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PUBLIC SCHOOLS - BUILD-OUT ANALYSIS

ACKNOWLEDGEMENTS

On behalf of DeJONG-RICHTER, we would like to extend our appreciation to the Norfolk Public Schools for the opportunity to assist them in developing this build-out analysis report. Also, we would like to thank the City of Norfolk Planning Department and the Department of Information Technology, for their assistance in gathering the necessary data and information needed to accomplish this analysis. As a planning team, we hope that this document will serve the Norfolk Public Schools for years to come.

DeJONG-RICHTER

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EXECUTIVE SUMMARY

The City of Norfolk has matured in terms of growth and development and there remains very little available vacant land to develop. However, there are areas that are constantly being reimagined and redeveloped throughout the City. There are just over 500 acres of vacant land that are classified as future residential in the City of Norfolk. If these vacant land areas were to develop at their planned densities, there is potential for a total of 1,845 PK-12 students.

Historically, approximately eighty-six percent of demolished housing units are replaced with new housing. In total since 2002, these new housing units are yielding roughly 0.67 students per unit.

Introduction

In July 2013, DeJONG-RICHTER was contracted to study student demographics and develop a build-out analysis of the Norfolk Public Schools (NPS). This report is the result of collection, review, and analysis of student demographics, migration, and housing information for the Norfolk Public Schools.

The need for analyzing student demographics stems from recent efforts to revitalize the Norfolk Public Schools through initiatives that transform schools using various methods of program delivery. Because of these efforts, planning for current and future populations is crucial to its success.

Historically, enrollment in NPS has been steadily decreasing. Since 2004, Division-wide enrollment has decreased from 35,923 to 32,353 for a total of 3,570 students.

Typically, housing development plays as major role in population changes with families moving into new areas of growth. However, Norfolk is an area that is for the most part, developed. Most changes in housing in Norfolk are the result of demolitions and redevelopment of existing land. The City of Norfolk is essentially built-out though there are still avenues for growth which have potential to affect population and enrollment.

With area military installations as a major economic driver, the local economy can be expected to remain relatively stable. Though, with sequestration potential changes to the focus of future military spending, attention should be paid to the potential impact of these changes to the local economy. Any negative impacts have the potential to decrease school enrollment which could further affect facility usage.

As a result of the downward enrollment trend over the past few years in the NPS, the Division is exploring their facility options to accommodate less students while balancing utilization with regard to the developing Transformation Initiative. By providing this build-out analysis to the Division, it will be better equipped to make decisions regarding future changes in enrollment and programming.





FINDINGS

There still remains potential in the Division for residential development which could in turn yield additional student enrollment. The area that NPS encompasses coincides with the City of Norfolk. The map on the next page illustrates the NPS boundary and each school's location.

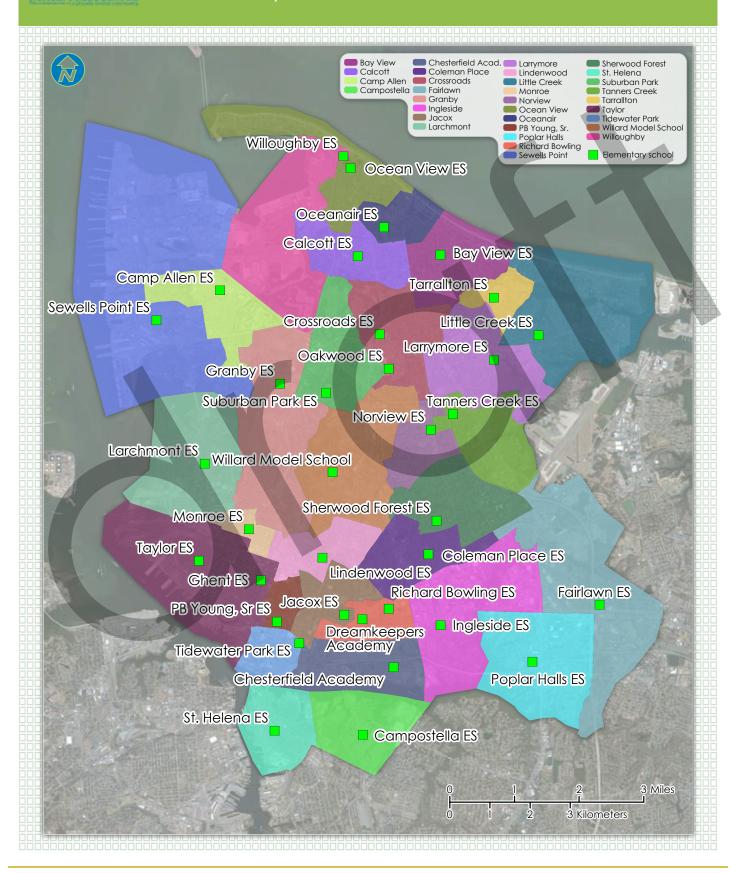






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Elementary Schools & Attendance Boundaries

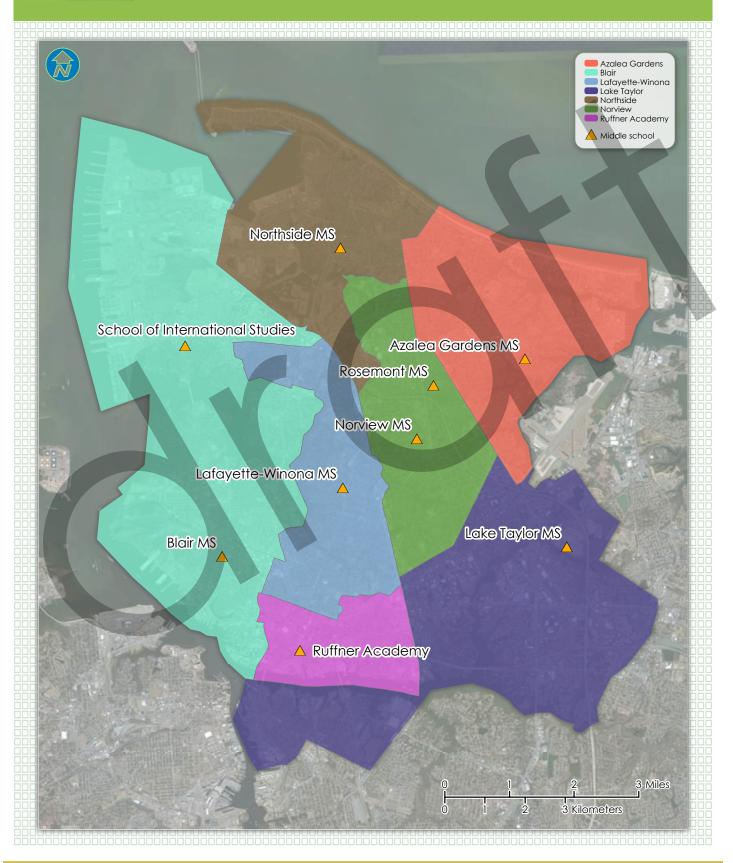








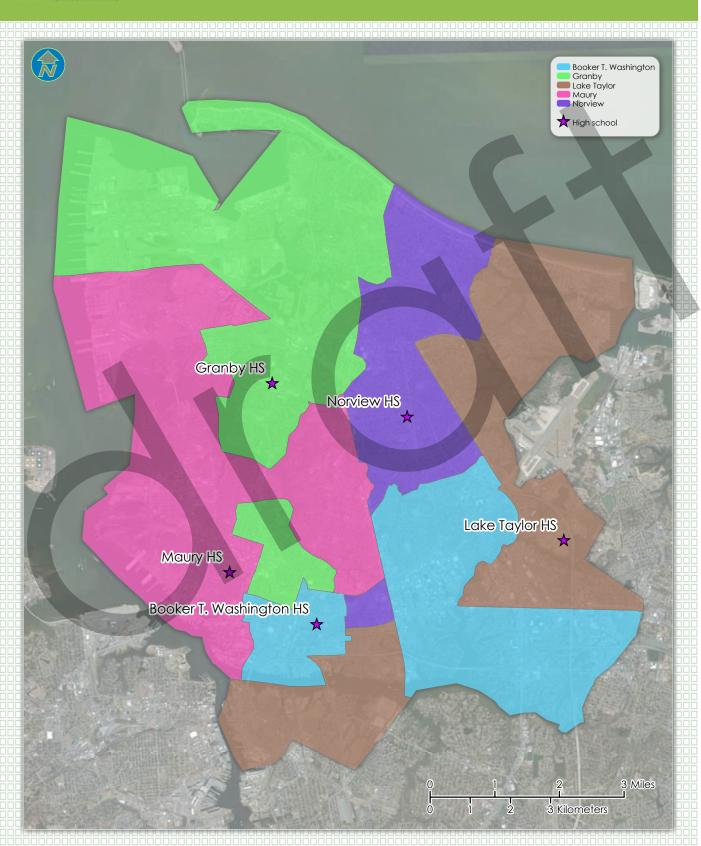
Norfolk Public Schools Middle Schools & Attendance Boundaries















STUDENT MIGRATION, MATRICULATION AND DENSITY

Student migration levels can be an informative indicator for student turnover within the Division. As shown in the table below, there is a high percentage of student turnover in NPS which is not surprising given the fact that Naval Station Norfolk, the world's largest naval station, is located within its boundaries. Roughly twenty percent of students are new to the Division each year with around ten percent of enrollment leaving the Division in the next year. A significant percentage of students at roughly six percent, migrate within the Division from year to year.

NPS Migration and Matriculation	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Graduated	1,306	1,405	1,450	1,464	1,499	1,396	-
Grade Level Change (ES, MS, HS)	3,594	3,660	3,657	3,442	3,478	3,461	-
Left District (Next Year)	4,016	3,443	3,688	3,425	3,534	3,420	-
Moved Within Division (Next Year)	2,121	1,932	2,230	2,533	2,076	1,924	-
Enrolled One Year	1,983	1,912	1,666	1,762	1,701	1,660	-
New to Division	6,857	6,687	6,357	6,521	6,368	6,137	6,250
No Change	17,025	17,174	16,516	16,230	16,377	16,397	-
Total	34,919	34,301	33,898	33,615	33,332	32,735	32,510

NPS Migration and Matriculation	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Graduated	3.7%	4.1%	4.3%	4.4%	4.5%	4.3%	-
Grade Level Change (ES, MS, HS)	10.3%	10.7%	10.8%	10.2%	10.4%	10.6%	-
Left District (Next Year)	11.5%	10.0%	10.9%	10.2%	10.6%	10.4%	-
Moved Within Division (Next Year)	6.1%	5.6%	6.6%	7.5%	6.2%	5.9%	-
Enrolled One Year	5.7%	5.6%	4.9%	5.2%	5.1%	5.1%	
New to Division	19.6%	19.5%	18.8%	19.4%	19.1%	18.7%	19.2%
No Change	48.8%	50.1%	48.7%	48.3%	49.1%	50.1%	-
Total	100%	100%	100%	100%	100%	100%	100%

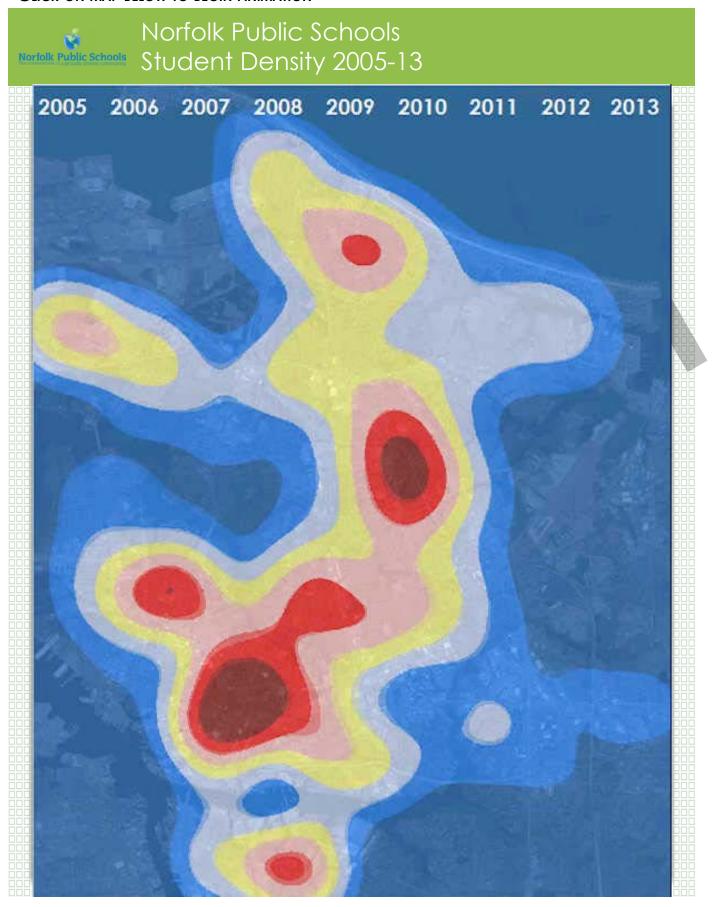
In order to analyze future student potential, the current state of the Division in terms of student populations must be determined. Student residences from each school year beginning in 2005 were mapped and analyzed to illustrate student density patterns over time. The analysis shows that areas of highest density have remained in relatively the same locations. Though with population decline, those areas of density have become less dense over time. The animated* map on the next page depicts student density for each year beginning in 2005 and on through 2013.

*NOTE: Animated map can only be viewed from within electronic PDF file.





CLICK ON MAP BELOW TO BEGIN ANIMATION







EXISTING LAND USE

In terms of existing land use in NPS, over forty percent of land is classified as residential in use with nearly sixteen percent used for military purposes. The City of Norfolk can effectively be considered built-out as there is relatively little vacant land remaining. However, there remains three percent classified as vacant. The table below and map on the next page show current land use types and their respective acreages within the City of Norfolk.

Existing Land Use	Acres	% Total
Commercial	2,238	8.0%
High Density Residential	1,336	4.8%
Industrial	1,680	6.0%
Institutional	1,942	6.9%
Low Density Residential	9,173	32.8%
Medium Density Residential	1,067	3.8%
MILITARY	4,367	15.6%
Mixed Use	36	0.1%
Open Space/Recreation	2,986	10.7%
Transportation/Utility	2,259	8.1%
VACANT	863	3.1%
TOTAL	27,948	100%

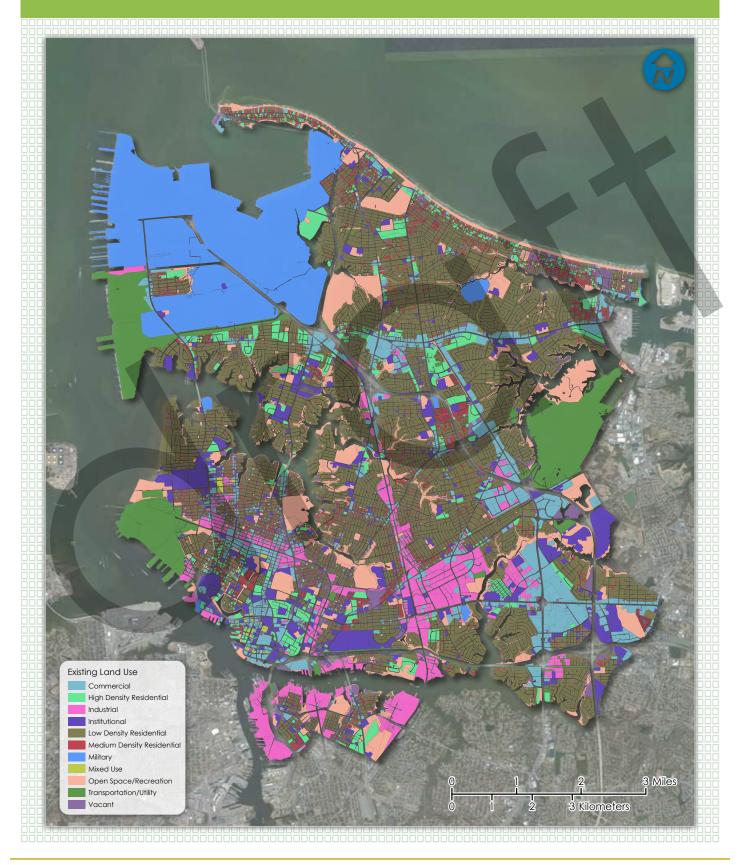






City of Norfolk - Existing Land Use









STUDENT YIELD

Using data available through the Norfolk Department of Planning and Development and the Norfolk GIS Department, DeJONG-RICHTER determined existing student yields of various housing densities. The student yield value indicates the number of students per acre. Student populations were compared to acreages of existing residential land use for low, medium, and high density residential land. Generally, the areas of highest density are in the southern portion of the Division around the Campostella Elementary and PB Young Elementary areas. The table below and maps on the following pages depict current 2013-14 school year student yields in Norfolk Public Schools by grade configuration for each residential land use density level.

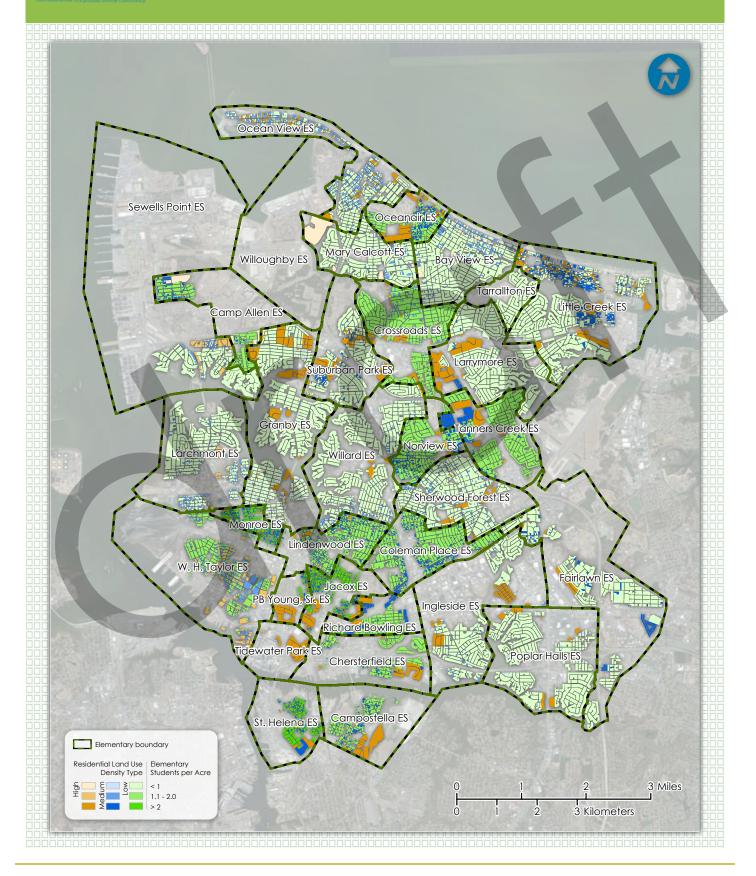
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Lake Taylor 0.3 1.1	2.0
Northside 0.4 0.8	1.0
Norview 0.4 1.3	1.4
Ruffner Academy 0.6 2.2	2.5
Booker T. Washington 0.4 1.6 Granby 0.5 1.1	2.0
	1.1
Lake Taylor 0.4 1.1	1.6
Maury 0.5 0.8	0.5
Norview 0.5 1.3	1.5







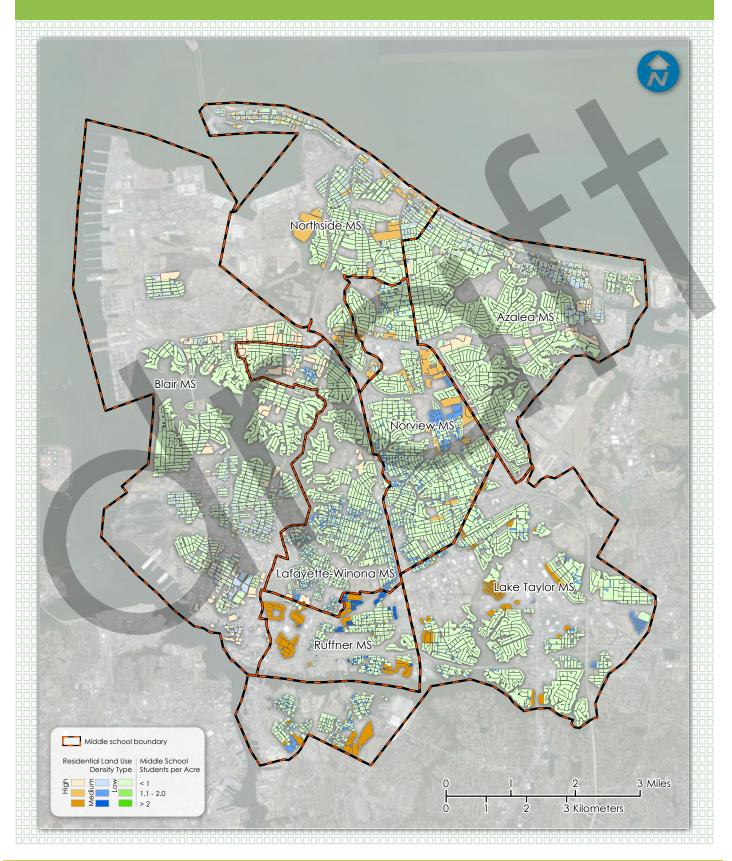
Nortolk Public Schools Elementary School Grades Student Yields







Middle Grades Student Yields

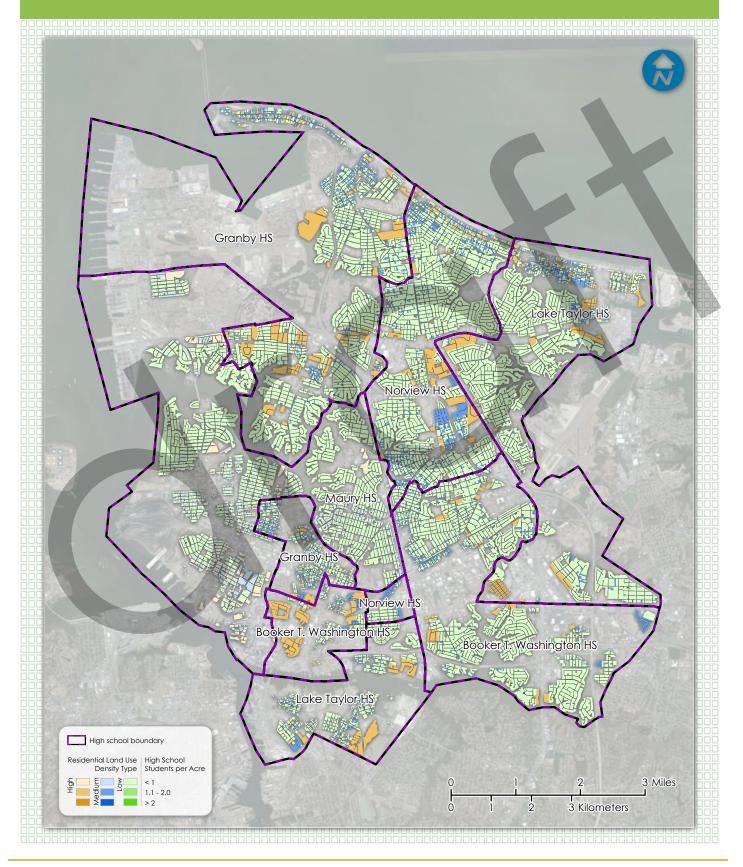








High School Grades Student Yields





Through discussion and collaboration with City planners and Geographic Information System (GIS) personnel, DeJONG-RICHTER gathered data regarding planned residential development and analyzed land with potential for future residential development.

As a result of discussion with City planners, it was determined there are two ways that residential development can occur in Norfolk. First, vacant land planned for residential use may be developed. Second, developed land can be reused through demolition of existing structures and rebuilt. There are planned residential developments throughout the City which will occur through both methods.

FUTURE LAND USE

The City of Norfolk has developed a comprehensive plan (plaNORFOLK2030) that serves as a guide for future physical, social, and economic development. Using information gathered through discussions with local planners and plaNORFOLK2030, calculations were made to determine future land use. The table below and map on the next page show future land use types and their respective planned acreages within the City of Norfolk.

FUTURE LAND USE	Acres	% Total
COMMERCIAL	1,827	6.5%
Downtown	460	1.6%
Industrial	1,991	7.1%
Institutional	2,028	7.2%
MILITARY	4,428	15.7%
Multifamily (High density residential)	1,380	4.9%
Multifamily Corridor (Medium density residential)	229	0.8%
Office	416	1.5%
Open Space/Recreation	1,802	6.4%
Residential Mixed	814	2.9%
Single Family Suburban (Low density residential)	4,094	14.6%
Single Family Traditional (Low density residential)	5,818	20.7%
Single Family Urban (Low density residential)	454	1.6%
Utility/Transportation	2,390	8.5%
Total	28,129	100%

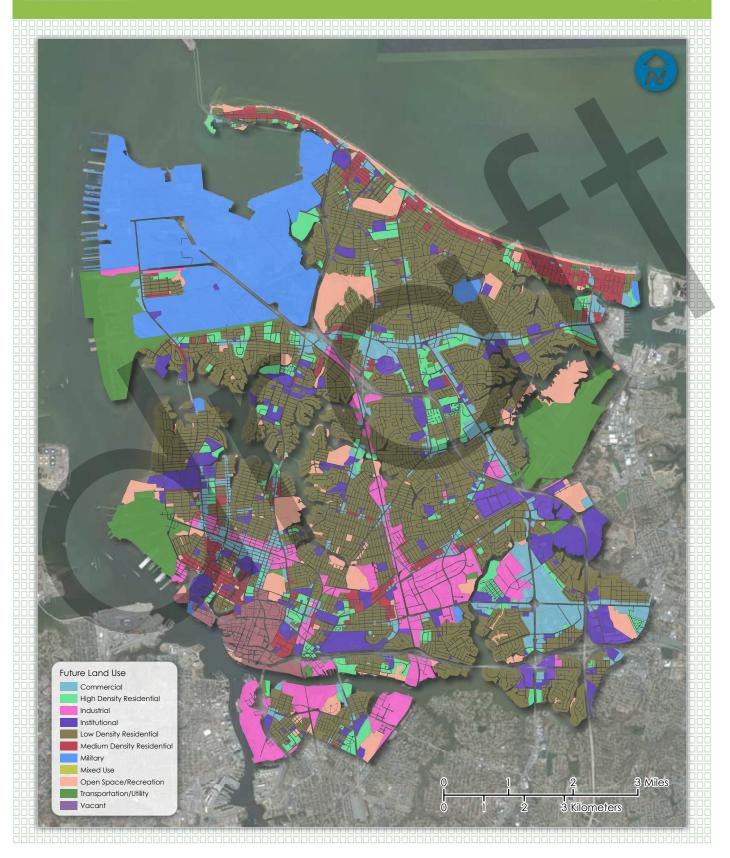






City of Norfolk - Future Land Use









VACANT FUTURE RESIDENTIAL

Land in Norfolk is nearly completely developed. Approximately 863 acres of vacant land remain in the City while roughly 509 of those acres are classified as future residential. The following maps depict the location of vacant future residential land by their planned densities within each attendance boundary. The tables that follow show total acreage of vacant future residential land by their planned density within each attendance boundary.

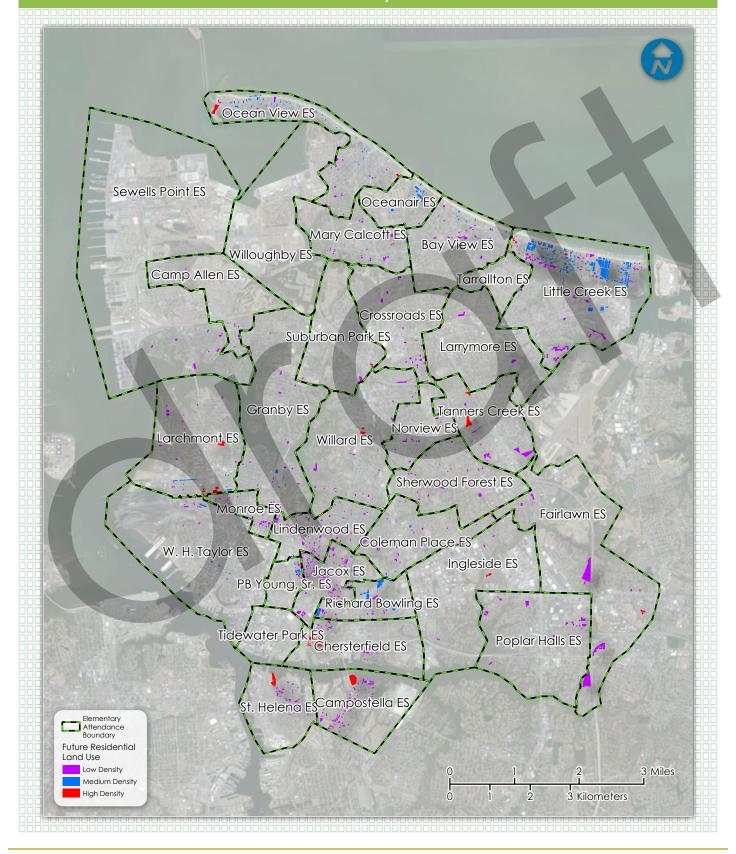








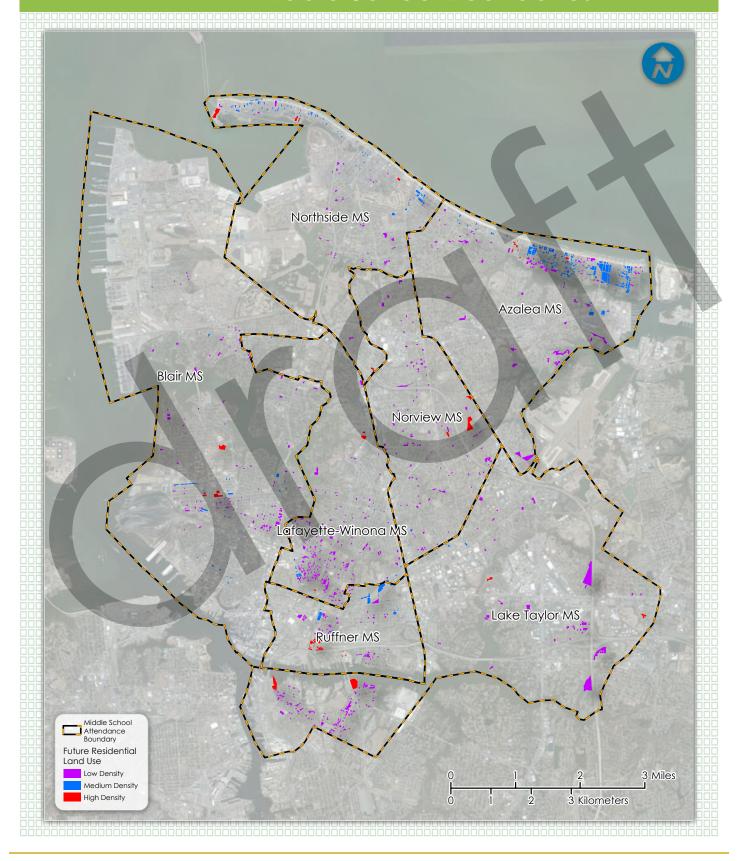
Future Residential Land Use Within Elementary School Boundaries







Future Residential Land Use Within Middle School Boundaries

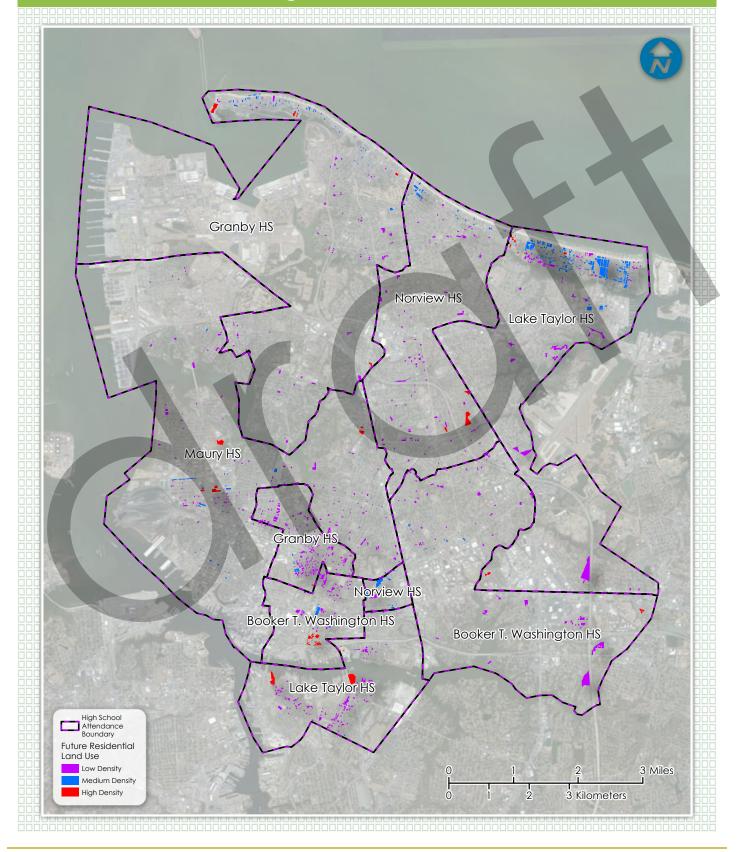








Future Residential Land Use Within High School Boundaries







Available land is most prevalent within the Little Creek Elementary School area with a total of 114.5 acres classified as currently vacant but future residential. Because the Willoughby Elementary Schol attendance area coincides with the military installation, there is very little land at 0.2 acres classified by the City as vacant.

VACANT FUTURE RESIDENTIAL ACREAGE BY ELEMENTARY ATTENDANCE BOUNDARY	Low Density	MEDIUM DENSITY	HIGH DENSITY	Total
Bay View Elementary School	8.0	2.4	-	10.4
Calcott Elementary School	8.1	-	0.2	8.3
Camp Allen Elementary School	3.2	-	-	3.2
Campostella Elementary School	20.5	0.2	8.8	29.5
Chesterfield Academy	7.2	0.6	7.4	15.2
Coleman Place Elementary School	9.2	3.3	-	12.6
Crossroads Elementary School	9.6	-	-	9.6
Fairlawn Elementary School	41.9	-	1.6	43.4
Granby Elementary School	7.3	2.0	0.1	9.4
Ingleside Elementary School	1.2	-	1.6	2.9
JACOX ELEMENTARY SCHOOL	31.7	0.1	0.4	32.1
Larchmont Elementary School	5.9	4.4	9.4	19.6
Larrymore Elementary School	5.7	-	-	5.7
LINDENWOOD ELEMENTARY SCHOOL	20.8	0.7	0.1	21.6
Little Creek Elementary School	33.3	77.8	3.4	114.5
Monroe Elementary School	8.5	0.3	-	8.8
Norview Elementary School	6.9	-	1.2	8.1
Ocean View Elementary School	7.8	9.6	7.7	25.1
Oceanair Elementary School	0.4	7.5	-	7.9
PB Young, Sr. Elementary School	3.2	2.4	-	5.6
Poplar Halls Elementary School	12.7	-	-	12.7
RICHARD BOWLING ELEMENTARY SCHOOL	7.8	16.7	-	24.5
Sewells Point Elementary	5.5	0.5	-	6.0
Sherwood Forest Elementary	8.0	-	-	8.0
St. Helena Elementary School	10.8	-	5.9	16.7
Suburban Park Elementary School	3.7	-	1.1	4.8
Tanners Creek Elementary School	12.5	-	9.5	22.0
Taylor Elementary School	3.7	3.7	-	7.4
Willard Model School	10.2	0.2	2.7	13.1
Willoughby Elementary School	-	0.2	-	0.2
Total	315.4	132.4	60.9	508.8





VACANT FUTURE RESIDENTIAL ACREAGE BY MIDDLE SCHOOL ATTENDANCE BOUNDARY	Low Density	MEDIUM DENSITY	HIGH DENSITY	TOTAL
Azalea Gardens Middle School	55.2	80.2	3.4	138.8
Blair Middle School	38.4	10.9	9.4	58.7
Lafayette-Winona Middle School	61.6	4.4	3.1	69.2
Lake Taylor Middle School	89.2	1.8	17.9	108.9
Northside Middle School	17.1	17.2	9.0	43.4
Norview Middle School	35.1	0.7	10.7	46.5
Ruffner Academy	18.7	17.3	7.4	43.4
Total	315.4	132.4	60.9	508.8

VACANT FUTURE RESIDENTIAL ACREAGE BY HIGH SCHOOL ATTENDANCE BOUNDARY	Low Density	MEDIUM DENSITY	HIGH DENSITY	TOTAL
Booker T. Washington High School	69.3	7.7	8.6	85.5
Granby High School	64.9	13.5	9.6	88.0
Lake Taylor High School	100.2	78.0	20.1	198.4
Maury High School	41.8	11.9	12.0	65.7
Norview High School	39.2	21.3	10.7	71.2
Total	315.4	132.4	60.9	508.8

VACANT FUTURE RESIDENTIAL LAND STUDENT POTENTIAL

Using information gathered from student locations and current land use, student potential was analyzed in areas planned for future residential development. By applying current student yields from various existing residential land use densities to future residential land use of similar density, student potential was calculated by school attendance boundary. The maps and tables on the following pages depict total student potential for each residential density type by school attendance boundary at the elementary, middle, and high school levels.







Elementary School Grades Student Potential







At the elementary level, there is potential for a total of 1,134 students to be generated from future residential land development. Land within the Little Creek Elementary School attendance area has the most potential for students of all elementary schools in NPS at 248. There is no land within the Willoughby Elementary School attendance area that has been classified as vacant residential land. As such, there is no potential for future students to be generated from vacant land in this area.

Vacant Future Residential Student Potential by Elementary School Attendance Boundary	Low Density	Medium Density	High Density	Total
Bay View Elementary School	6	4	0	10
Calcott Elementary School	7	0	0	7
Camp Allen Elementary School	4	0	0	4
Campostella Elementary School	32	1	102	135
Chesterfield Academy	10	2	55	67
Coleman Place Elementary School	14	15	0	29
Crossroads Elementary School	11	0	0	11
Fairlawn Elementary School	22	0	5	27
Granby Elementary School	5	2	0	7
Ingleside Elementary School	1	0	8	9
Jacox Elementary School	88	0	3	91
Larchmont Elementary School	5	5	13	23
Larrymore Elementary School	3	0	0	3
Lindenwood Elementary School	30	2	1	33
Little Creek Elementary School	20	218	10	248
Monroe Elementary School	24	2	0	26
Norview Elementary School	8	0	10	18
Ocean View Elementary School	7	17	21	45
Oceanair Elementary School	0	20	0	20
PB Young, Sr. Elementary School	8	9	0	17
Poplar Halls Elementary School	6	0	0	6
Richard Bowling Elementary School	14	113	0	127
Sewells Point Elementary	1	1	0	2
Sherwood Forest Elementary	8	0	0	8
St. Helena Elementary School	26	0	58	84
Suburban Park Elementary School	3	0	3	6
Tanners Creek Elementary School	13	0	33	46
Taylor Elementary School	4	4	0	8
Willard Model School	8	0	9	17
Willoughby Elementary School	0	0	0	0
Total	388	415	331	1,134







Middle School Grades Student Potential







At the middle school level, there is potential for a total of 334 students to be generated from future residential land development. Land within the Azalea Gardens Middle School attendance area has the most potential for students of all middle schools in NPS at 80. Areas with the lowest potential for students to be generated are at Blair, Northside, and Norview middle schools with a total of 30 each.

Vacant Future Residential Student Potential by Middle School Attendance Boundary	Low Density	Medium Density	High Density	Total
Azalea Gardens Middle School	15	62	3	80
Blair Middle School	14	10	6	30
Lafayette-Winona Middle School	24	5	2	31
Lake Taylor Middle School	25	2	36	63
Northside Middle School	7	14	9	30
Norview Middle School	14	1	15	30
Ruffner Academy	12	39	19	70
Total	111	133	90	334

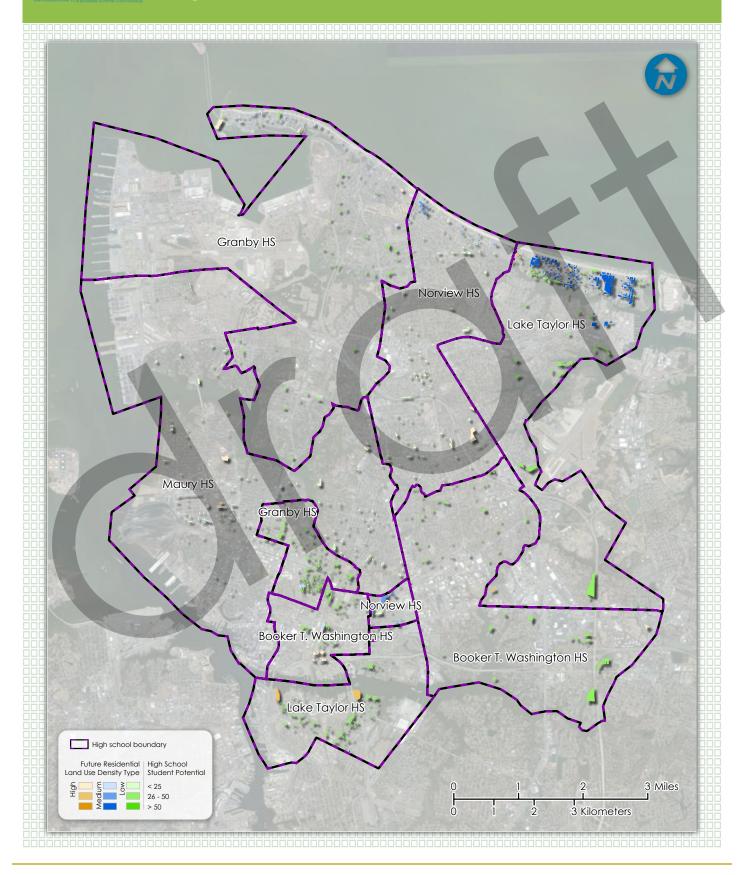








Nortelle Public Schools High School Grades Student Potential







At the high school level, there is potential for a total of 377 students to be generated from future residential land development. Land within the Lake Taylor High School attendance area has the most potential for students of all high schools in NPS at 156. The Maury High School attendance area has the lowest number of potential students to be generated from future residential land development at 38.

Vacant Future Residential Student Potential by High School Attendance Boundary	Low Density	Medium Density	High Density	Total
Booker T. Washington High School	29	13	17	59
Granby High School	35	15	10	60
Lake Taylor High School	41	84	31	156
Maury High School	22	10	6	38
Norview High School	21	27	16	64
Total	148	149	80	377

Division-wide, there is potential for a total of 1,845 students to be generated from future residential land development. The elementary level has the most potential for future students, as it currently has the highest population density of students in the Division.

Vacant Future Residential Total Student Potential by Grade Configuration	Low Density	Medium Density	High Density	Total	
Elementary	388	415	331	1,134	
Middle	111	133	90	334	
High	148	149	80	377	
Total	647	697	501	1,845	





DEMOLITION AND NEW BUILDING PERMITS (HOUSING STRUCTURE TURNOVER)

Because much of Norfolk has been developed, many areas of the City have been undergoing redevelopment through demolition and rebuilding. The animated* map on the next page depicts building and demolition permit locations beginning in the year 2006 by their location and date of issue.

By analyzing demolition permits and new building permits, DeJONG-RICHTER found that out of 3,140 residential units that have been demolished since 2002, there have been 2,697 new residential housing unit permits issued in those demolished locations. So, roughly eighty-six percent of demolished residential units result in residential unit redevelopment. Comparisons of students to new residential units permitted at previously demolished housing units were also made. Since 2002, these new housing units have yielded roughly 0.67 students per unit. The first table below shows counts of demolitions that have been followed by residential building permits for each year beginning in 2002. The second table shows new residential housing unit totals that replaced demolished housing units and have resulted in a student residing at that location.

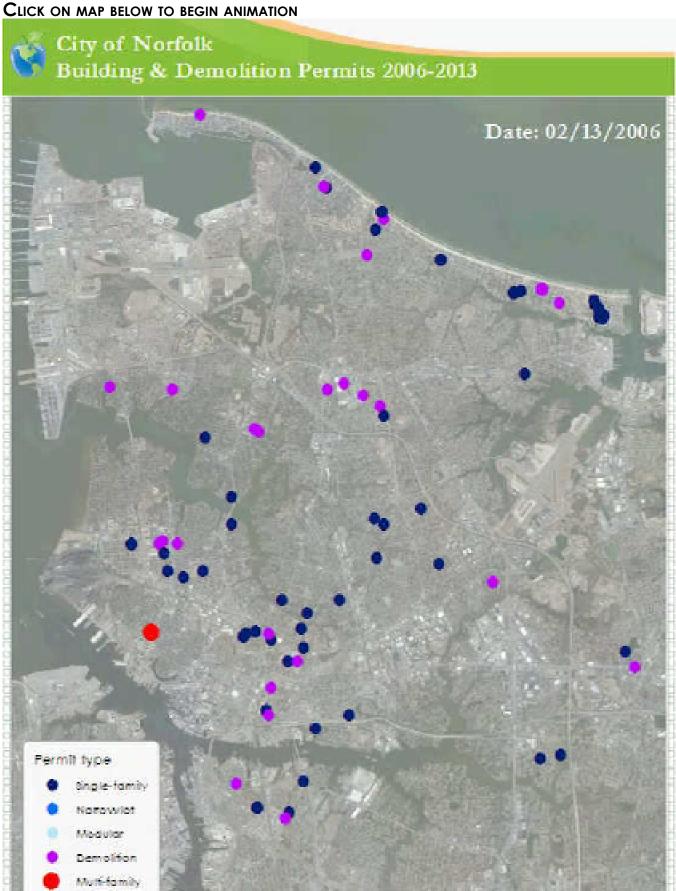
*NOTE: Animated map may only be viewed from within electronic PDF file.

YEAR	Alaura Drugen	New Residential Unit Permits Issued at Demolition Sites										Torre	
TEAR	UNITS DEMOED	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	TOTAL
2002	303	129	25	14	5	6	3	1	1	2	2	0	188
2003	201		183	64	11	6	7	1	0	0	0	0	272
2004	770			700	51	1	3	2	0	1	1	0	759
2005	241				41	37	6	3	20	5	7	8	127
2006	310					81	29	127	66	2	1	5	311
2007	360					32	29	29	224	9	2	2	327
2008	135							25	8	5	1	10	49
2009	132								240	11	7	1	259
2010	113									33	8	3	44
2011	303										75	25	100
2012	272											261	261
TOTAL	3,140	129	208	778	108	163	77	188	559	68	104	315	2,697

DEMO	New Residential Students Resulting from New Residential Units Units Since							TOTAL			
YEAR	DEMO YEAR	2005	2006	2007	2008	2009	2010	2011	2012	2013	IOIAL
2002	188	30	20	6	13	10	21	5	7	12	124
2003	272	21	17	11	7	12	30	8	6	11	123
2004	759	124	171	60	51	63	162	67	59	88	845
2005	127	21	8	12	11	9	41	15	6	13	136
2006	311	-	16	5	12	18	114	43	52	39	299
2007	327	-	-	12	3	19	21	11	21	12	99
2008	49	-	1	-	1	10	17	3	5	7	43
2009	259	-	-	-	-	5	17	7	7	8	44
2010	44	-	ı	-	-	1	11	18	4	3	36
2011	100	-	-	-	-	-	-	8	13	16	37
2012	261	-	-	-	-	-	-	-	4	26	30
TOTAL	2,697	196	232	106	98	146	434	185	184	235	1,816











PLANNED DEVELOPMENTS

Currently, there are a number of residential developments that have been planned, are approved, or are in progress. As data describing numbers of residential units within Norfolk is unavailable, analysis of student potential at these locations was not possible. Many of these projects fall into either the category of being developed on vacant future residential land or through redevelopment of existing land. Through discussion with City planners, many of the developments listed will most likely yield few to no students though these locations should be closely monitored for any potential impacts to future enrollment. The table below lists current residential projects within Norfolk and the available details regarding each. On the next page is a map showing the locations of each of the listed planned developments within the City of Norfolk. The following table and map are provided for informational purposes only.

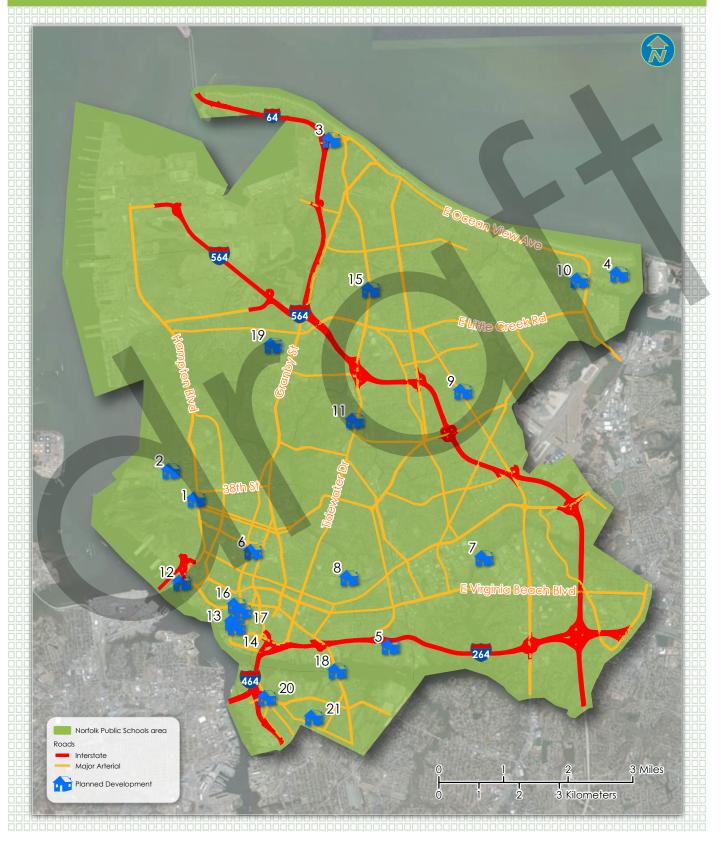
Map ID	Development Name	Number	Timeframe
map ib	Development Name	of Units	minemanic
1	26th Street Housing (NRHA)	14	Under construction
2	43rd Street Townhomes (ODU CDC)	51	Occupied Fall 2011, construction continues
3	Bullock Park (single family subdivision)	12	Construction in 2012
4	East Beach Marina Apartments	136	In site plan. Unknown start date.
5	Grandy Village Public Housing Community (demolition and replacement)	188	New infill units underway.
6	The Element	164	Under construction
7	The Pointe at Pickett Farms	300	Under construction
8	Moton Circle site (demo and rebuilt)	TBD	Demo complete (138 units) replacement planning underway
9	Park Crescent Apartment expansion	112	Complete Fall 2012
10	Pointe East at Harbor Walk	157	Portion under construction for 2013 occupancy
11	Promenade Point	187	Under construction
12	Riverview Lofts (Krisp Pak rehab)	81	Complete Fall 2012
13	Rockefeller Apartments (Union Mission)	126	Property on the market
14	Savoy Apartments	TBD	Planning stage
15	Tidewater Drive townhomes	9	In site plan
16	Wainwright Building	126	Under construction
17	401 Granby Street and 416 Boush Street	136	Under construction
18	Water's Edge	248	Zoning approved. Unknown start
19	Westport Commons (Phase II)replace Riverside Terrace Apartments	373	Unknown start
20	Woda 701 S. Main Street	50	Waiting for tax credits
21	The Crossing at Berkley Station	156	Waiting for tax credits







City of Norfolk Norfolk Public Schools Planned Residential Developments







CONCLUSION

Due to the established nature of land use and development in Norfolk Public Schools, there remains modest potential for additional student enrollment as a result of residential development. Since the majority of land in Norfolk has been developed, most housing starts in the City will be brought about by demolition of existing housing. Potential for vacant land to be developed does exist in small pockets though areas of highest student potential are located mostly in the northeastern region of the Division. Remaining parcels of vacant land with potential to generate students are dispersed throughout the Division.

Overall, from areas of vacant land within Norfolk Public Schools, there is potential for 1,845 PK-12th grade students Division-wide. This estimate is based on current land use acreage, student densities and current residential development plans. Should any assumptions used in this analysis such as acreage, student density or planned residential densities change, a review should be conducted to determine the impact on student estimates.

It should also be noted that student potential calculated in this report focuses only on areas of vacant land planned as future residential areas at the time of this report. Vacant land and areas of gentrification in the Division that may become available for development should be closely monitored as these areas will potentially generate students. Also, close attention should be paid to the changing economic conditions and how the Division's enrollment reflects those changes.

Should residential development begin to increase and generate estimated student enrollments, it will be imperative for the Division to make efficient use of existing facilities. As the Division explores their options with regard to the Transformation Initiative and facility usage through the Facility Usage Study, information about potential future populations is imperative. The information and results contained herein will be used to help guide planning decisions that support the future implementation and success of the Transformation Initiative.

DeJONG-RICHTER is pleased to have had the opportunity to provide NPS with these services. We hope this document will provide the necessary information to make informed decisions about the future of Norfolk Public Schools.