Long-Term Enrollment Forecast

ACPS and City of Alexandria
Long-Term Forecast

- Uses enrollment inputs forecasting model
  - Population forecast and birth rate
  - Kindergarten capture
  - Cohort survival by grade
- Reality check against
  - ACPS Mid-Term Projection
  - Student generation by residential type
  - Students per 1,000 population over time and compared to other jurisdictions
Long-Term Forecast

- Includes a recommended forecast and alternate potential scenarios
  - Anticipate facility needs based on realistic high enrollment scenario.
  - Be aware of other possible scenarios including higher and low potential enrollment scenarios
- Plan for flexibility in response to unknowns
Long-Term Forecast

Long-Term Enrollment Forecast and Alternate Scenarios

Kindergarten Through Grade 12 Total Enrollment

- Sustained Growth, High Enrollment Growth
- Recommended Planning Forecast. Birth Rate Constant 5 Years
- ACPS Mid-Term Projection
- Sustained Growth, Moderate Enrollment Growth
- Enrollment Through 2013

Enrollment Year September

- 2000
- 2005
- 2010
- 2015
- 2020
- 2025
- 2030
- 2035
- 2040

14,336
16,563
17,129
17,389
18,646
20,174
20,604
25,000
20,000
15,000
10,000
5,000
0
Long–Term Forecast Scenarios

- Recommended Forecast
  - Current baby “boomlet”: births, now rising, will hold steady, then decline
  - Improved economy, limited housing modestly increases number of families moving out of Alexandria. Counterbalanced by more families seeking urban location and lifestyle.
    - High enrollment forecast: births continue to increase
    - Moderate enrollment forecast: outmigration increases more rapidly
## Long-Term Forecast

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Year</th>
<th>Birth Rate</th>
<th>K Capture</th>
<th>Cohort Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPS–Mid-Term Projection</td>
<td>2023</td>
<td>Trend in 15-year average</td>
<td>3–year average (60.7%)</td>
<td>3–year average by school by grade</td>
</tr>
<tr>
<td>High Forecast</td>
<td>2040</td>
<td>Increases 5 years then falls</td>
<td>60% falls to 58% by 2040</td>
<td>By grade, falls 1 pt to 2040</td>
</tr>
<tr>
<td>Recommended Forecast</td>
<td>2040</td>
<td>Steady 5 years then falls</td>
<td>60% to 58% 5 yrs then 56% by 2040</td>
<td>Same</td>
</tr>
<tr>
<td>Moderate Forecast</td>
<td>2040</td>
<td>Same</td>
<td>60% to 58% 2 yrs then 56% by 2040</td>
<td>Falls 2 pts 2 years then 2 pts to 2040</td>
</tr>
</tbody>
</table>
Birth Rate

High Forecast – birth rate continues to rise 5 years

Recommended and moderate forecasts – birth rate stabilizes then falls

10-year period of stability, average birth rate 16.3/1000
Long-Term Forecast

Recommended and moderate forecasts – birth rate stabilizes then falls

High Forecast – birth rate continues to rise 5 years

Moderate forecast – faster drop in kindergarten capture and cohort survival
 Forces for reduction

- Larger percentage of housing in the future will be multi-family housing.
- Unit sizes in new multifamily units are currently low.

 Forces for increase

- Families choosing an urban environment in which to raise their children
- Shorter commutes/greater access to non-auto modes of travel
# Long-Term Forecast

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Year</th>
<th>Birth Rate</th>
<th>K Capture</th>
<th>Cohort Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPS–Mid-Term Projection</td>
<td>2023</td>
<td>Trend in 15–year average</td>
<td>3–year average (60.7%)</td>
<td>3–year average by school by grade</td>
</tr>
<tr>
<td>High Enrollment Growth Forecast</td>
<td>2040</td>
<td>Increases 5 years then falls</td>
<td>60% falls to 58% by 2040</td>
<td>By grade, falls 1 pt to 2040</td>
</tr>
<tr>
<td>Recommended Forecast</td>
<td>2040</td>
<td>Steady 5 years then falls</td>
<td>60% to 58% 5 yrs then 56% by 2040</td>
<td>Same</td>
</tr>
<tr>
<td>Moderate Enrollment Growth Forecast</td>
<td>2040</td>
<td>Same</td>
<td>60% to 58% 2 yrs then 56% by 2040</td>
<td>Falls 2 pts 2 years then 2 pts to 2040</td>
</tr>
</tbody>
</table>
Kindergarten Capture

Kindergarten Capture Rate
Kindergarten Enrollment as Percent of Births Five Years Ago

- 33-year average: 56.0%
- 73.8%
- 66.4%
- 58.2%
- 46.2%

Cohort Survival

Grade-to-Grade Cohort Survival

Enrollment as Percent of Lower Grade Prior Year


Enrollment Calendar Year (September)

Grade K-1
Grade 1-2
Grade 2-3
Grade 3-4
Grade 4-5
Grade 5-6
Grade 6-7
Grade 7-8
Grade 8-9
Grade 9-10
Grade 10-11
Grade 11-12

ACPS
Alexandria City Public Schools

Learning to Live · Loving to Learn

CITY OF ALEXANDRIA, VIRGINIA
Cohort Survival

Cohort Survival Annual Average by School Level
Enrollment in Higher Grade as Percentage of Previous Year Lower Grade

Percent Moving to Higher Grade

Weighted average all grades
High (grades 8-9, 9-10)
Elementary (to grades 1-5)
Middle (to grades 6-8)
High (grades 10-11, 11-12)

Enrollment Calendar Year (September)
Cohort Survival

Population by Single Years of Age to Age 20
City of Alexandria
2000 and 2010 Census

- Alexandria 2010
- Alexandria 2000
- Alexandria 2010 Distributed per U.S.
Reality Checks – Student Generation

- Student generation rates – how much will our housing stock push back on enrollment growth?
  - What generation rates are implied by the forecast?
  - How to these compare to historic rates?
  - Are these rates reasonable given historic rates and rates in other jurisdictions?
Reality Checks – Student Generation

Dwelling Units by Housing Type
Sustained Growth Development Forecast

- Income-limited Family Units
- Public Housing Family Units
- High-Rise Apartment/Condo
- Mid-Rise Apartment/Condo
- Garden Condo
- Garden Apartment, Co-Op
- Duplex, Townhouse, Townhouse Condo
- Single-Family Detached

Calendar Year

2012 2015 2020 2025 2030 2035 2040

Dwelling Units

0 25,000 50,000 75,000 100,000
Reality Checks – Student Generation

Student Generation Rates per Dwelling Unit
Recommended Enrollment Forecast
Average for Existing and New Development by Housing Category

ACPS K-12 Students per Dwelling Unit

Enrollment Year (September)

2015 2020 2025 2030 2035 2040

Public Housing Family Units
Other Income-Limited or Subsidized Family Units
Garden Apartment or Cooperative
Single-Family Detached
Duplex, Townhouse, Townhouse Condominium
Garden Condominium
Mid-Rise Apartment or Condominium
High-Rise Apartment or Condominium
How does the forecast change the number of students as a share of total population?

Is this rate reasonable given Alexandria’s history and the rates in comparable jurisdictions?
Reality Checks – Students per 1000 people

Long-Term Enrollment Forecast and Alternate Scenarios

Kindergarten Through Grade 12 Total Enrollment

Enrollment Year September

- Sustained Growth, High Enrollment Growth
- Sustained Growth, Recommended Long-Term Enrollment Forecast
- ACPS Mid-Term Projection
- Sustained Growth, Moderate Enrollment Growth
- Enrollment Through 2013

80 ACPS Students per 1000 People (Sustained Growth)
Reality Checks – Students per 1000 people

APCS K-12 Students Per 1,000 People Since 1960 With Forecast Scenarios

- Sustained Growth, High Enrollment Growth
- Sustained Growth, Recommended Long-Term Enrollment Forecast
- Sustained Growth, Moderate Enrollment Growth

Calendar Year

Students per 1,000 People

- 151.0
- 155.3
- 160.8
- 80 Students per 1,000 People
- 105.0
- 85.3
- 87.0
- 93.5
- 75.0
- 110.1
- 116.9
- 101.8

Reality Checks – Students per 1000 people

K-12 Students per 1,000 People for Northern Virginia Jurisdictions

- Loudoun Co
- Manassas Park
- Prince William Co
- Manassas
- Falls Church
- Fairfax Co and City
- Arlington Co
- Alexandria
Long-Term Forecast

Long-Term Enrollment Forecast and Alternate Scenarios

Kindergarten Through Grade 12 Total Enrollment

- Sustained Growth, High Enrollment Growth
- Recommended Planning Forecast, Birth Rate Constant 5 Years
- ACPS Mid-Term Projection
- Sustained Growth, Moderate Enrollment Growth
- Enrollment Through 2013

Enrollment Year September


16,563 17,736 18,646 20,604
14,336 17,129 17,389 20,174
15,922

25,000 20,000 15,000 10,000 5,000
Long-Term Forecast

- Includes a recommended forecast and alternate potential scenarios
  - Anticipate facility needs based on a realistic, relatively high enrollment scenario.
  - Be aware of other possible scenarios including higher and lower potential enrollment
- Revise forecasts annually
- Plan for flexibility in response to unknowns – enrollment can change without much warning, as the period since 2000 shows.
Next Steps

- Forecasting by geography
  - Births, kindergarten capture and cohort survival
  - Track students for cohort survival through the grades
- Complete student generation review for 2013, go back in time to identify ranges and trends from specific projects where census data fits projects.
- Update long-term forecast with 2013 birth data.
- Prepare a long-term forecast to accompany FY 2015 enrollment projections.
Comments? Questions?