



2018 - 2028 School Growth Estimates

Based on 2017/2018 Student Enrollment Data

A 10 Year Facility Construction Plan

Prepared By: CMCSS Facilities Management



Overview:

Clarksville and surrounding Montgomery County remain one of the fastest growing areas in the state of Tennessee. This high rate of growth presents certain challenges to our local education institutions. This study is intended to provide a snapshot of some of the challenges and offer solutions that can be developed to meet the diverse needs of our increasing population. This planning document is updated each year as a way of anticipating, estimating, and developing timelines for capital investments. This is a planning document and serves as a basis for financial discussions as well as for anticipating re-zoning efforts.

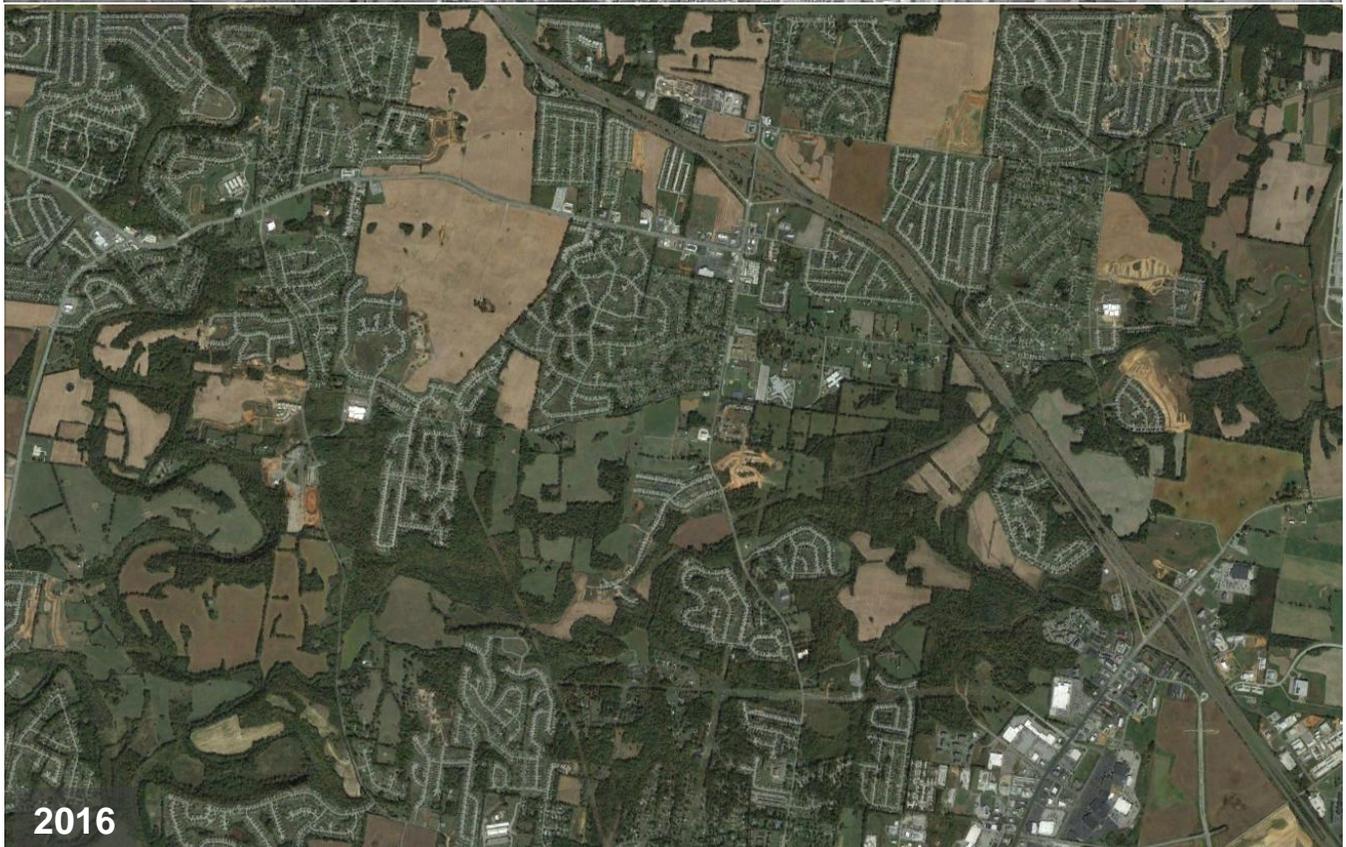
The Map on page **eight** depicts Montgomery County divided into 5 zoning regions. These zoning regions are a combination of 21 civil districts of Montgomery County and 7 high school feeder systems. The purpose of this subdivision is to focus capital investments on capacity where the capacity is needed now and in the next ten years. By reflecting existing school feeder systems it is possible to minimize mass rezoning. By closely matching county civil districts it is possible to extract information from planning commission and other agency files and analyze other relevant data as it relates to county growth rates. The essence of the study is a comparison of zoning region capacity and enrollment over time is an important analysis within each zoning region.

This zoning region capacity and enrollment analysis is found on pages **nine through fourteen**. Each page shows a separate capacity break even projection for elementary schools, middle schools, and high schools in the region. Each sheet also summarizes the analysis and the capital construction impact in terms of land acquisition and construction.

The capacity break even analysis is developed using three pieces of information. First it plots the historic 40th day enrollment at each school in the region (blue dots) from 1998-99 to the present. The second piece of information shown on each chart is the current established BEP capacity for buildings in the region (pink). The final piece of information is a projection model based on a linear regression of the appropriate enrollment data sets. In some cases multiple regressions are performed on multiple data sets to provided additional projections for consideration using different variables.

The final sheet in the report is a charted timeline indicating the construction sequence over the next ten years developed using the previous models. This chart is used for interdepartmental discussions regarding academic needs, land acquisition, zoning, and school funding resolutions. This report is the basis for CMCSS building programs.

Residential Growth – North Clarksville Between 1997 – 2016:



Growth Along Oakland Rd. Between 1997 – 2016:



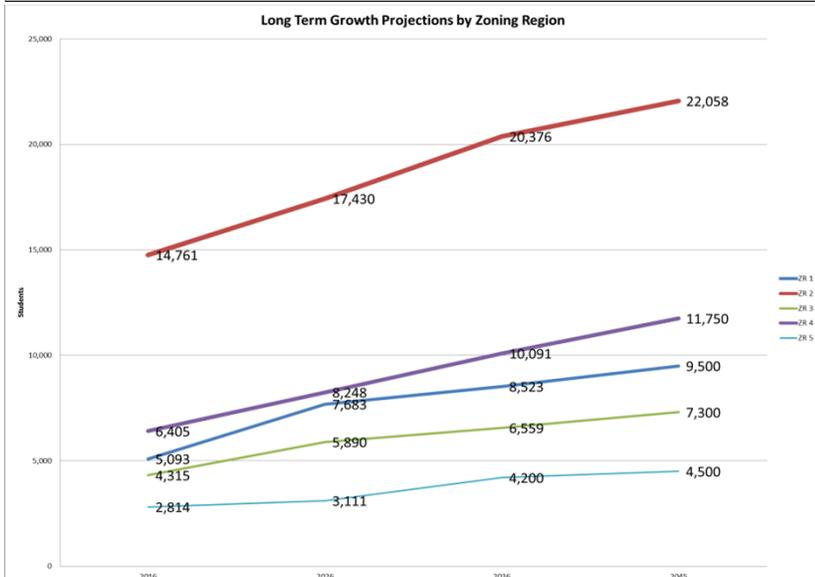
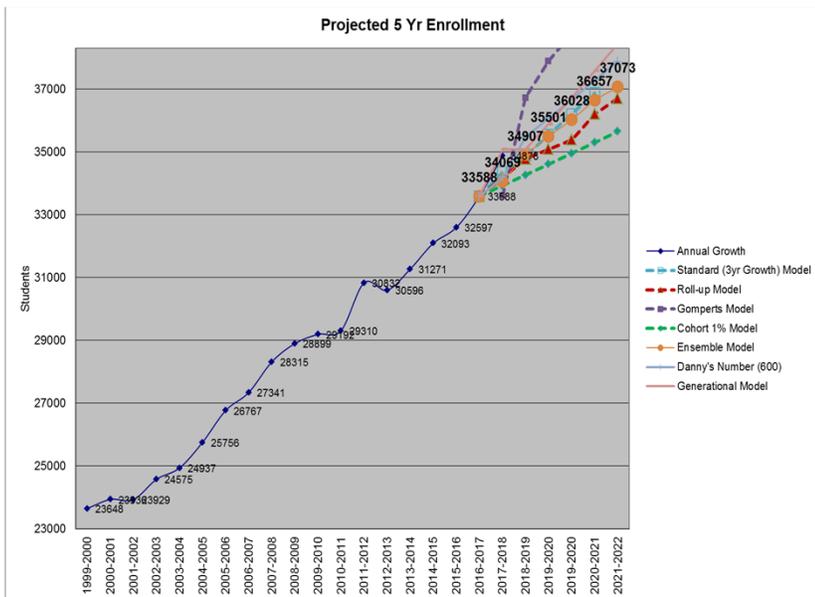
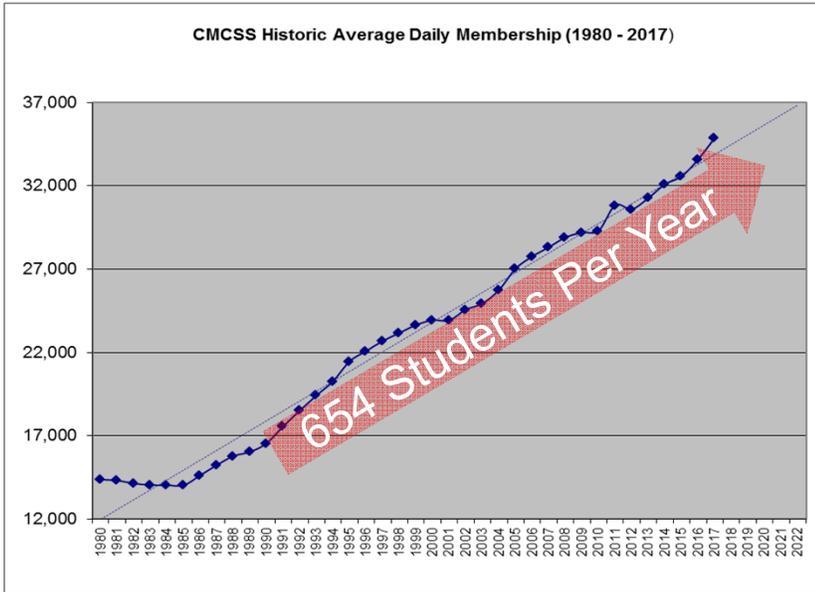
Montgomery County Student Growth Statistics

Growth Data Analysis:

Enrollment growth in the district continues to rise at a 30 year average of approximately 654 students per year. This growth mirrors current census figures which indicate 28% growth in the community. Construction of new school capacity has kept up with this growth rate and the CMCSS proposed building program is designed to address these projected capacity needs.

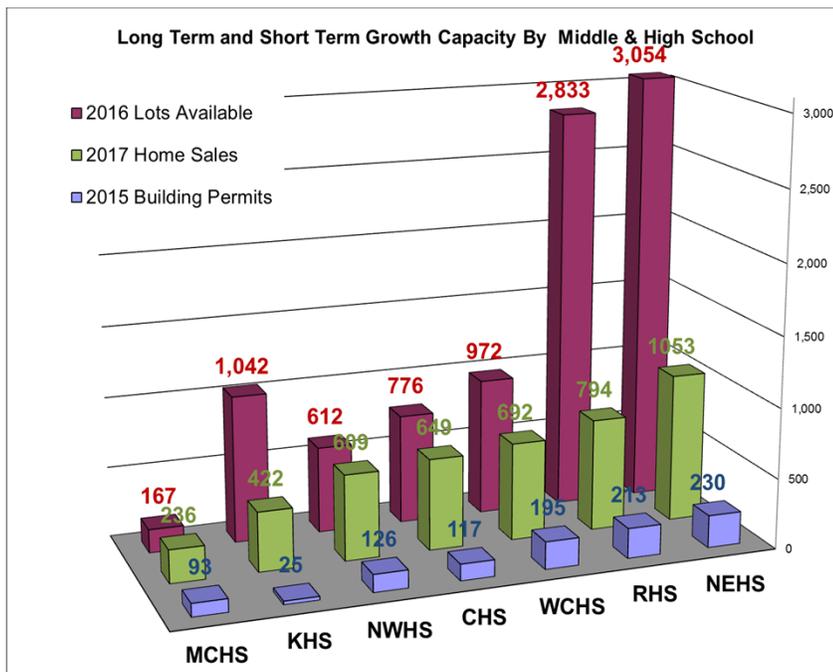
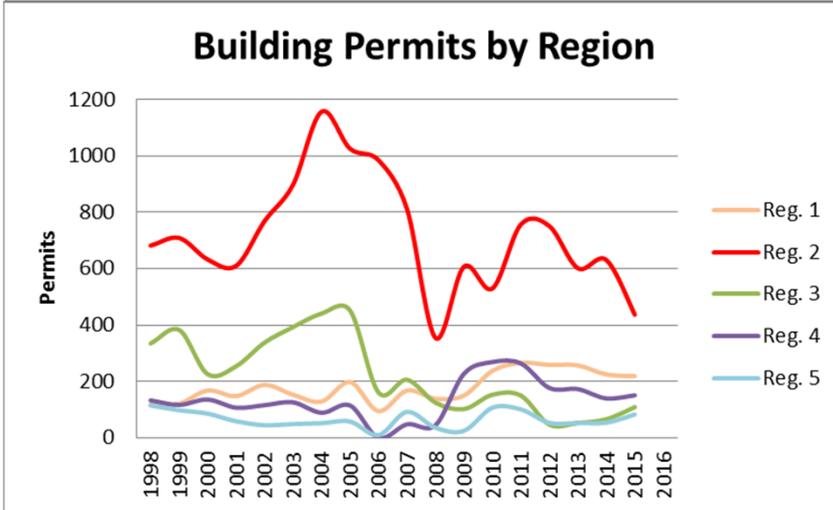
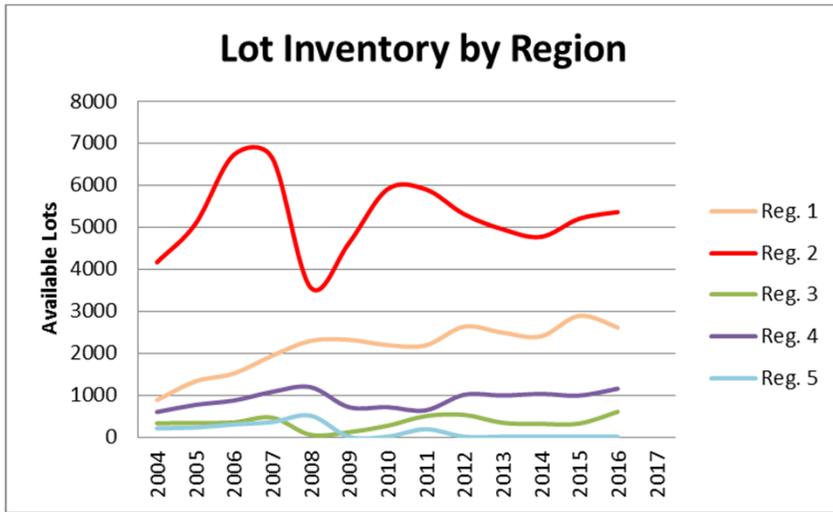
Growth projection models indicate annual growth cycles of between 1.5 to 2 years. Growth in Montgomery County is historically impacted by variables associated with general community employment and the Fort Campbell Army Base. The data suggests that CMCSS is currently in a growth period which should bring increased enrollments over the next several years. A slight slowdown in growth may follow, although overall growth is likely to continue increasing. This Increase in enrollment will be limited regionally to a few highly impacted buildings. Growth averages should remain between 200-700 additional students annually.

Third party modelling indicates continual growth in Montgomery County through 2045; as high as 60%. CMCSS would have a projected total enrollment in 2045 of over 55,000 students. This growth is further anticipated to occur regionally throughout the County with the highest growth expected in the Northern and Eastern regions.



Montgomery County Demographics

Residential Growth Statistics



Growth Data Analysis:

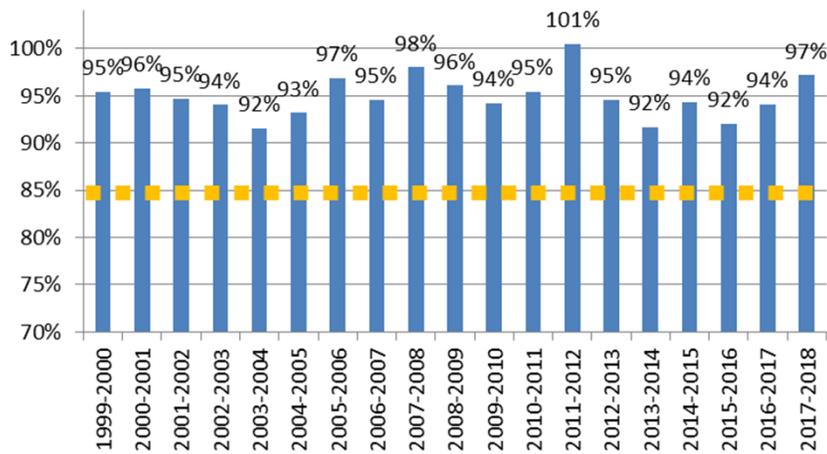
Residential growth in Montgomery County has historically been a good indicator of regional student growth trends in CMCSS. Current Regional Planning Commission (RPC) data indicates that the northeastern portion of Montgomery County (Regions 1 and 2) continue to develop at the fastest rate and hold the most capacity (land) for future residential development. Local homebuilders support this theory and also suggest that the highest potential for residential sales probability remains in the north and eastern regions as well.

Although residential growth in Montgomery County had been slowed in 2008 due to national economic conditions, current RPC building permit data indicates continued building at, or at near, historical levels with the highest activity in the **north** and **eastern** sections of the county.

CMCSS continues to focus school building programs in these highly impacted areas (Regions 1 and 2) are closely related to the Northeast and Rossvie high school boundaries. School capacity continues to be strained in these areas due to Build-out of approved existing lots. Regions one and two (Northeast and Rossvie) experience faster growth with higher potential for growth.

Montgomery County Capacity Statistics

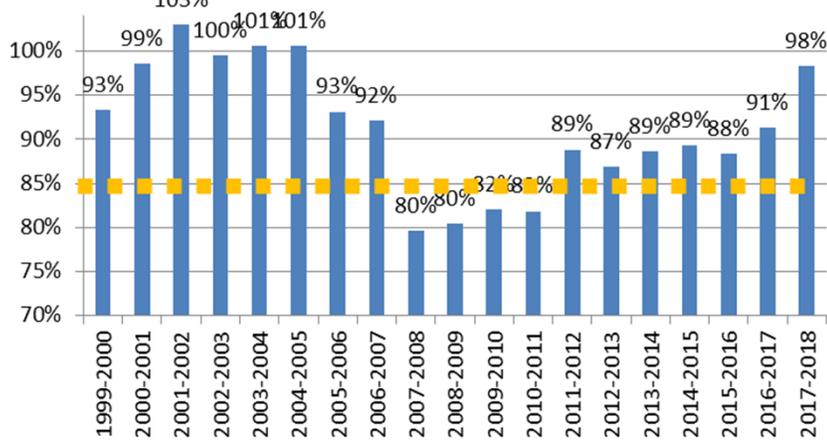
KPI: % Capacity of Elementary



Capacity Data Analysis:

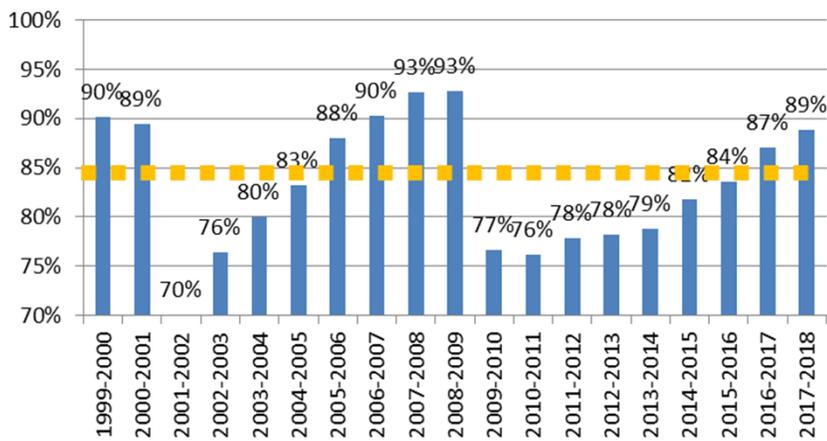
Capacity at the elementary school level continues to be strained throughout the district. The Northern areas of the county that have been most impacted by residential growth exhibit the majority of capacity issues. Oakland Elementary was the last elementary school added in 2015 and the district as a whole is at 97% of its overall capacity. Far above the district target of 85%.

KPI: % Capacity of Middle



Capacity at the Middle school level is now a critical level across the district. At 98%, middle schools are above the 85% target with little room to absorb additional growth. Data suggests that overall middle school enrollment is seeing a bubble and capacity at some schools in northern regions may need to be marginally increased in the near future.

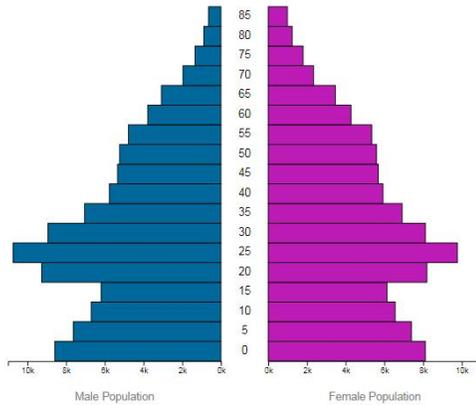
KPI: % Capacity of High



Capacity at the High schools are in the best shape across the district although they are above the 85% district target. At 89% there is still room to absorb additional student growth in some areas of the County with the exception of Rossvie.

Montgomery County Capacity Statistics

Montgomery County Population Pyramid

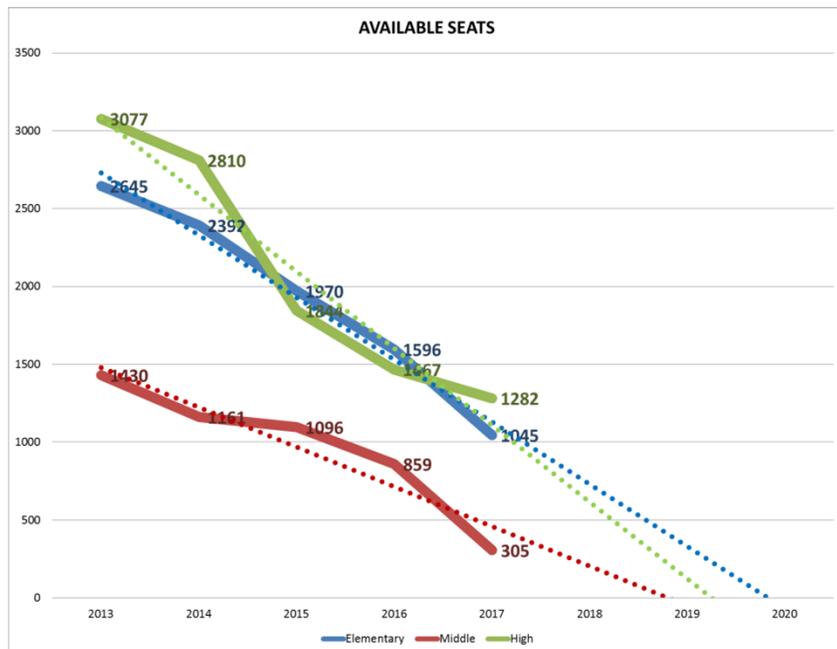
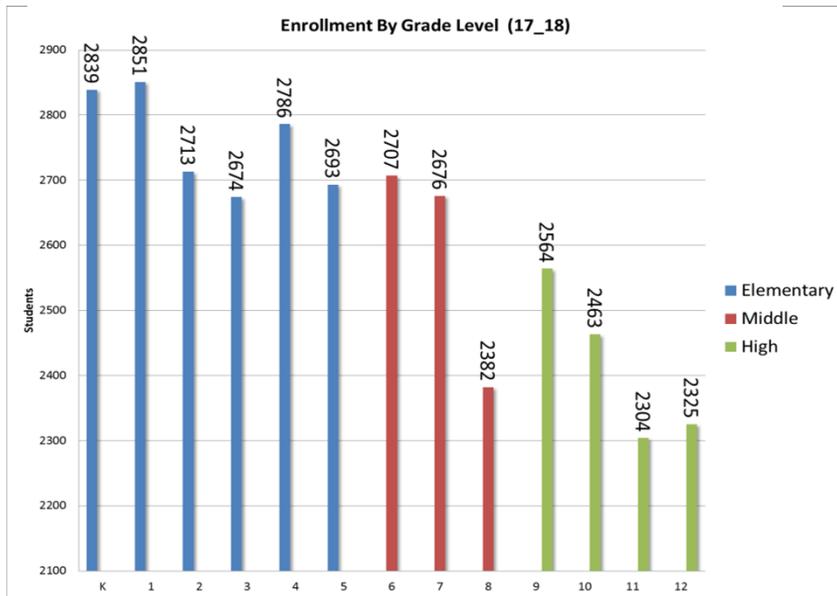


Demographic Capacity Analysis:

Montgomery County population data indicates a sudden change in demographics. The largest current demographic (commonly referred to as millennials) is now of child bearing age (20-35). An echo boom is building behind them at the Elementary level. 0 to 5 year olds are now the fourth highest demographic in the Montgomery County population pyramid. This is likely to drive additional growth at Pre-k and Kindergarten levels in the near future.

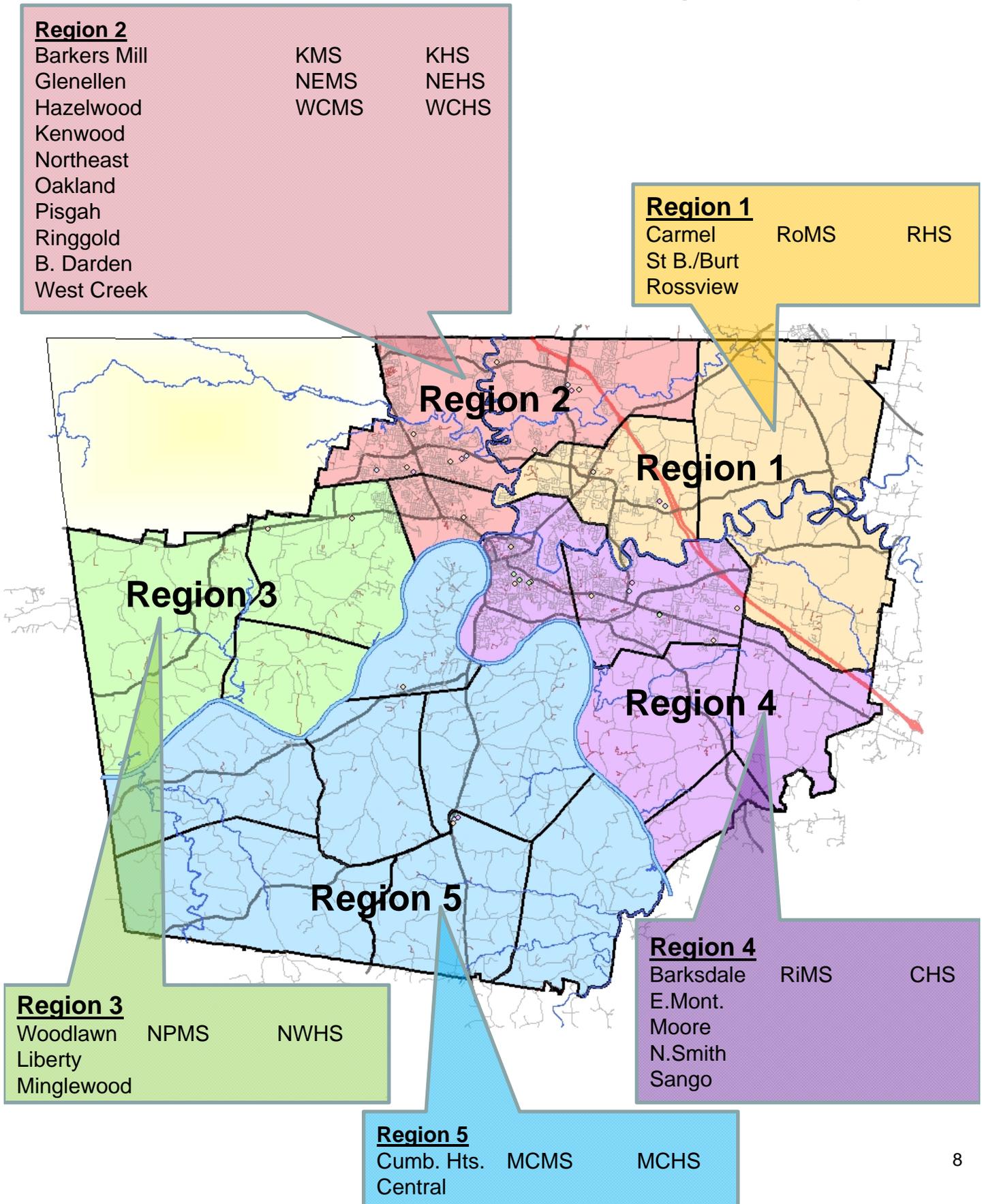
This is supported by current grade level enrollment data which suggests that growth is not consistent by grade level. A growth bubble exists between 8th grade and 10th grade, and another in the elementary schools. This indicates that as students roll forward, capacities will soon be stretched thin at some middle schools. Kindergarten and first grade enrollment is 23% higher than Junior and Senior enrollment.

This increase in grade level enrollment at the middle school is having a drastic impact districtwide in classroom capacity. There are less than 305 seats available at that level. The seats available at both Elementary and High schools to serve our increases student enrollment of over 34,000 students is just over 6 percent.



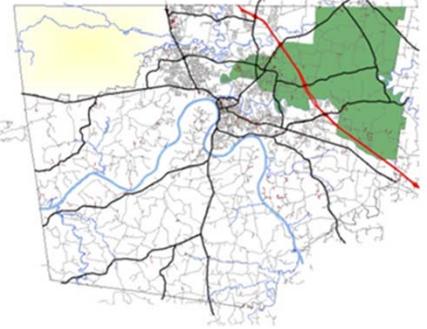
Zoning Regions

Combination of 21 Civil Districts and 7 Mid/High Feeder Systems



Region 1 Capacity

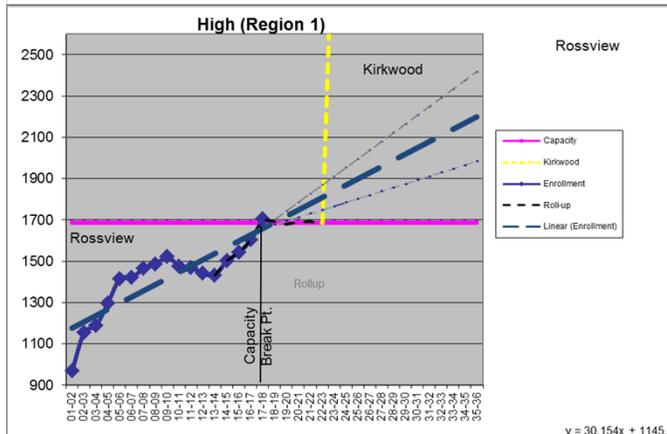
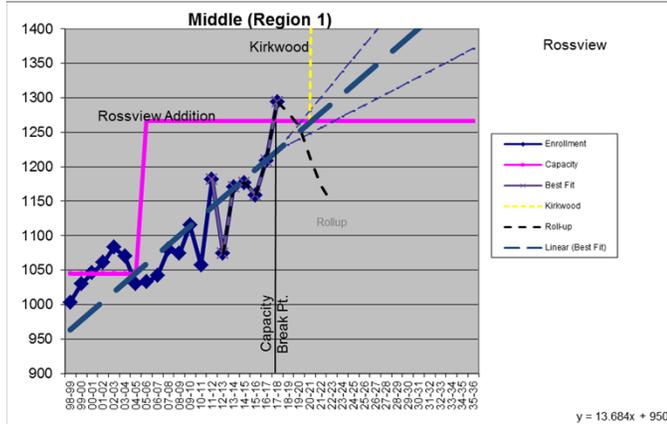
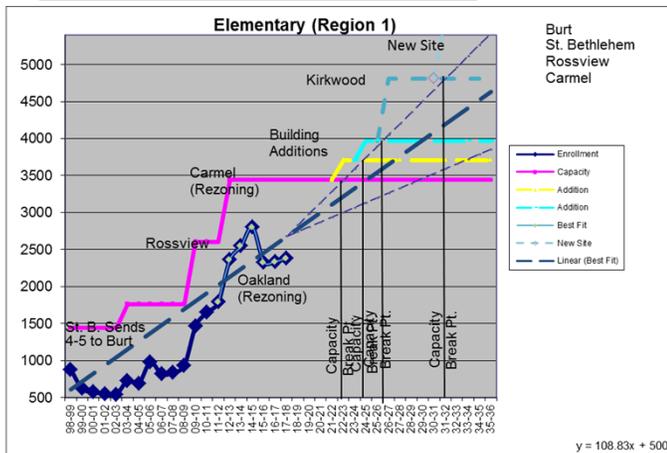
Zoning Region Capacity and Enrollment Analysis 2014 to 2034



Community Growth Data:

2015 Permits: 219
2016 Approved Lots: 2,619

Student Growth Data:



Analysis:

Zoning Region **One** encompasses 81 square miles in the most northeastern portion of Montgomery County. This area lies East of the industrial park, South of the Kentucky state line, West of the Robertson County line, and north of downtown and Highway 41-A.

This region continues to experience the County's second highest long term student growth trend at elementary, middle, and high schools. There is high residential growth in this region and high potential for growth. This is leading to localized capacity constraints that will worsen in the future.

The opening of Oakland Elementary school in 2015 alleviated overcrowding at Rossview elementary as over 600 students were moved to region 2, but this only provided temporary relief and Rossview is once again over 100% capacity. Due to physical boundaries such as the Red River and current transportation limitations, capacity at Carmel cannot easily be utilized to reduce growth in the Rossview zone

Middle school capacity has surpassed the break even point with a steep inflow of the Elementary student bubble. Relief for the middle school will be provided by the construction of Kirkwood middle school.

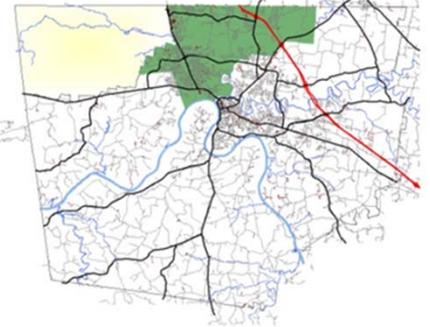
Current growth trends indicate high school capacity is reaching a break even point. Relief for high school growth will be provided by the construction of Kirkwood High school which will impact both zoning regions 1 and 2.

Construction Summary:

- Elementary Addition: 2020 (RvES)
- Rezone Middle School: 2021 (Kirkwood)
- Elementary Addition: 2024 (Carmel)
- Elementary Addition: 2025 (Reg. 1)
- Rezone High School: 2023 (Kirkwood)
- Open Elementary: 2026 (Kirkwood)
- Purchase Land / Open Elementary: 2030

Region 2 Capacity

Zoning Region Capacity and Enrollment Analysis 2016 to 2036



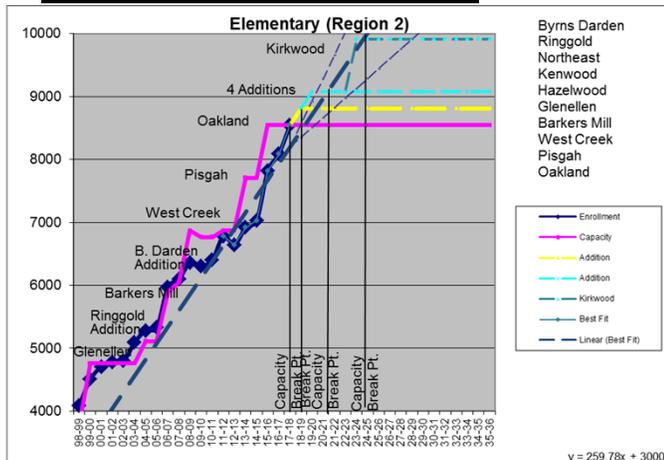
Community Growth Data:

2015 Permits: 437
2016 Approved Lots: 5,368

Analysis:

Zoning Region **Two** encompasses the most northernmost portion of Montgomery County. Covering approximately 55 square miles, this region is the smallest of the five regions. It falls between the industrial park and the Ft. Campbell Army base which is located to its West.

Student Growth Data:

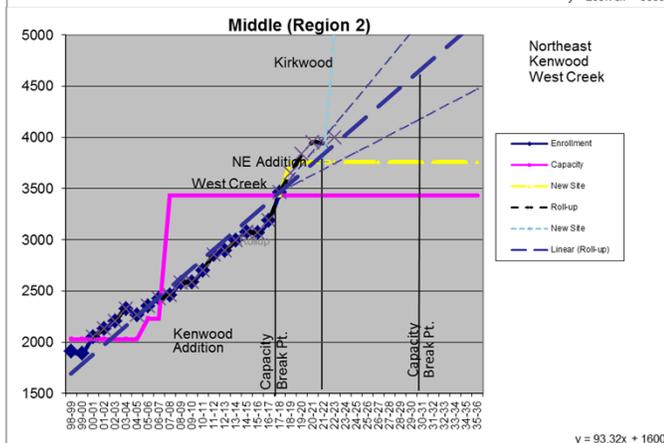


This region continues to experience the County's highest long term growth trends at all three levels. Residential growth in this region continues to grow quickly with the potential for significant future growth. Middle and high school growth outpaces the other four regions by 60% or greater.

Elementary School capacity is at its break even point. A twelve classroom addition project is scheduled to open at Barkers Mill Elementary school to provide short term relief.

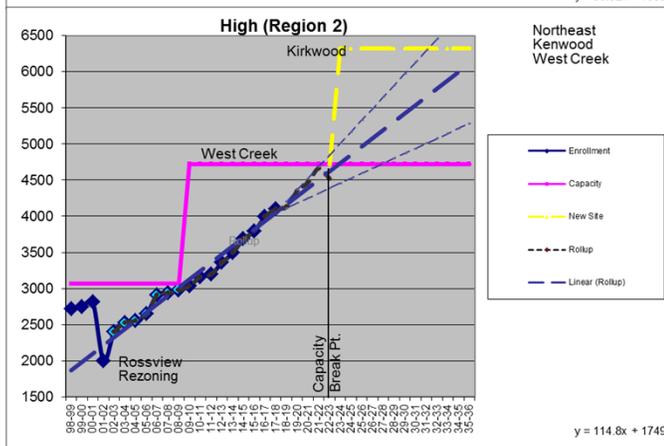
Middle school capacity here is likely to reach break even by 2019, and High Schools will likely break even some time near the year 2021. A ten classroom addition project is scheduled to open at Northeast Middle and a twelve classroom addition at Northeast High school will provide short term relief. The construction of Kirkwood middle and high schools would also reduce the capacity needs in region one.

Spot re-zoning or the use of temporary classrooms will be necessary at all levels in this region depending on variations in growth trends or to better utilize existing capacity in facilities across the district. Plans for acquiring additional middle school capacity are in discussions.



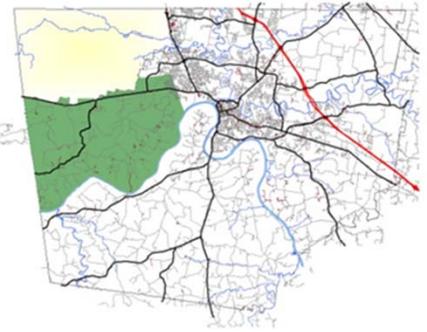
Construction Summary:

- Elementary Addition: 2018 (Barkers Mill)
- Middle Addition: 2018 (Northeast)
- High School Addition: 2018 (Northeast)
- Elementary Addition: 2020 (West Creek)
- Open Middle: 2021 (Kirkwood)
- Elementary Addition: 2022 (Oakland)
- Elementary Addition: 2022 (Pisgah)
- Open High School: 2023 (Kirkwood)
- Open Elementary: 2026 (Kirkwood)
- Purchase Land for New Elementary: 2030



Region 3 Capacity

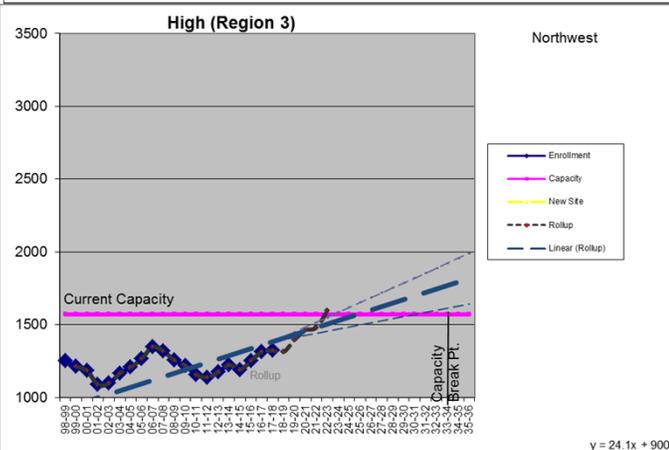
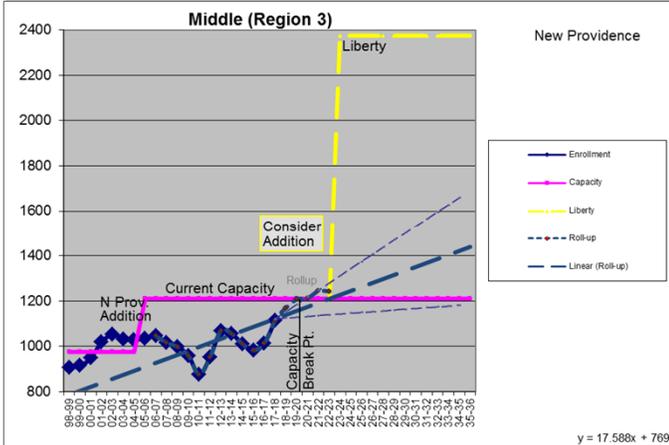
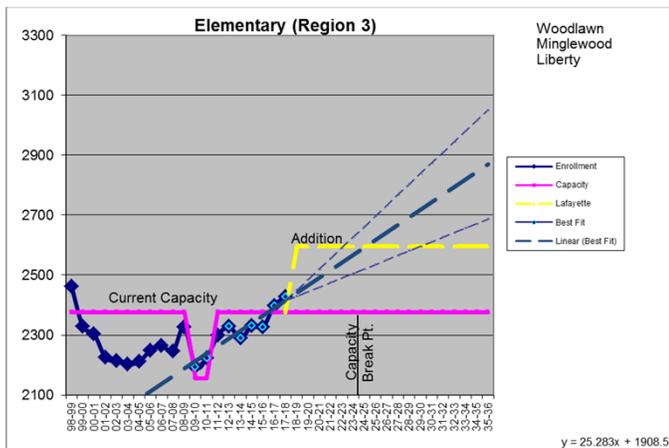
Zoning Region Capacity and Enrollment Analysis 2016 to 2036



Community Growth Data:

2015 Permits: 109
2016 Approved Lots: 612

Student Growth Data:



Analysis:

Zoning Region **Three** encompasses 77 square miles of the western most portion of Montgomery County. This area is directly south of the Ft. Campbell Army installation, and borders Stewart County to the West.

Zoning Region Three continues to experience the county's second slowest growth rate.

While this region contains a more transient population, small pockets of residential growth still remain along Dover road. While not high; it warrants watching because remaining capacities are limited. A twelve classroom addition project is scheduled to open at Minglewood Elementary school to provide short term relief

Due to the lower residential growth rate, enrollment is difficult to predict beyond five years. The data seems to indicate that middle, and high school enrollment will hover just below capacity until 2022 when an addition, redistricting, or new construction at Liberty may be necessary.

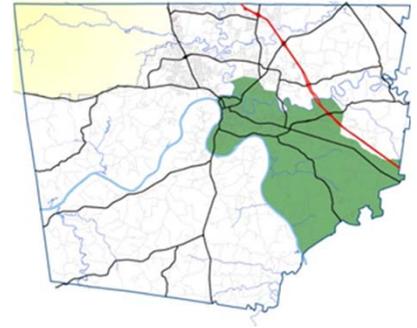
Construction in this region will likely focus mainly on renovating existing facilities with the addition of new capacity where possible.

Construction Summary:

- Elementary Addition: 2018 (Minglewood)
- Middle Addition (renovation): 2024 (NPMS)
- OR-
- Open Liberty Mid/High : 2024

Region 4 Capacity

Zoning Region Capacity and Enrollment Analysis 2016 to 2036



Community Growth Data:

2015 Permits: 151
2016 Approved Lots: 1,162

Analysis:

Zoning Region **Four** encompasses the Southeastern portion of Montgomery County. This 88 square mile area extends from downtown Clarksville to Interstate 24 and the Cheatham County Line, and along the Cumberland River.

Student growth in this region is relatively flat, but seems to be picking up. Potential for residential growth is third smallest of the five.

While residential growth in this region skyrocketed in the mid 2000's, it has stabilized at a much lower pace of late. This may be due to a number of factors such as availability of utilities, age of population, and higher real estate prices in the area.

Elementary school capacity in this region is currently above enrollment and the model suggests that this should be the case for the foreseeable future.

Middle and high school enrollment is nearing capacity, but with fewer students feeding from the elementary schools this should be manageable.

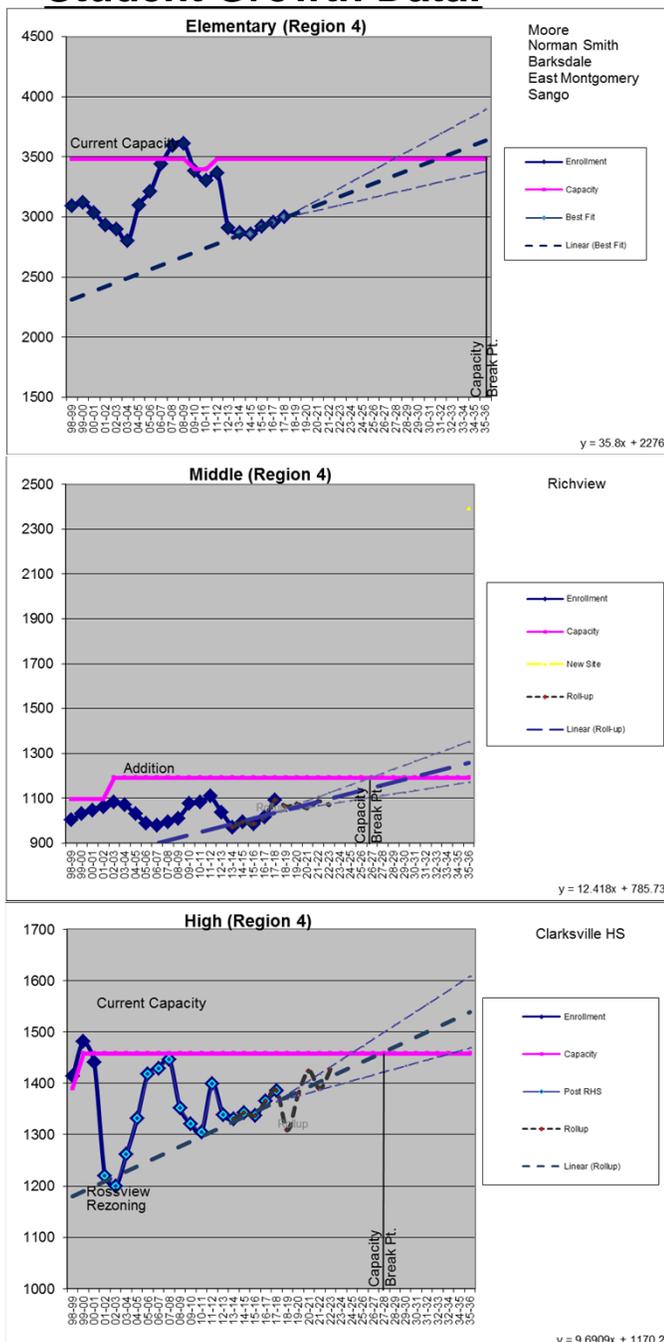
Spot re-zoning or the use of temporary classrooms may be necessary at the middle and high school level depending on regional variations in development or to better utilize existing capacity in facilities across the district.

Construction Summary:

Rezone Middle School: 2021 (Kirkwood)

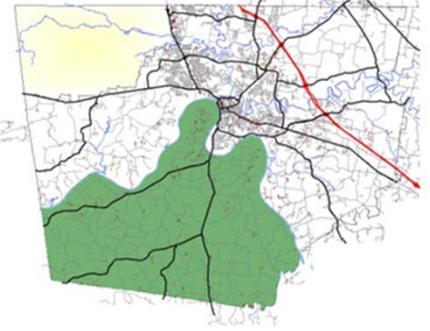
Rezone High School: 2023 (Kirkwood)

Student Growth Data:



Region 5 Capacity

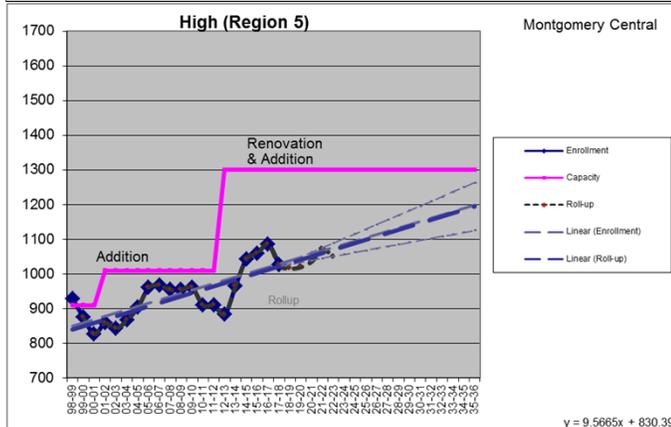
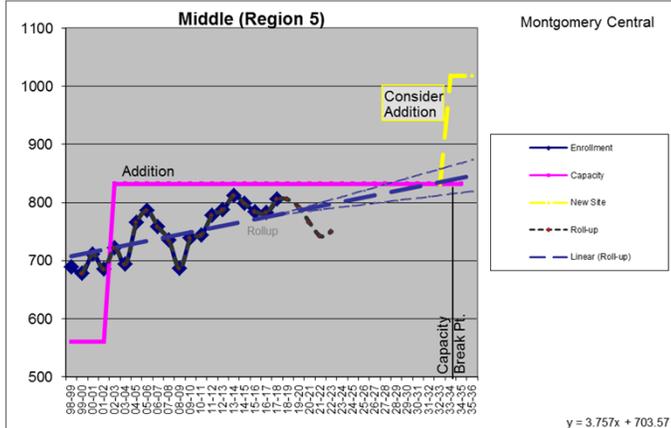
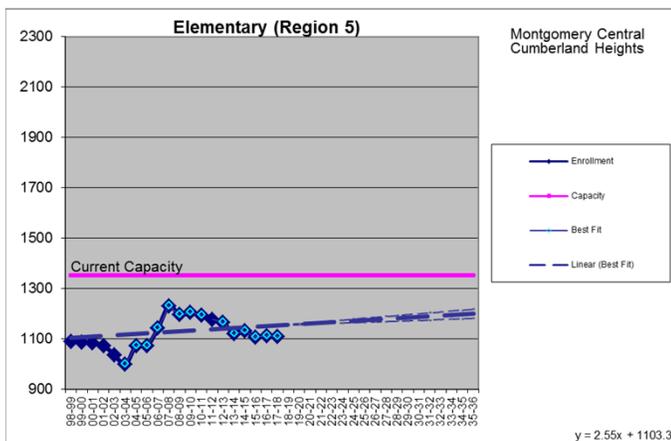
Zoning Region Capacity and Enrollment Analysis 2016 to 2036



Community Growth Data:

2015 Permits: 83
2016 Approved Lots: 19

Student Growth Data:



Analysis:

Zoning Region **Five** encompasses the Southernmost portion of Montgomery County. This area encompasses 174 square miles from downtown Clarksville, south of the Cumberland River to the Houston and Dickson County Lines.

Residential growth in this region remains slow but steady. There is a low student growth trend in elementary, middle, and high schools.

The probability of residential development remains low in the long term with little potential for growth in the short term future.

Elementary school capacity in this region is currently above enrollment and the model suggests that this should be the case beyond 2030.

Middle school enrollment is nearing capacity, but should be manageable for the near future. There is sufficient high school capacity as well.

The use of temporary classrooms may be necessary at the middle school level prior to 2020 to balance with the high school which recently had an addition.

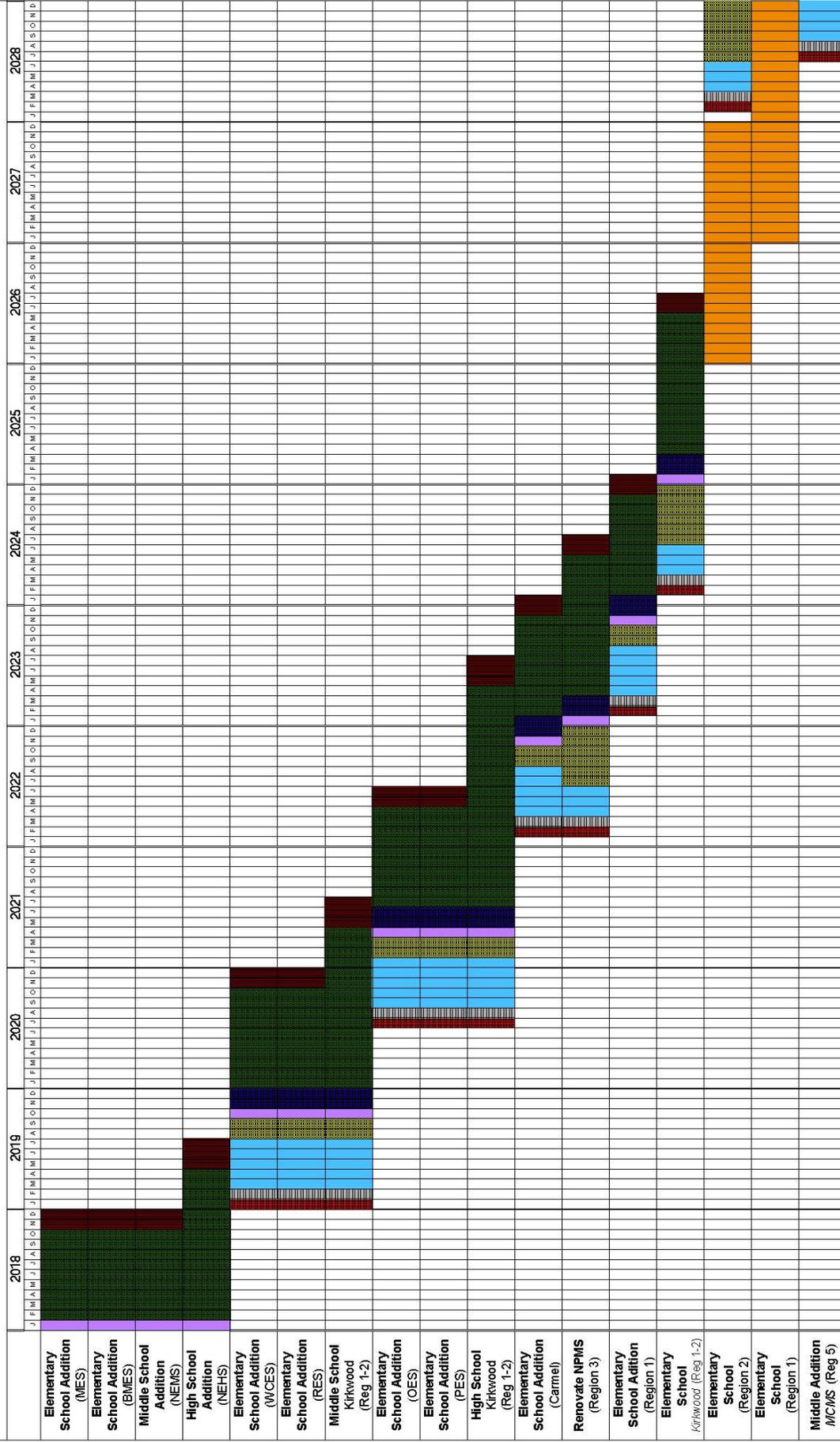
Planning should begin for additional middle school capacity beyond 2030.

Construction Summary:

- Middle School Addition: 2030
- Elementary Addition: 2035

10 Year Facility Construction Plan

(Construction Timeline 2018 - 2028)



Based on 2017/2018 Student Enrollment Data & County Financing Data