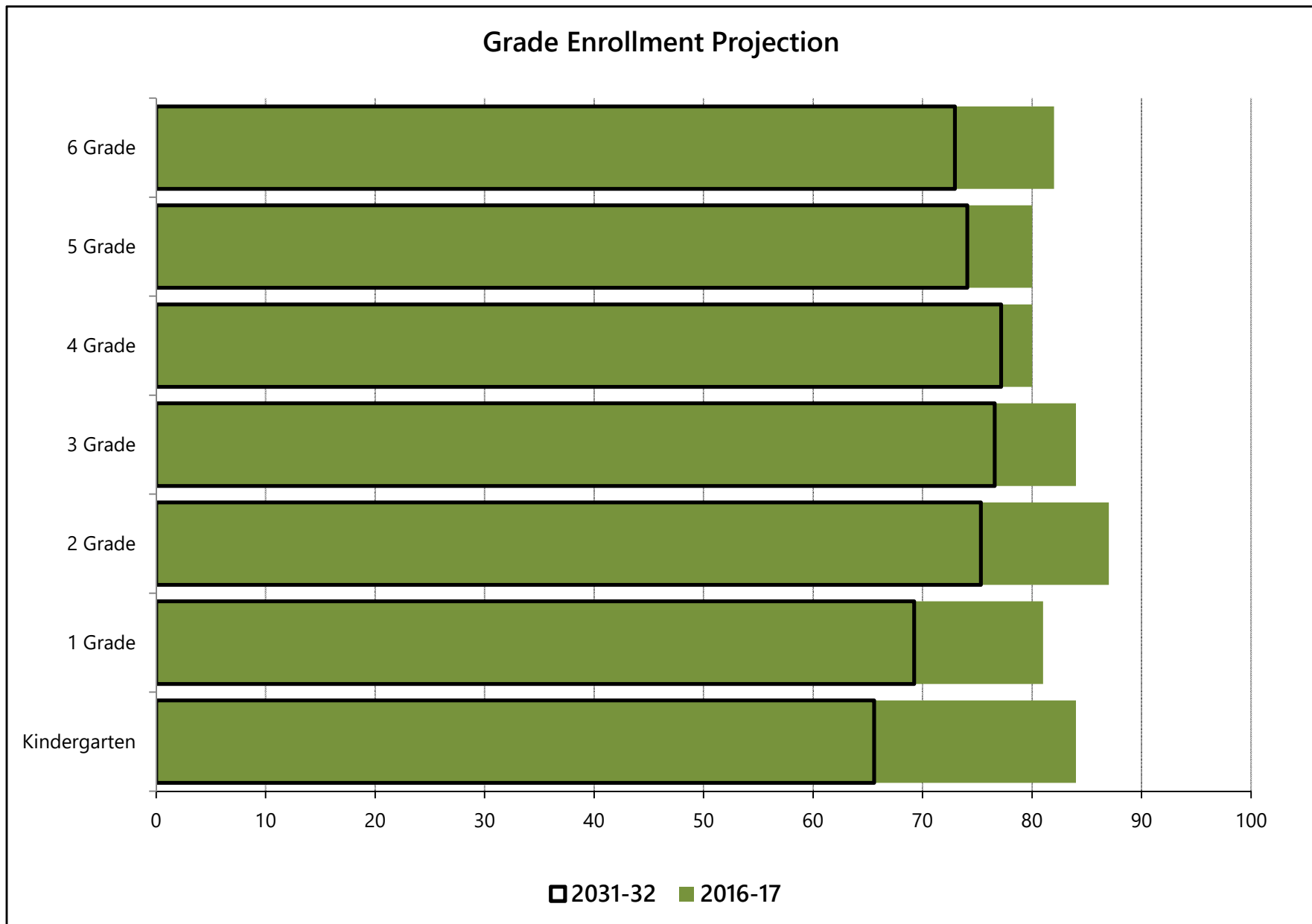**Total Enrollment**

Lakeview Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	59	67	65	73	70	43	65	442
2017-18	64	56	71	60	70	65	42	427
2018-19	62	59	59	68	56	62	63	429
2019-20	58	60	63	56	64	52	61	413
2020-21	62	55	63	59	52	59	51	402
2021-22	62	59	58	60	56	48	57	400
2022-23	60	59	62	55	56	51	47	391
2023-24	59	57	62	59	52	52	50	390
2024-25	57	56	60	58	55	48	50	385
2025-26	56	55	59	57	55	51	46	379
2026-27	56	53	58	56	54	51	50	376
2027-28	55	53	56	54	53	49	49	370
2028-29	55	52	56	53	51	48	48	363
2029-30	54	52	55	53	50	47	47	359
2030-31	54	52	55	52	50	46	46	354
2031-32	54	51	55	52	49	46	45	351
Change	-5	-16	-10	-21	-21	3	-20	(91)

Lakeview Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

Lakeview Elementary 2016-17 School Enrollment Projections

Total Enrollment

Legend:
- **Projected Enrollment**
- **Historic Enrollment**
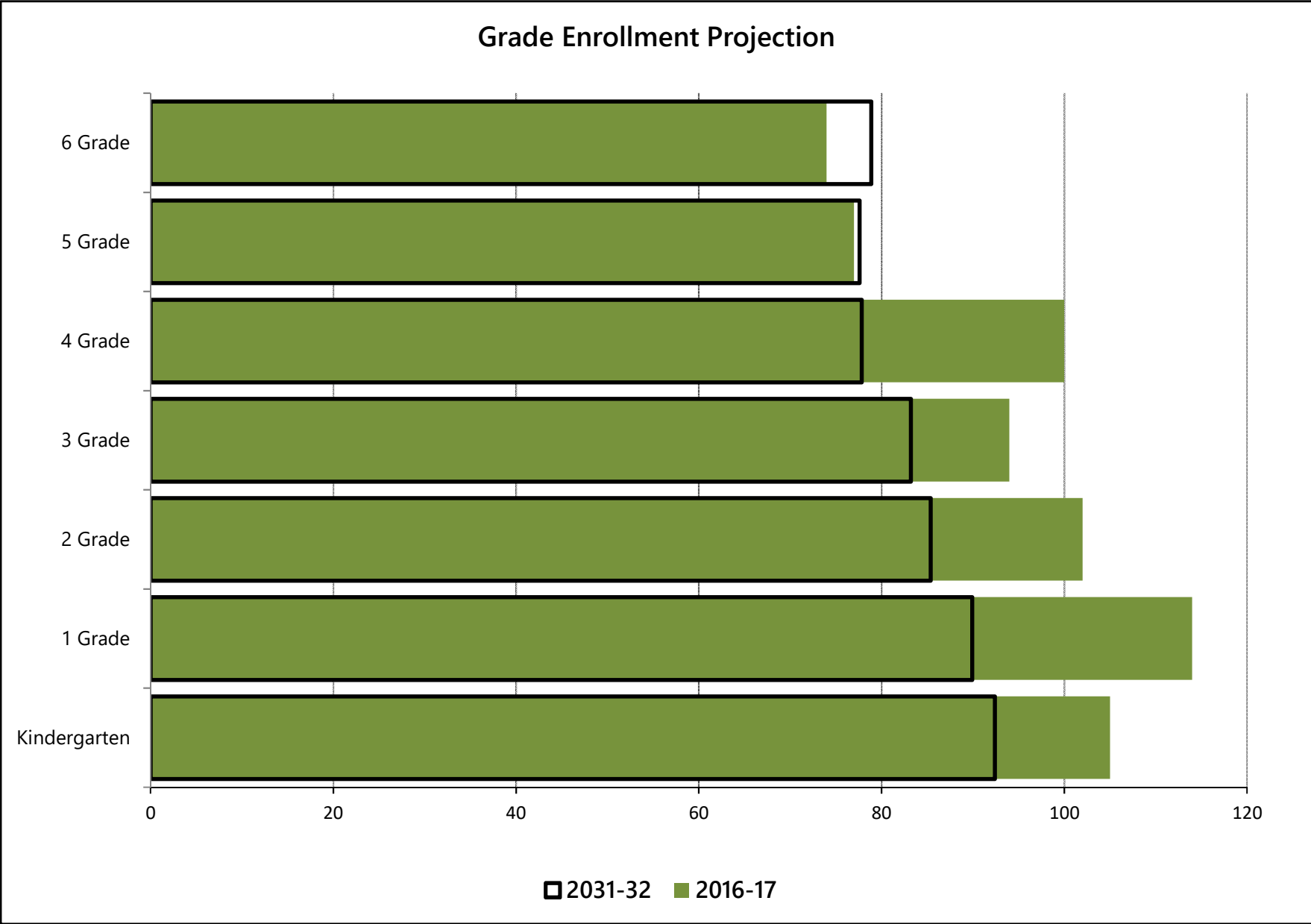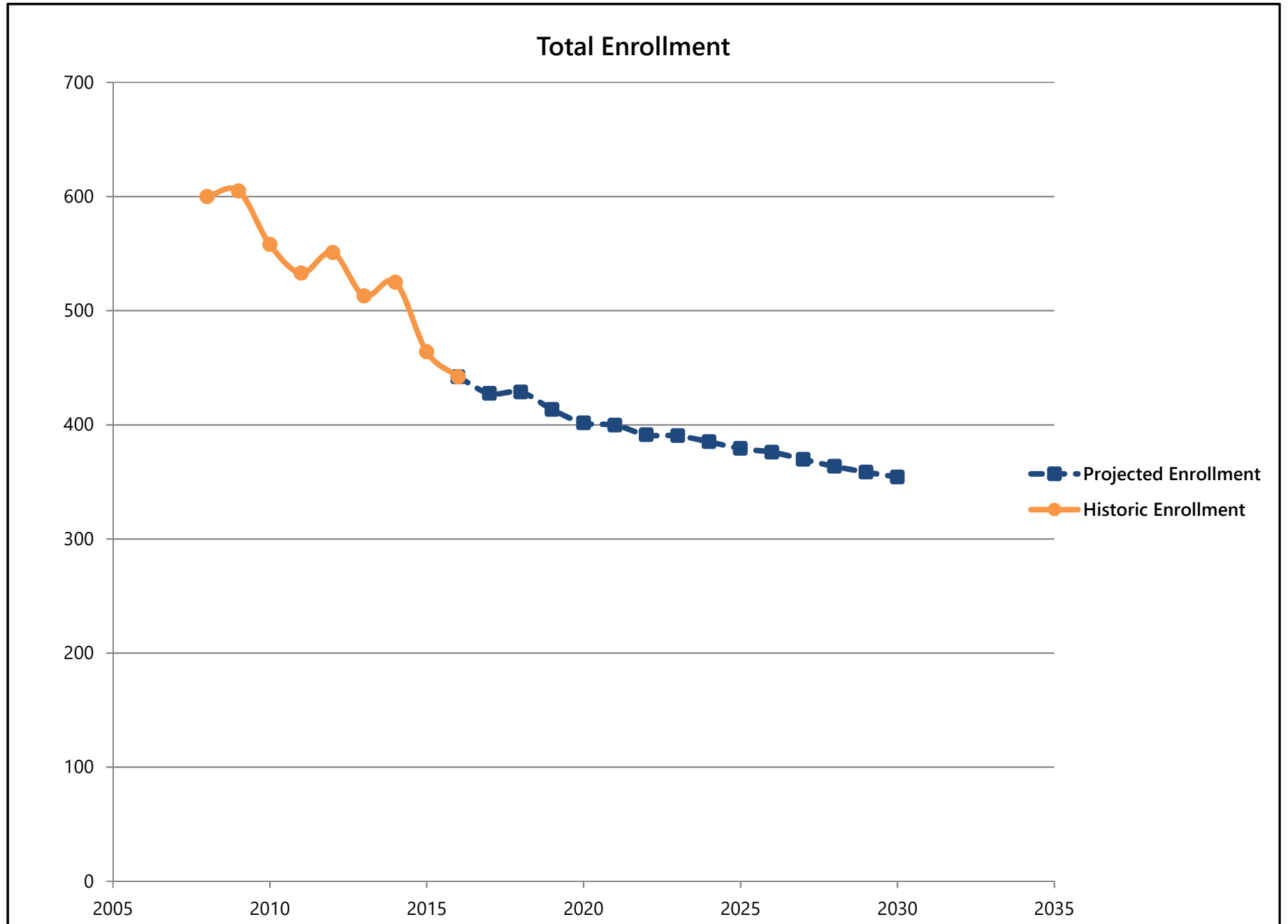
Park View Elementary 2016-17 School Enrollment Projections
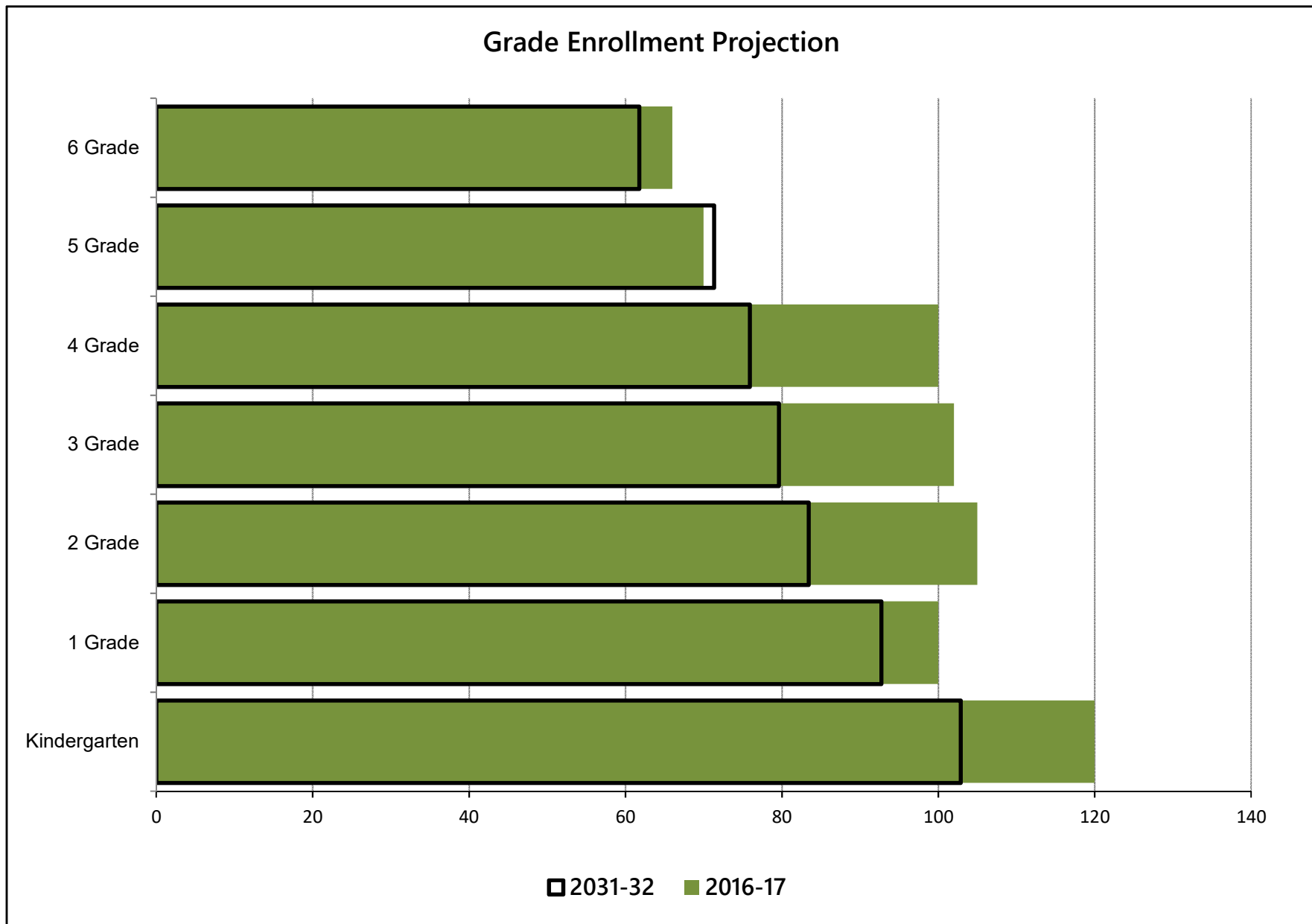
Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	82	81	67	83	78	74	78	543
2017-18	84	71	79	63	82	71	70	520
2018-19	84	72	71	75	63	73	67	505
2019-20	79	73	70	65	72	54	70	484
2020-21	84	68	72	65	64	64	52	468
2021-22	83	72	67	67	64	56	61	471
2022-23	81	72	71	62	66	56	54	462
2023-24	80	70	71	66	61	58	53	458
2024-25	77	68	69	66	64	54	55	453
2025-26	76	67	67	64	64	57	51	446
2026-27	75	65	66	62	63	57	54	442
2027-28	75	65	64	61	61	55	54	435
2028-29	74	64	64	59	60	54	53	427
2029-30	73	64	63	59	58	53	51	422
2030-31	73	63	63	59	58	51	50	417
2031-32	72	63	62	58	57	51	49	413
Change	-10	-18	-5	-25	-21	-23	-29	(130)

Park View Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

X-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90

Categories (top to bottom): 6 Grade, 5 Grade, 4 Grade, 3 Grade, 2 Grade, 1 Grade, Kindergarten

Park View Elementary 2016-17 School Enrollment Projections
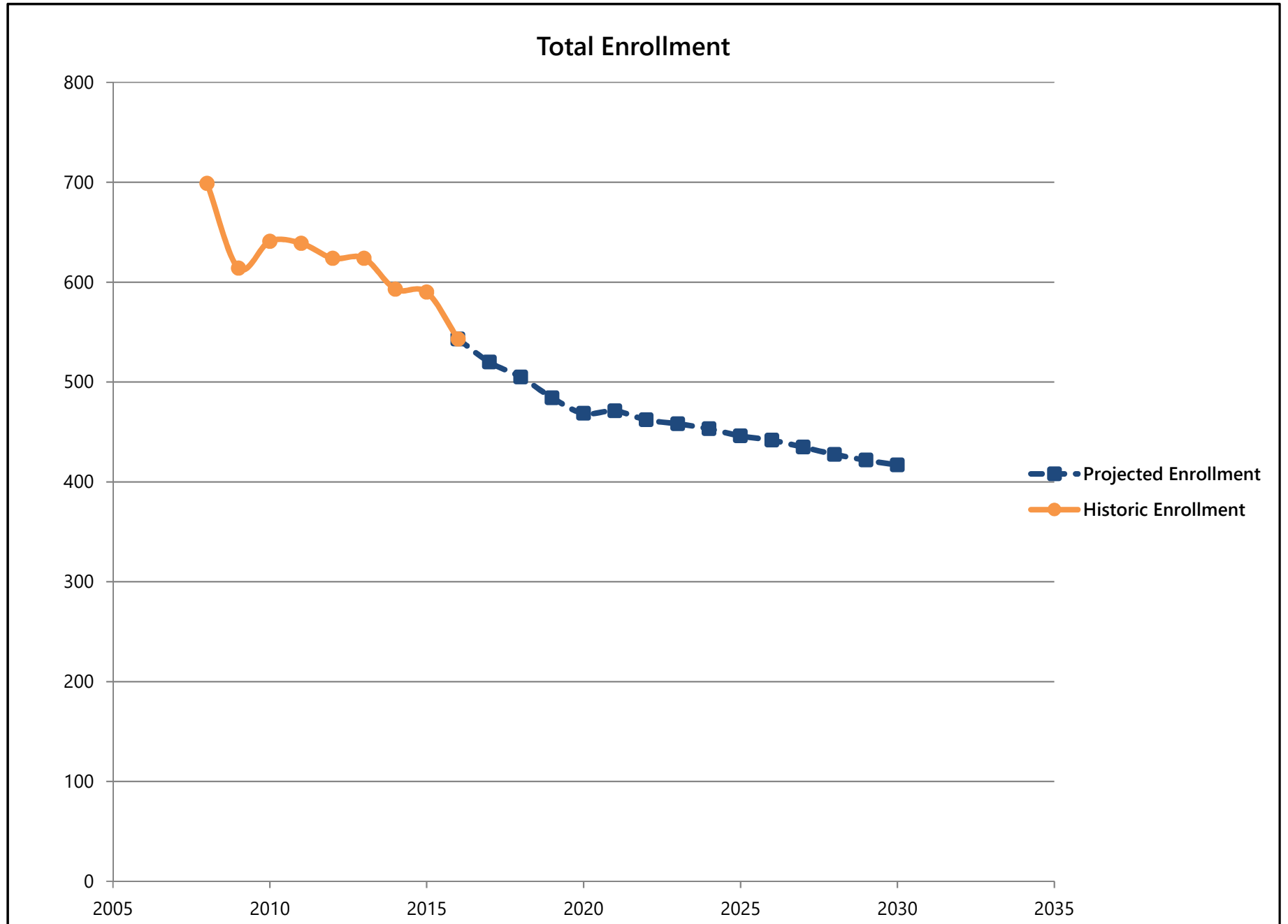
Total Enrollment

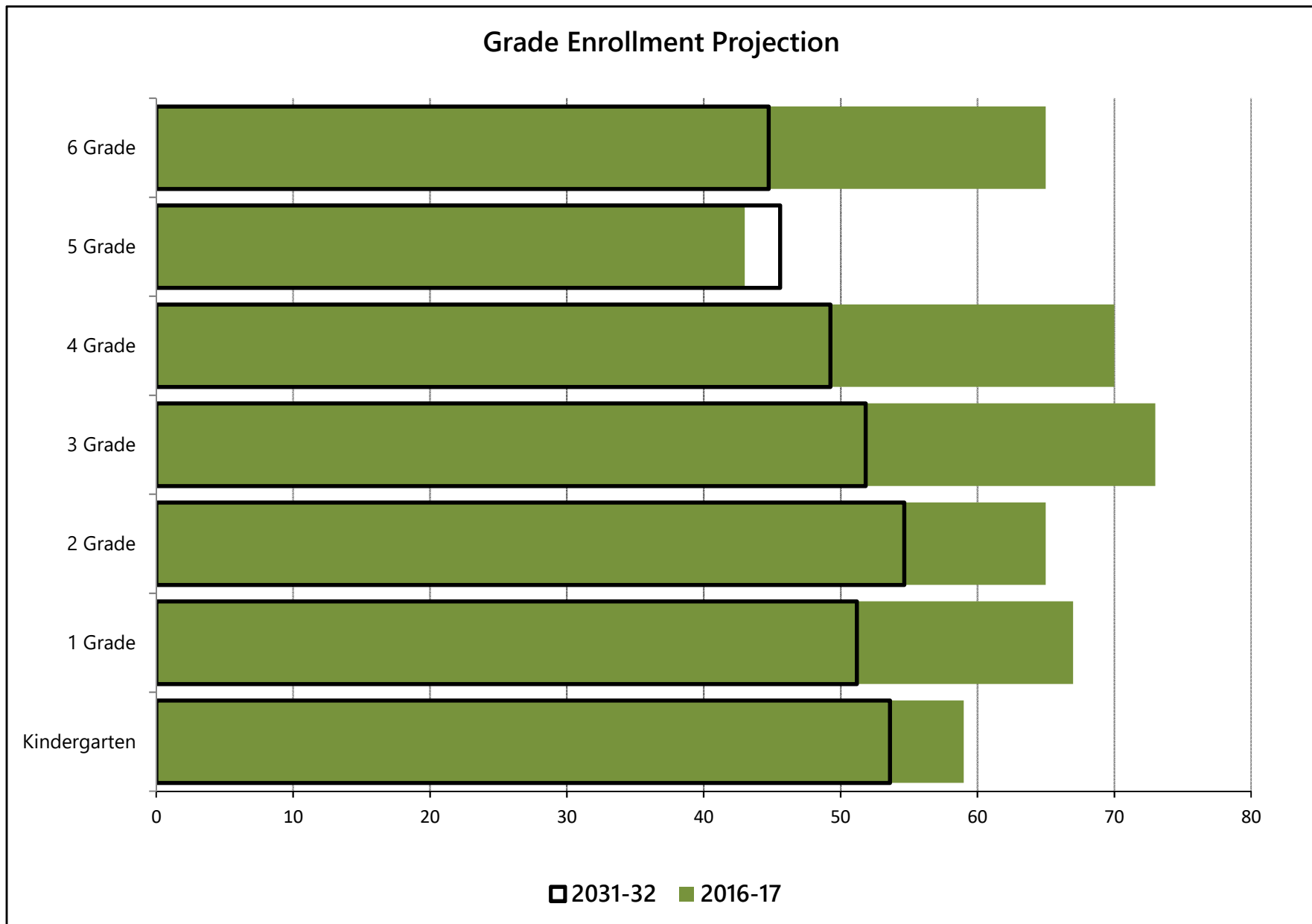# Simonsdale Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	95	104	90	102	93	112	86	682
2017-18	92	98	106	83	96	88	103	665
2018-19	93	97	96	97	78	94	81	636
2019-20	88	98	93	89	91	76	86	621
2020-21	92	93	97	86	83	88	70	608
2021-22	92	97	90	89	81	81	81	611
2022-23	90	97	95	84	84	78	74	602
2023-24	88	95	95	87	78	81	72	596
2024-25	86	92	92	87	82	75	74	589
2025-26	84	90	90	85	82	79	69	581
2026-27	83	88	88	83	80	79	73	575
2027-28	83	87	86	81	78	77	73	566
2028-29	82	87	85	79	76	75	71	556
2029-30	81	86	85	79	74	74	69	549
2030-31	81	86	84	78	74	72	68	542
2031-32	80	85	84	78	73	71	66	537
Change	-15	-19	-6	-24	-20	-41	-20	(145)

Simonsdale Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

■ 2031-32   ■ 2016-17

Simonsdale Elementary 2016-17 School Enrollment Projections

Total Enrollment

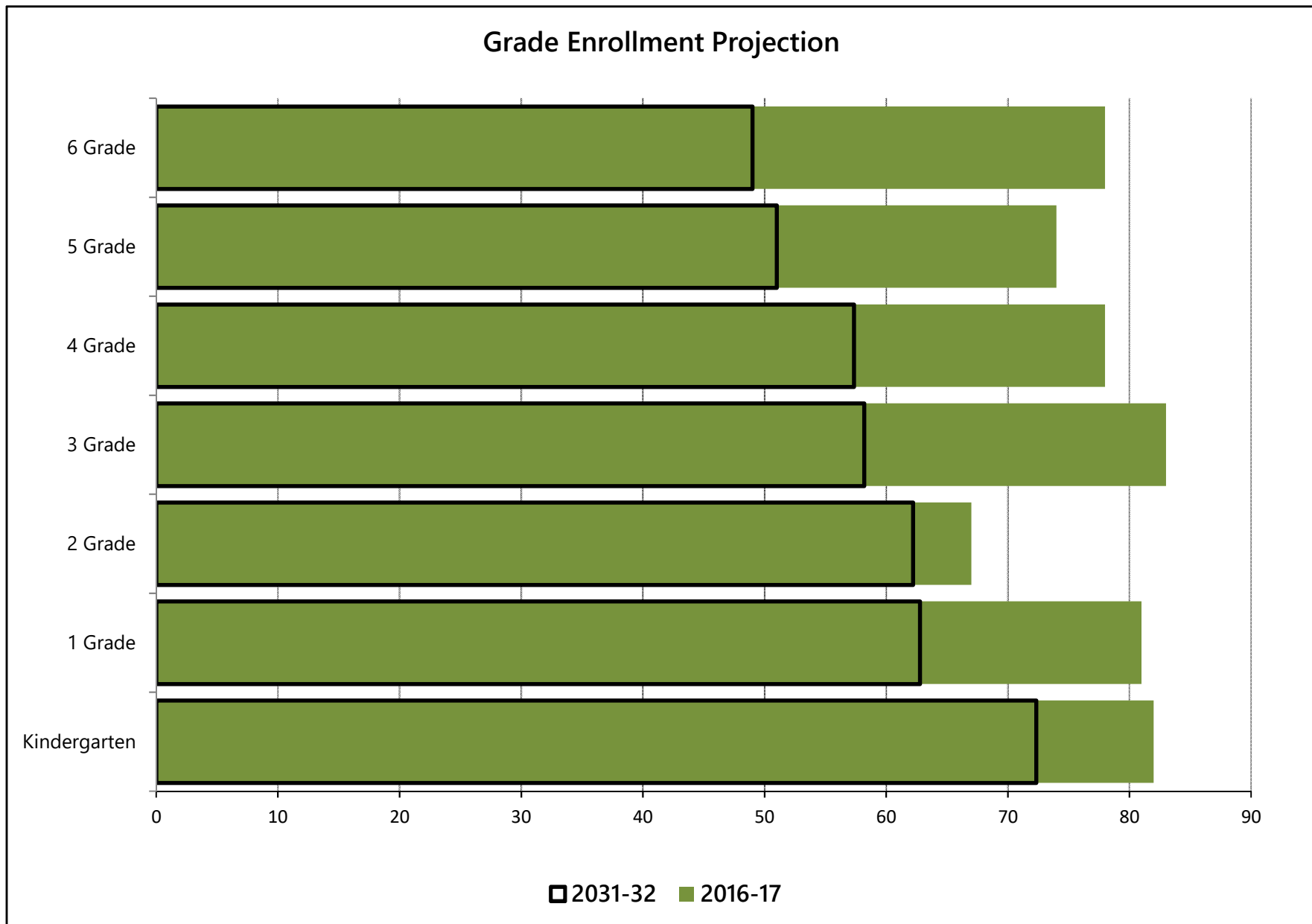Legend: ■ Projected Enrollment ● Historic Enrollment
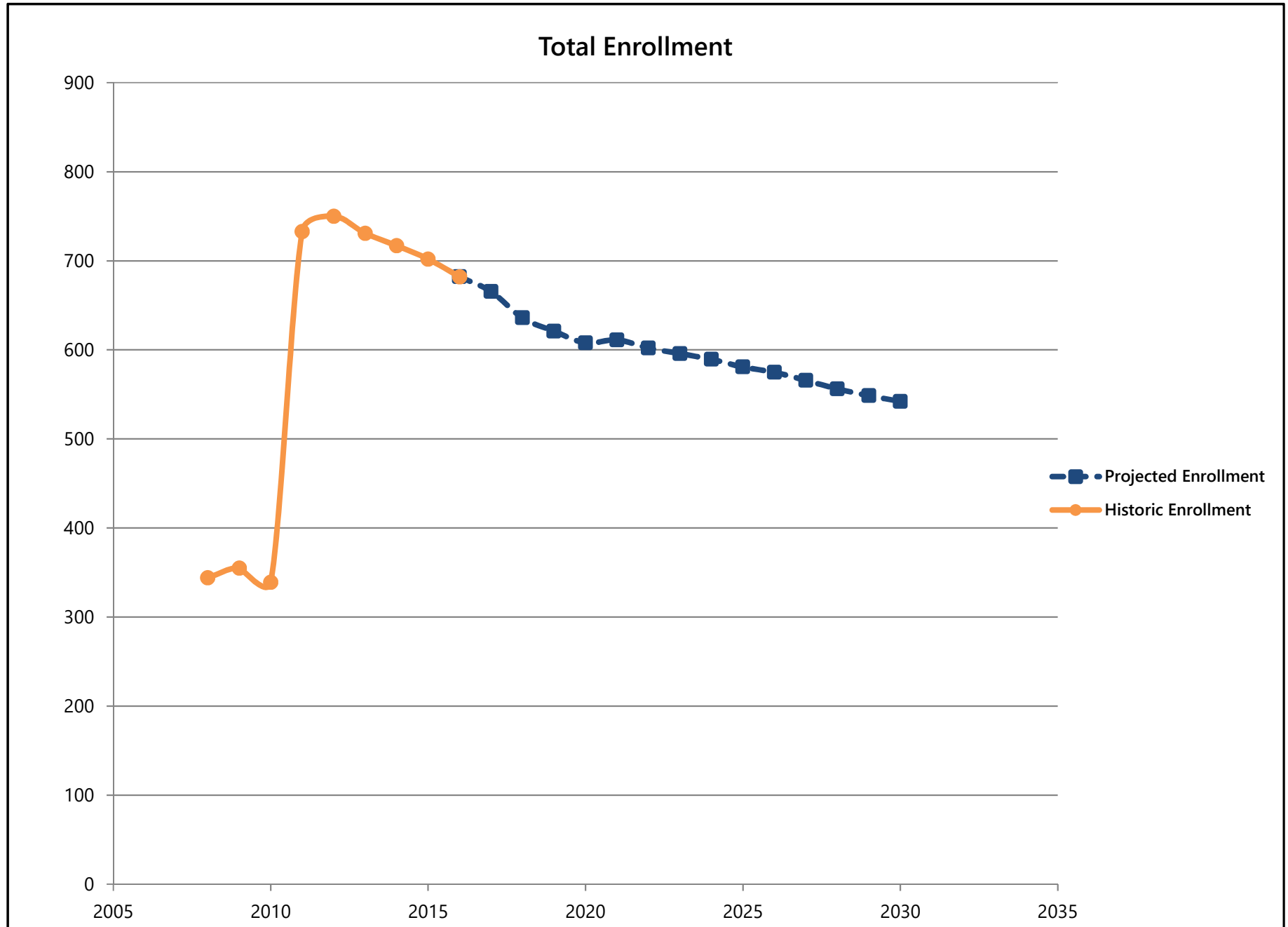
Victory Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	114	89	86	86	79	63	57	574
2017-18	93	117	85	83	83	70	56	588
2018-19	98	98	110	83	80	74	63	607
2019-20	96	100	91	108	79	70	65	609
2020-21	97	99	94	88	104	71	62	615
2021-22	98	100	93	91	85	92	63	623
2022-23	97	101	94	91	88	75	81	627
2023-24	93	99	95	91	87	78	66	610
2024-25	91	96	93	92	88	77	69	606
2025-26	89	94	90	91	89	78	68	599
2026-27	88	92	88	88	87	78	69	590
2027-28	88	91	86	86	84	77	69	582
2028-29	87	91	85	84	83	75	68	572
2029-30	87	90	85	83	81	73	66	564
2030-31	86	89	84	83	80	71	65	558
2031-32	85	89	84	82	79	71	63	552
Change	-29	0	-2	-4	0	8	6	(22)

Victory Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

Victory Elementary 2016-17 School Enrollment Projections
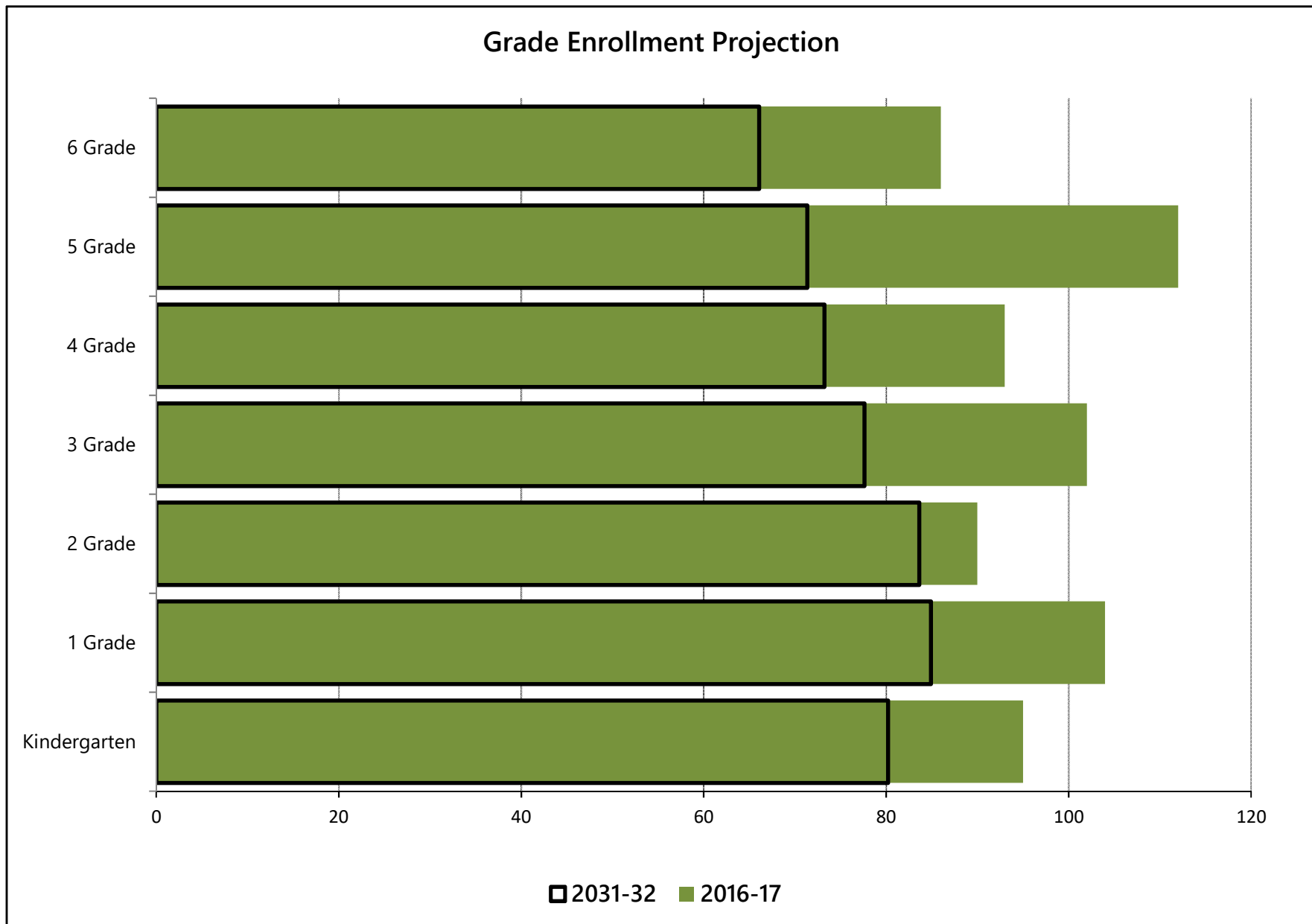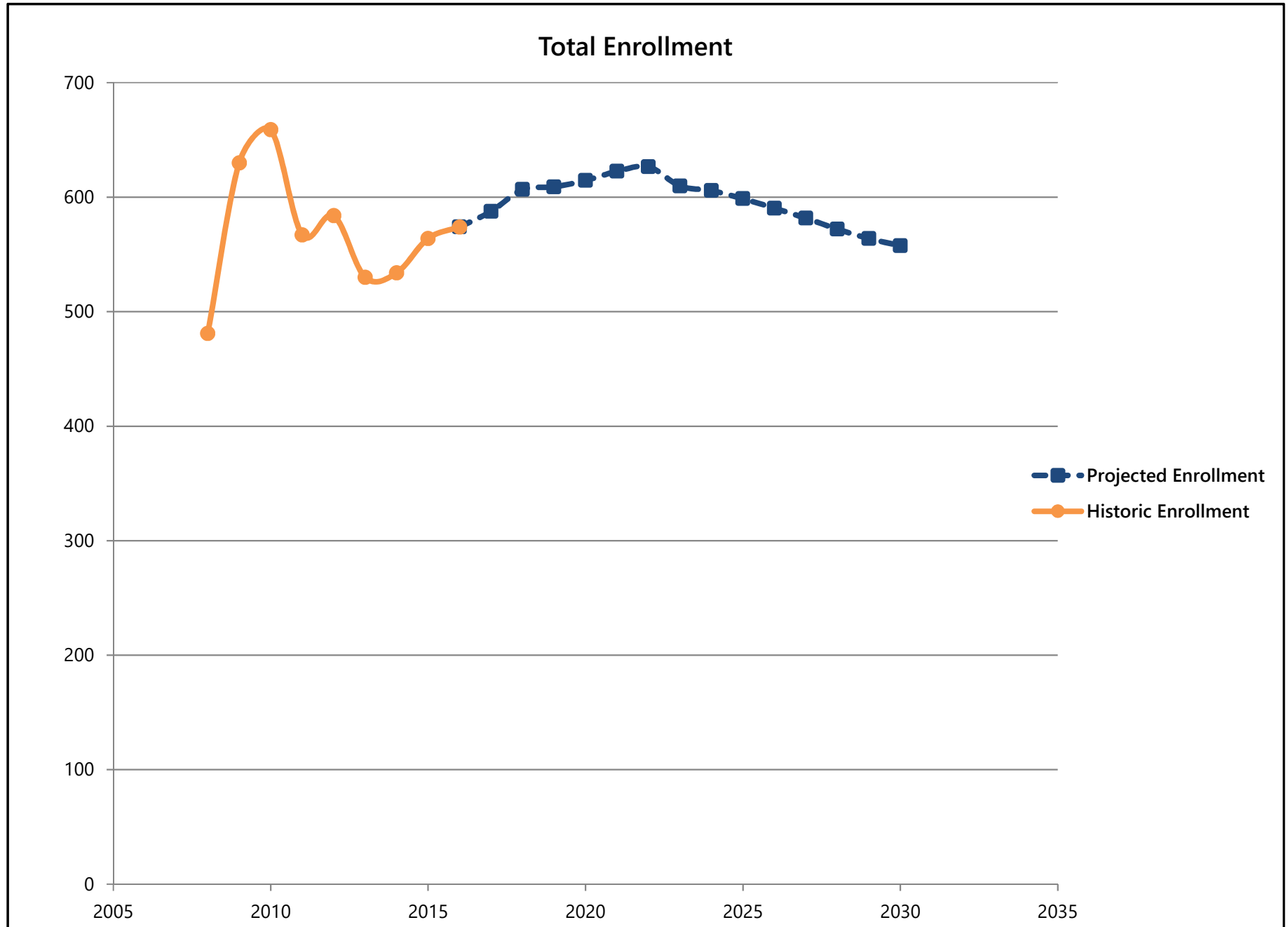
Total Enrollment

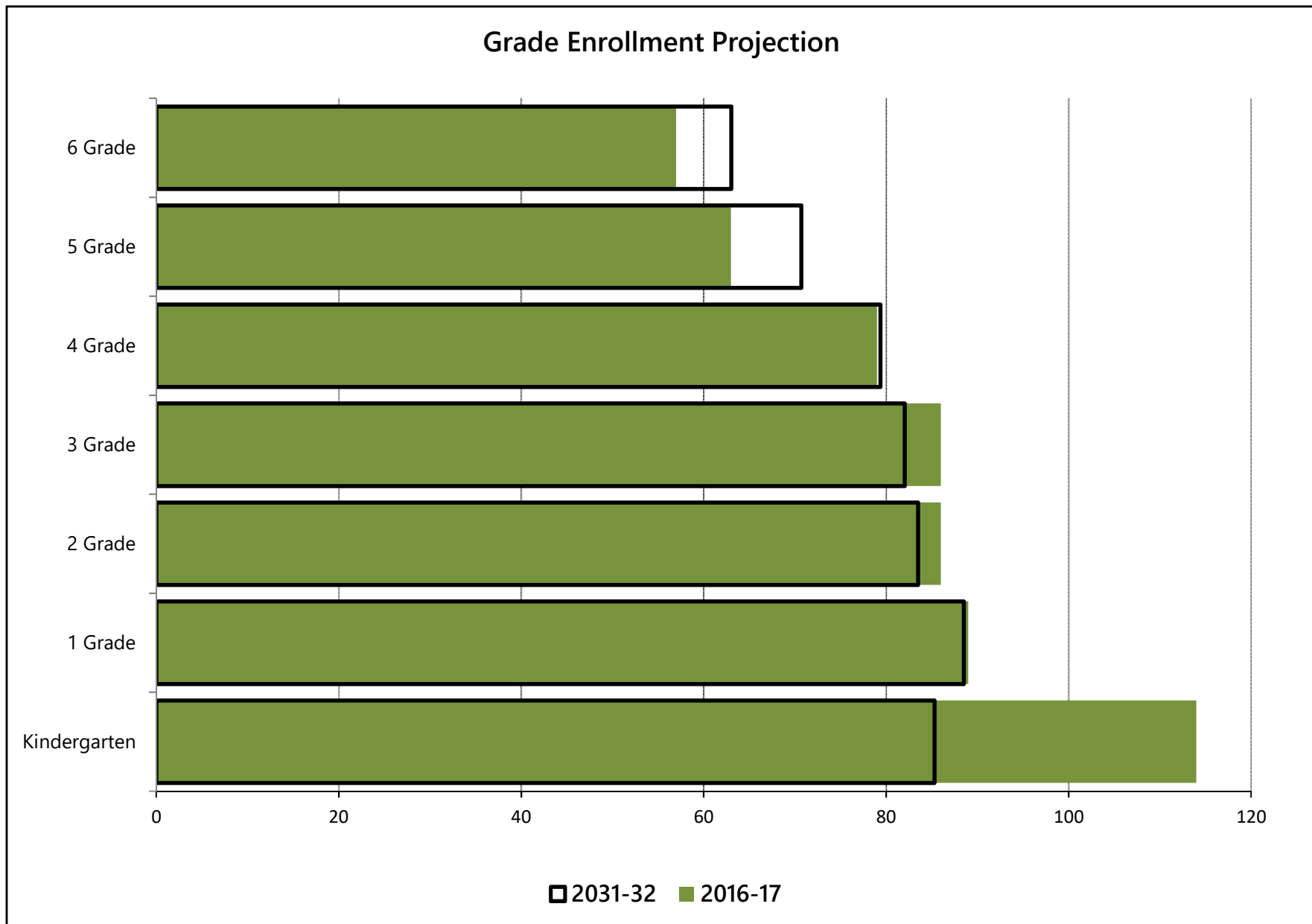# Westhaven Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

	Kindergarten	1 Grade	2 Grade	3 Grade	4 Grade	5 Grade	6 Grade	Total
2016-17	76	98	95	90	83	67	71	580
2017-18	79	75	103	92	87	79	68	583
2018-19	81	79	80	101	91	83	81	594
2019-20	79	82	85	77	103	87	85	597
2020-21	83	79	88	83	79	94	88	594
2021-22	80	82	84	87	86	73	96	589
2022-23	79	80	88	82	88	81	75	572
2023-24	77	79	85	86	83	82	82	575
2024-25	76	77	85	83	87	78	84	569
2025-26	74	76	83	83	85	81	80	561
2026-27	73	73	81	81	84	79	83	555
2027-28	72	73	79	79	83	79	81	545
2028-29	72	72	78	77	80	77	81	537
2029-30	71	72	78	76	78	75	79	529
2030-31	71	71	77	76	78	73	77	523
2031-32	70	71	76	75	77	73	75	517
Change	-6	-27	-19	-15	-6	6	4	(63)

Westhaven Elementary 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: ☐ 2031-32 ■ 2016-17

Westhaven Elementary 2016-17 School Enrollment Projections

Total Enrollment

Churchland Middle 2016-17 School Enrollment Projections

Grade Enrollment Projection

	7 Grade	8 Grade	Total
2016-17	120	130	250
2017-18	116	110	226
2018-19	119	110	228
2019-20	116	112	228
2020-21	111	109	220
2021-22	117	104	221
2022-23	116	110	226
2023-24	114	109	223
2024-25	111	106	217
2025-26	108	104	213
2026-27	106	102	207
2027-28	105	99	204
2028-29	104	98	203
2029-30	103	98	201
2030-31	103	97	200
2031-32	102	96	198
Change	-18	-34	(52)

Churchland Middle 2016-17 School Enrollment Projections

Grade Enrollment Projection

■ 2031-32   ■ 2016-17

Churchland Middle 2016-17 School Enrollment Projections

Total Enrollment

Cradock Middle 2016-17 School Enrollment Projections

Grade Enrollment Projection

	7 Grade	8 Grade	Total
2016-17	120	130	250
2017-18	116	110	226
2018-19	119	110	228
2019-20	116	112	228
2020-21	111	109	220
2021-22	117	104	221
2022-23	116	110	226
2023-24	114	109	223
2024-25	111	106	217
2025-26	108	104	213
2026-27	106	102	207
2027-28	105	99	204
2028-29	104	98	203
2029-30	103	98	201
2030-31	103	97	200
2031-32	102	96	198
Change	-18	-34	(52)

Cradock Middle 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

Cradock Middle 2016-17 School Enrollment Projections

Total Enrollment

William E. Waters Middle 2016-17 School Enrollment Projections

Grade Enrollment Projection

	7 Grade	8 Grade	Total
2016-17	120	130	250
2017-18	116	110	226
2018-19	119	110	228
2019-20	116	112	228
2020-21	111	109	220
2021-22	117	104	221
2022-23	116	110	226
2023-24	114	109	223
2024-25	111	106	217
2025-26	108	104	213
2026-27	106	102	207
2027-28	105	99	204
2028-29	104	98	203
2029-30	103	98	201
2030-31	103	97	200
2031-32	102	96	198
Change	-18	-34	(52)

William E. Waters Middle 2016-17 School Enrollment Projections
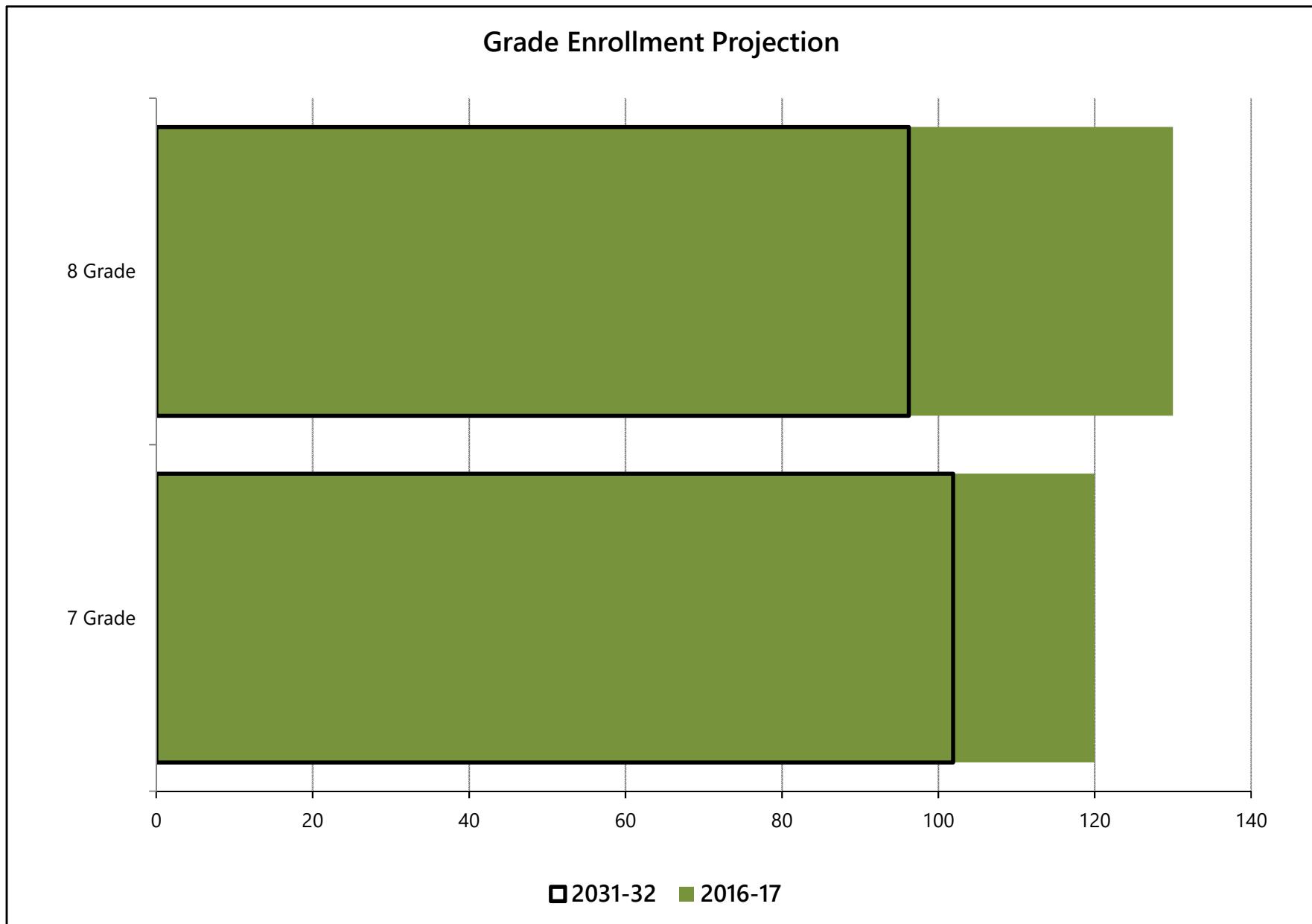
Grade Enrollment Projection

■ 2031-32   ■ 2016-17

William E. Waters Middle 2016-17 School Enrollment Projections

Total Enrollment

Legend: Projected Enrollment, Historic Enrollment
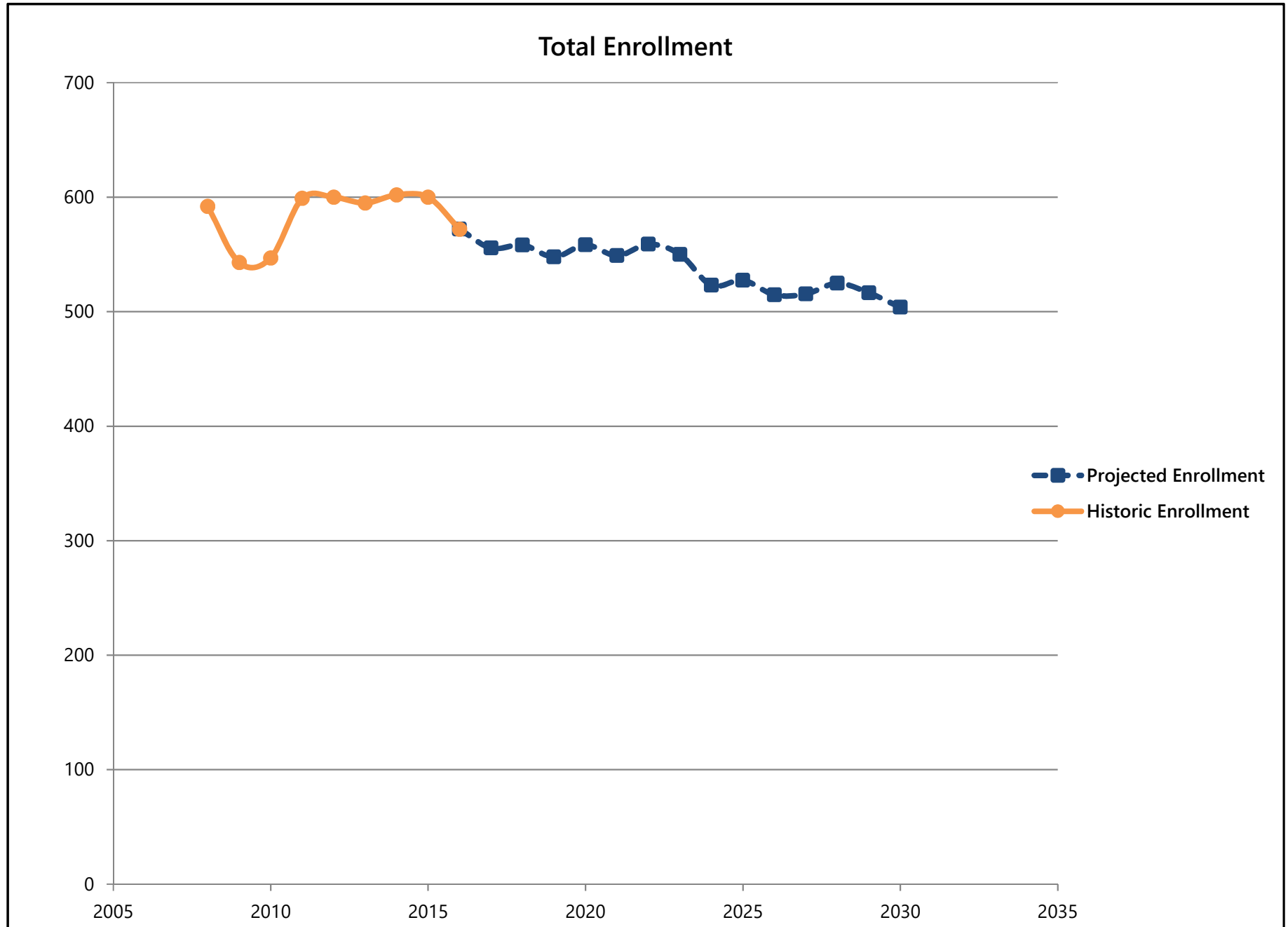
Churchland High 2016-17 School Enrollment Projections

Grade Enrollment Projection

	9 Grade	10 Grade	11 Grade	12 Grade	Total
2016-17	423	383	305	342	1,453
2017-18	409	369	318	342	1,438
2018-19	383	356	307	353	1,399
2019-20	383	351	313	356	1,402
2020-21	389	337	297	347	1,370
2021-22	396	344	287	328	1,355
2022-23	400	356	297	327	1,379
2023-24	381	348	297	326	1,351
2024-25	396	342	300	337	1,375
2025-26	369	351	291	336	1,348
2026-27	369	323	296	322	1,311
2027-28	372	327	275	331	1,306
2028-29	349	328	277	306	1,259
2029-30	363	307	277	307	1,253
2030-31	362	323	263	311	1,259
2031-32	356	321	275	294	1,246
Change	-67	-62	-30	-48	(207)

Churchland High 2016-17 School Enrollment Projections
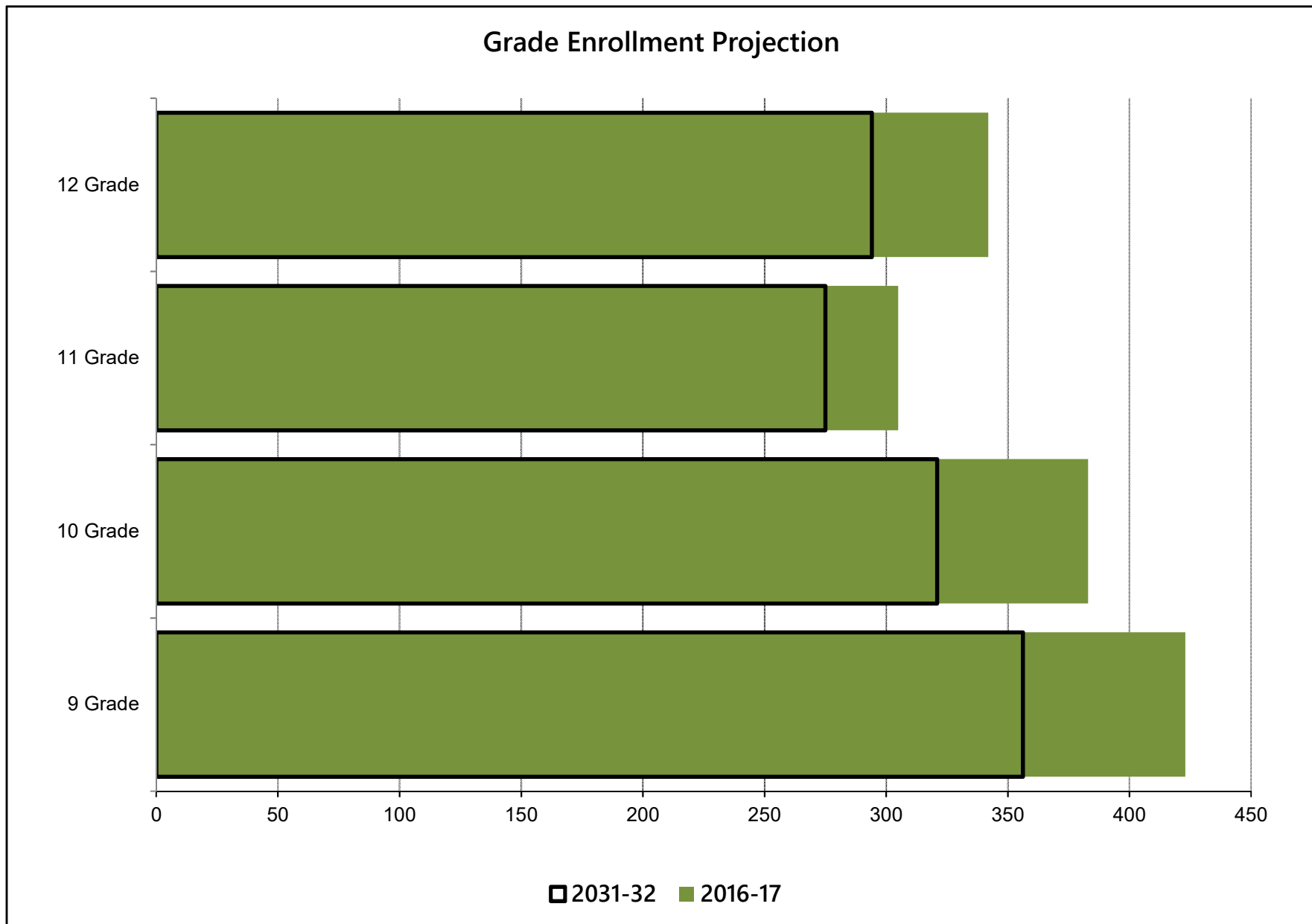
Grade Enrollment Projection

Horizontal bar chart comparing 2031-32 and 2016-17 enrollment projections by grade.

Legend: □ 2031-32 ■ 2016-17

X-axis: 0, 50, 100, 150, 200, 250, 300, 350, 400, 450

Y-axis: 9 Grade, 10 Grade, 11 Grade, 12 Grade

Churchland High 2016-17 School Enrollment Projections

Total Enrollment

Legend:
- Projected Enrollment
- Historic Enrollment
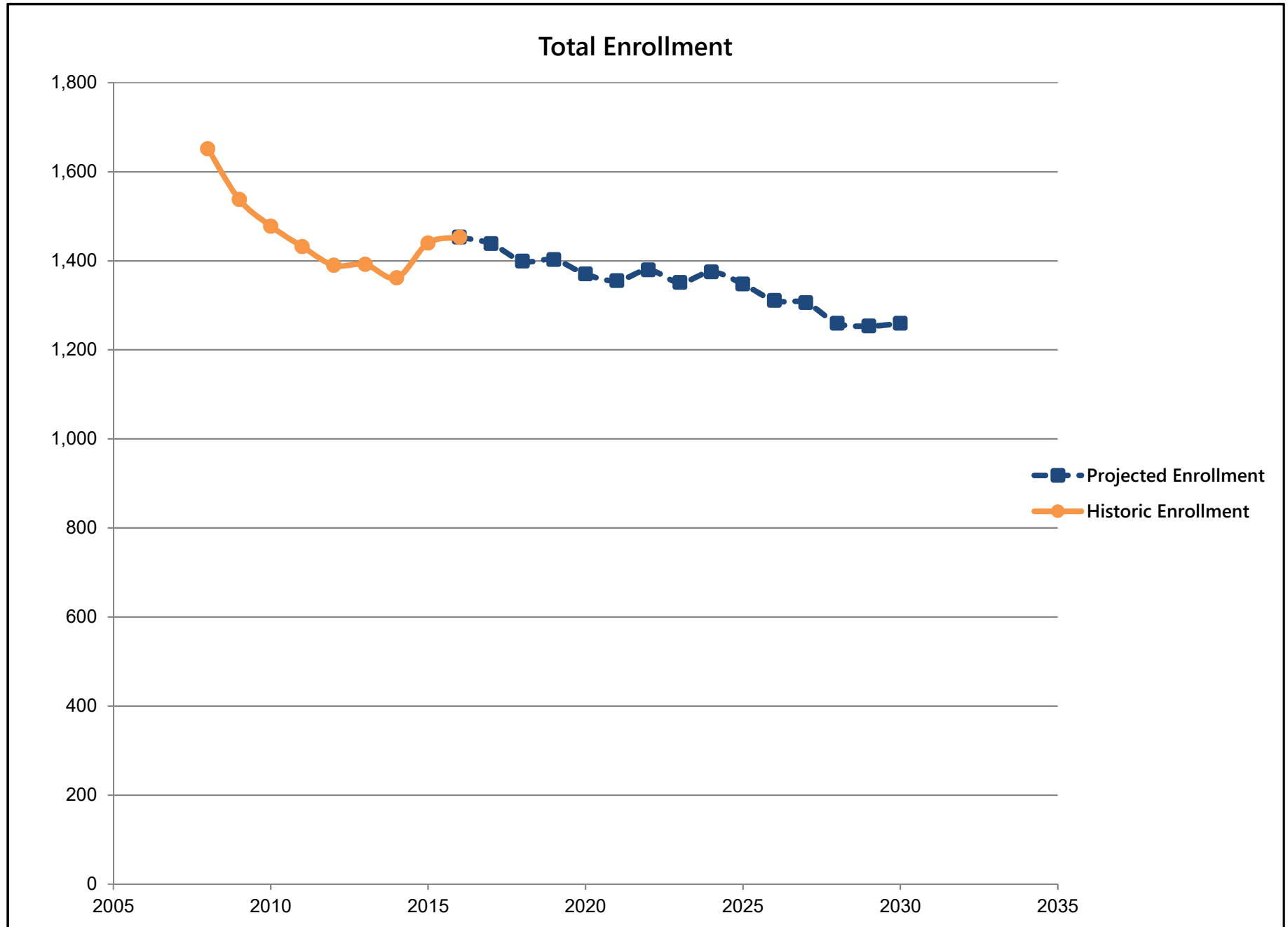
Norcom High 2016-17 School Enrollment Projections

Grade Enrollment Projection

	9 Grade	10 Grade	11 Grade	12 Grade	Total
2016-17	320	253	250	247	1,070
2017-18	320	284	217	238	1,059
2018-19	282	289	244	209	1,025
2019-20	279	234	230	223	966
2020-21	254	259	208	230	951
2021-22	274	218	212	193	897
2022-23	270	238	180	199	887
2023-24	251	240	202	174	867
2024-25	258	213	194	185	850
2025-26	251	228	180	186	845
2026-27	243	219	191	171	823
2027-28	244	210	181	179	814
2028-29	233	215	177	173	797
2029-30	243	203	179	167	794
2030-31	243	212	169	170	794
2031-32	237	213	178	161	788
Change	-83	-40	-72	-86	(282)

Norcom High 2016-17 School Enrollment Projections
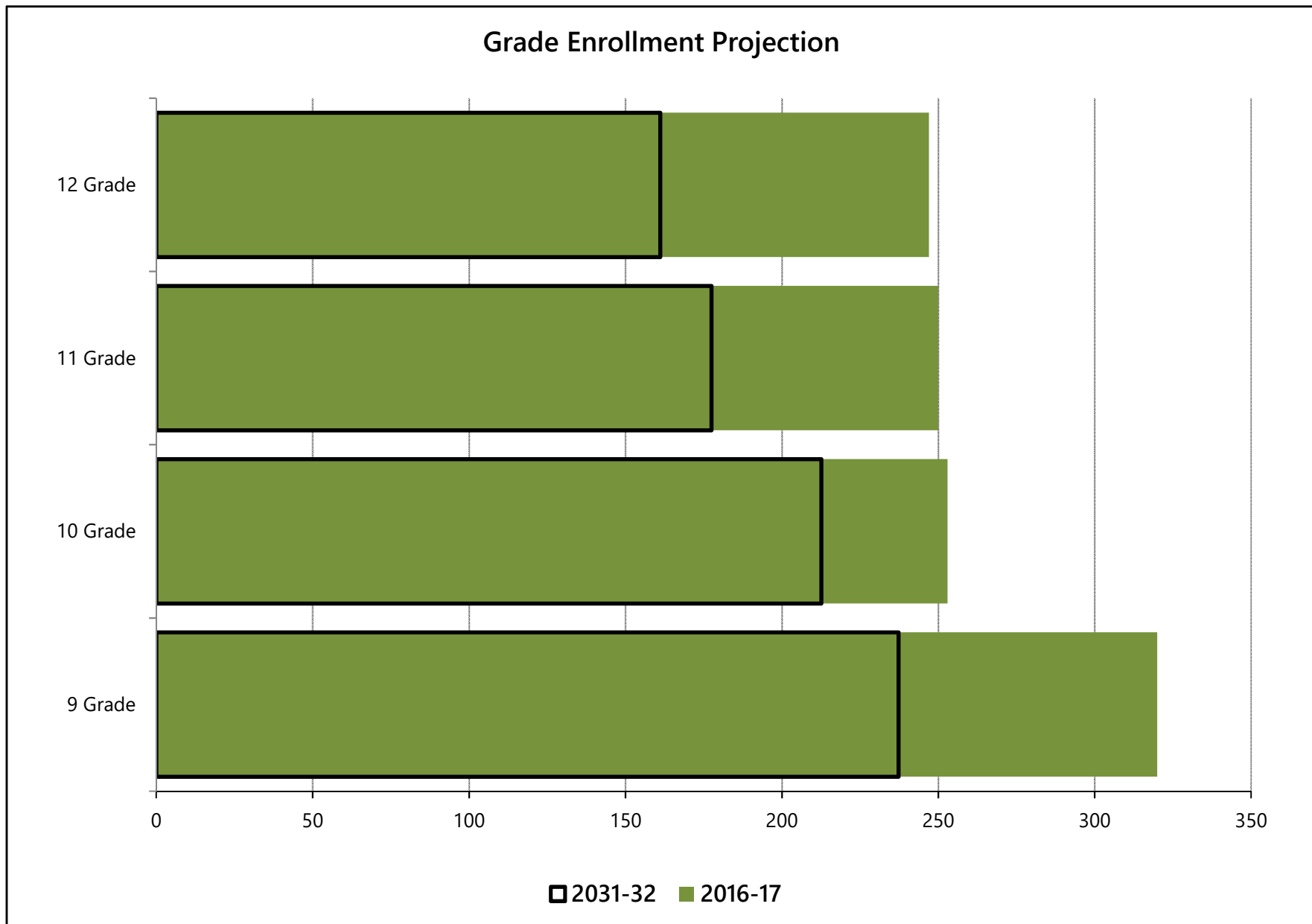
Grade Enrollment Projection

Legend: □ 2031-32 ■ 2016-17

Norcom High 2016-17 School Enrollment Projections

Total Enrollment


Legend:
- Projected Enrollment
- Historic Enrollment
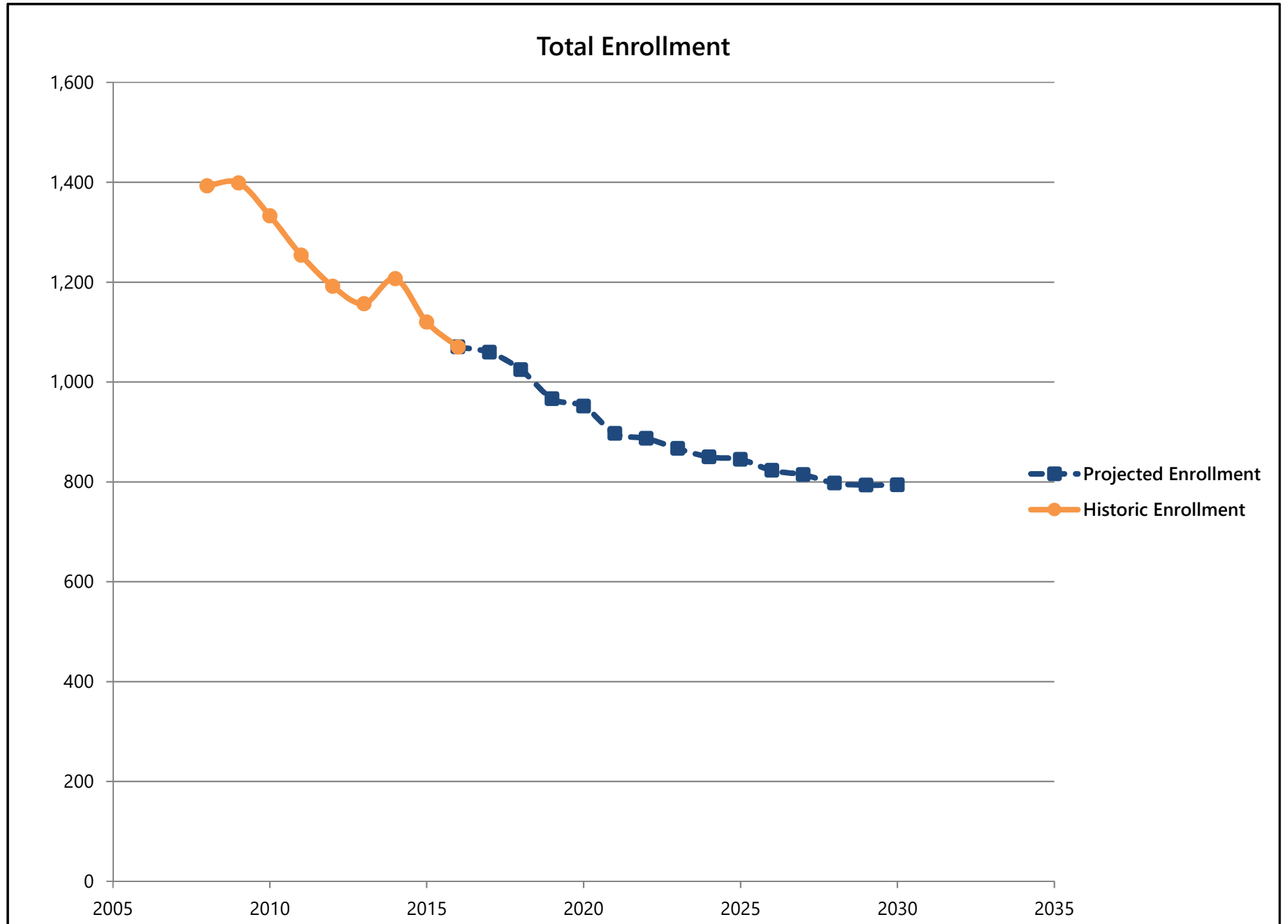
Wilson High 2016-17 School Enrollment Projections

Grade Enrollment Projection

	9 Grade	10 Grade	11 Grade	12 Grade	Total
2016-17	396	390	324	322	1,432
2017-18	413	341	337	326	1,418
2018-19	365	359	301	349	1,374
2019-20	380	321	323	314	1,338
2020-21	365	321	275	323	1,284
2021-22	373	324	291	290	1,278
2022-23	377	320	284	296	1,276
2023-24	360	327	282	292	1,260
2024-25	380	311	288	289	1,268
2025-26	371	324	270	291	1,257
2026-27	357	326	290	281	1,254
2027-28	363	308	286	297	1,254
2028-29	347	316	273	296	1,233
2029-30	364	303	281	283	1,232
2030-31	362	313	265	287	1,227
2031-32	355	315	277	274	1,220
Change	-41	-75	-47	-48	(212)

Wilson High 2016-17 School Enrollment Projections

Grade Enrollment Projection

Legend: □ 2031-32   ■ 2016-17

Wilson High 2016-17 School Enrollment Projections
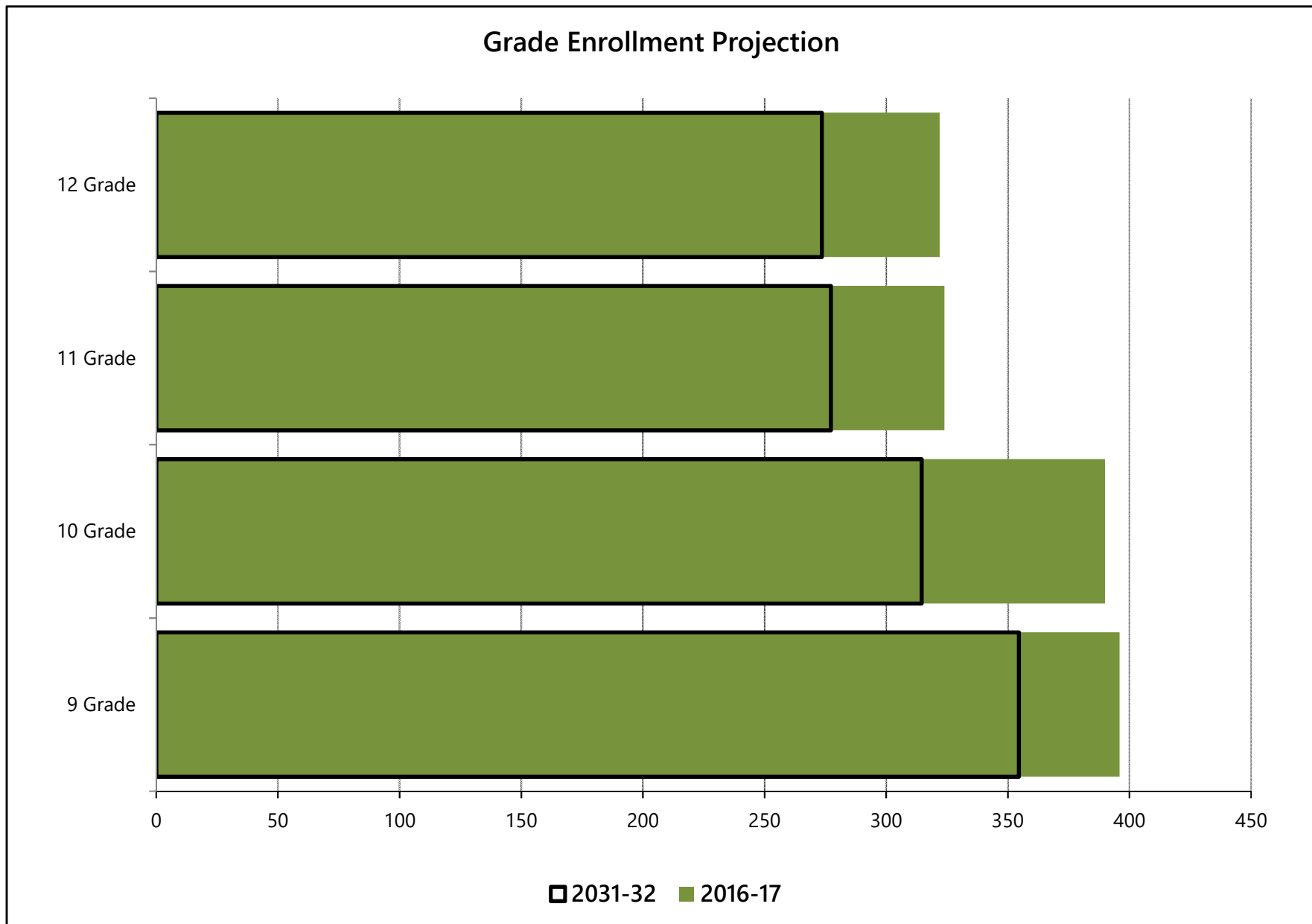
Total Enrollment

- Projected Enrollment
- Historic Enrollment
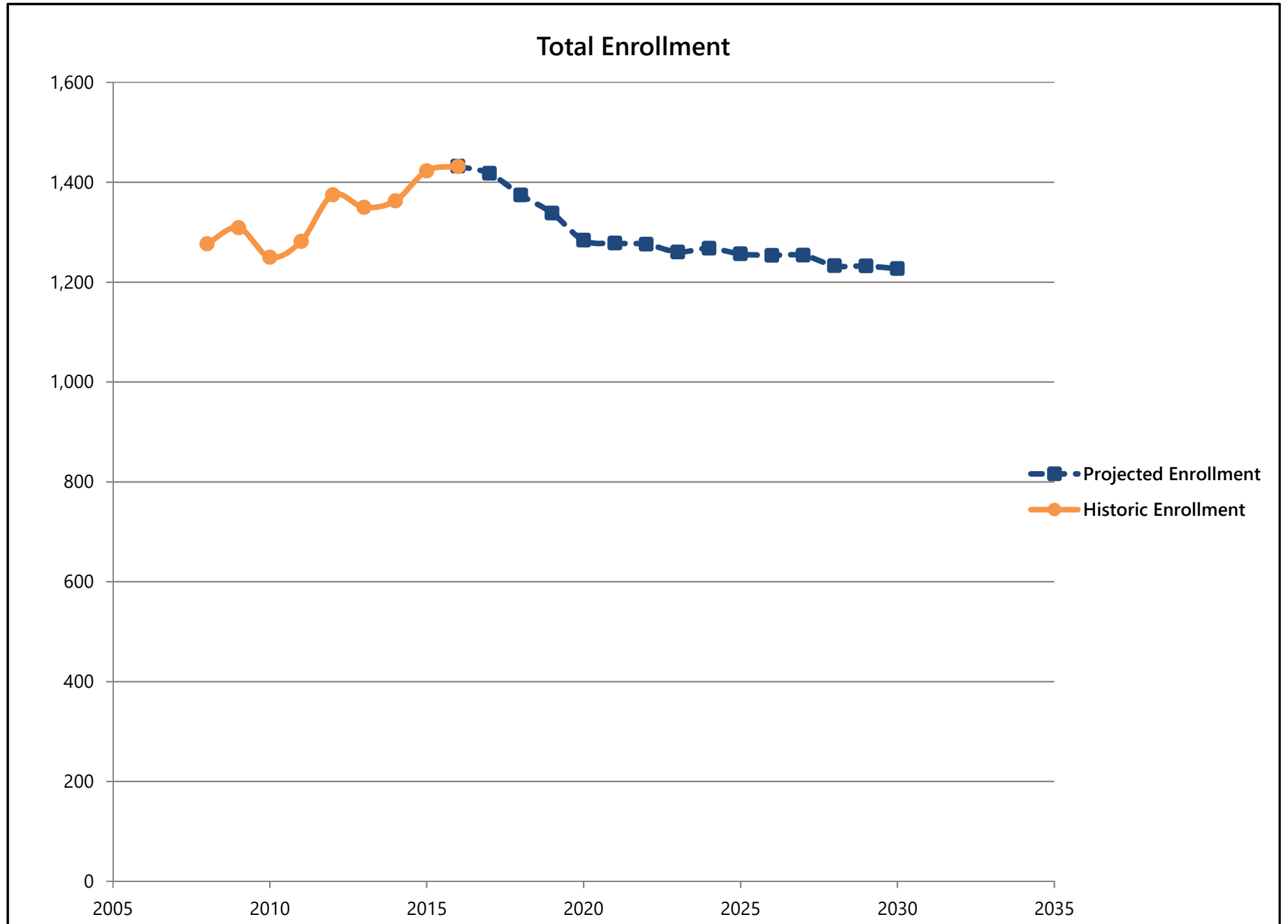
Methodology for Standard 15-Year School Enrollment Projections

This document describes the grade-progression ratio method used by Cooper Center demographers in developing standard fifteen-year school enrollment projections.

Input Data

School enrollment projections require the use of birth data and fall membership counts. Birth data are obtained from the Virginia Center for Health Statistics, reported by county. To ensure that the birth data have been assigned to the correct localities, Cooper Center demographers geocode the residence address of each birth mother and then assign each birth to the locality of residence. Future birth counts are projected based on the division's current age specific fertility rate and the Cooper Center's projected child bearing aged population.

The second element of input data—historical and current fall membership counts—are obtained from the school division or from the Virginia Department of Education.

Grade-Progression Ratio Method

The grade-progression ratio captures the school enrollment patterns of a cohort of children as they move forward in time and progress from grade to grade. Grade progression ratios provide detail of how many students advance into the next grade from the lower grade one year before and are determined by dividing the number of students in a particular grade by the number of students from the previous grade in the previous school year. For example, the 2nd grade/1st grade-progression ratio is found by dividing the current number of 2nd grade students by last year's number of 1st grade students. (In the case of kindergarten, the ratio is the actual enrollment in kindergarten divided by births five years prior). A ratio larger than 1 means there are additional students coming in to the school who were not enrolled in the previous grade. A ratio smaller than 1 means students may be transferring to private school or home school, dropping out, or families with school children are moving away from the community, among other reasons.

Because grade-specific progression ratios can fluctuate considerably from one year to another, it is important to generate and evaluate multiple sets of grade-progression ratios to minimize the "noise". The Cooper Center does this by creating three- and five-year average ratios based on data from those most recent years, along with the single-year ratio of the latest year. All three grade-progression ratios are applied to the current school enrollment data to obtain forecasts for the following year, which then become the basis for projecting enrollment the year after. The projections based on single- and multiple-year grade progression ratios are compared, and the middle series is selected as most probable.

A Note about Projections

School enrollment projections are based in part on past student enrollment trends. Since student enrollment can change, enrollment projections should be updated annually to account for any changes in enrollment trends.

Please contact Hamilton Lombard at (434) 982-5698, or hl2qs@virginia.edu, if you have any questions.