Long Range Educational Facilities Plan Work Group Meeting

Tuesday, June 17, 2014

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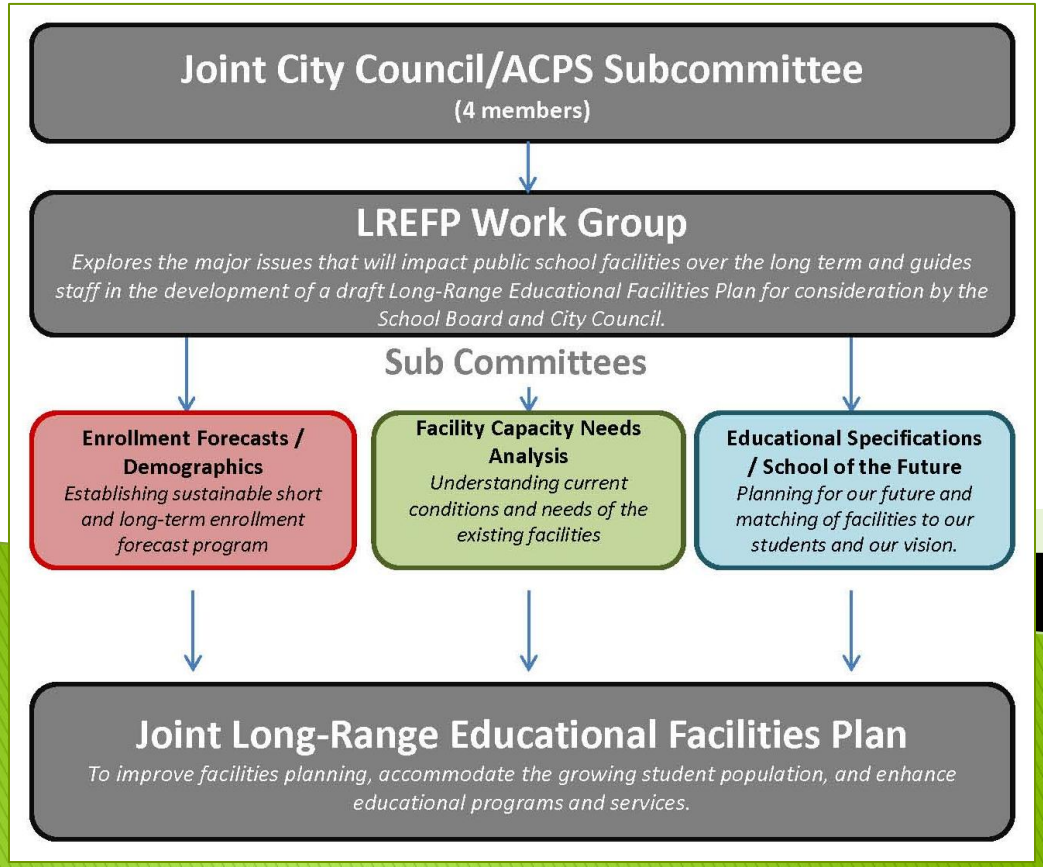
Facility Capacity Needs Analysis Subcommittee Update

ACPS & City of Alexandria

June 17, 2014



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Facilities Work Program

- Goals
  - ✓Assess existing conditions (interiors complete, review of sites funded in FY 2015)
  - ✓Review capacity analysis methodology
  - Review how existing capacity is allocated to meet demand
  - Establish guidelines for adding capacity, supporting education
  - Identify potential school site types

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Facilities Work Program

- Approach
  - Develop a school facility and site inventory
  - Develop a capacity and utilization assessment for each school site
  - Identify space needs by type of use
  - Review findings of Enrollment Subcommittee and Educational Specifications Subcommittee
  - Develop guidelines for adding capacity
  - Review potential future school sites

Review Work Program

- 1st meeting
  - Reviewed Work Program/ HGA Scope of Work
  - ACPS Elementary Standard Program/Room Allocations
  - Methodology for Elementary and Secondary Capacity Analysis
- 2nd meeting
  - Reviewed data collected on pilot school
  - Community uses of school facilities
- 3rd meeting
  - Review different types of capacity calculation methodologies
- 4th meeting
  - Review capacity methodologies and make a recommendation

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Status on School Facility Inventory– Building Interiors

- Building Interiors
  - Site Visits 100% Complete
    - Charles Barrett, Cora Kelly, Douglas MacArthur, George Mason, George Washington, Francis Hammond, James Polk, John Adams, Lyles Crouch, Matthew Maury, T.C. Minnie Howard, Mt. Vernon, William Ramsay, Samuel Tucker, T.C. Williams King Street
  - Sites not included in the scope
    - Jefferson-Houston
    - Patrick Henry
  - Product
    - Electronic floor plans

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Status on School Facility Inventory– Exterior Site Inventory

- Zoning analysis by staff
- Scope of Work for Technical Assistance
  - Describe property ownership and boundaries
  - Usable acreage of open space and recreation features
  - General size and condition of playgrounds
  - Document any natural resources/areas present
  - Document existing storm water management facilities
  - General site accessibility/traffic issues
  - Adequacy of site utilities to accommodate new construction
- Products
  - Report for each school site
  - Electronic site plans

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Capacity Discussion

- Recommended Methodology

Capacity Types

- **Program**
- How many students can a school building accommodate based upon the specific educational program
  - Class-size caps

- **Core**
- Core spaces include cafeteria, gymnasium, multipurpose room, library/media center
- Calculated based on square foot allowance per student

Recommended Methodology

- Primary recommendation- programmatic capacity calculation using class-size caps
- Secondary recommendation- core capacity

- Goal- easily communicated, reflects existing conditions and can be repeated annually

Other Capacity Concepts

- **Utilization Factor**
- Percentage applied to the optimum capacity to account for the uneven distribution of students across grade levels and cohort groups

- **Level of Service**
- Goal for acceptable level of service provided by a facility based on the operational characteristics
- Should reaching a certain level trigger an action?
  - Ex: facility change, program change, boundary study, grade reconfiguration

Capacity Example

- K-5 School
  - 24 Full Size Classrooms
    - 22 Home Rooms
    - FSR- Art
    - FSR- TAG
  - Resource Room- Music
  - 2,718 Media Center
  - 4,742 Gymnasium
  - 4,511 Cafeteria

Total Capacity	95% Utilization
536	510

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Capacity Example Cont.

- Level of Service
- Goal for acceptable level of service provided by a facility based on the operational characteristics
- Should reaching a certain level trigger an action?
  - Ex: facility change, program change, boundary study, grade reconfiguration

85% LOS	90% LOS	100% LOS	110% LOS	120% LOS
434	459	510	561	612

	SY 2011	SY 2012	SY 2013	SY 2014	SY 2015
Actual Enrollment	470	495	510	530	560
	92%	97%	100%	104%	110%

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Capacity Example Cont.

- Core Capacity

		Total Capacity
Gymnasium	100 SF/student 2 sections	552
Cafeteria	15 SF 1/3 student body	501
Media Center	4-6 SF per student	453-680

- These calculations are for illustration purposes only and are separate from calculations for life safety and fire code

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Discussion/Next Steps

- Work Group concurrence with the subcommittee's recommendation on capacity methodology
- Discuss Level of Service

- Assess existing conditions of school sites
- Educational Adequacy Assessment
  - Compare existing conditions to educational specifications' benchmarks (gap analysis)

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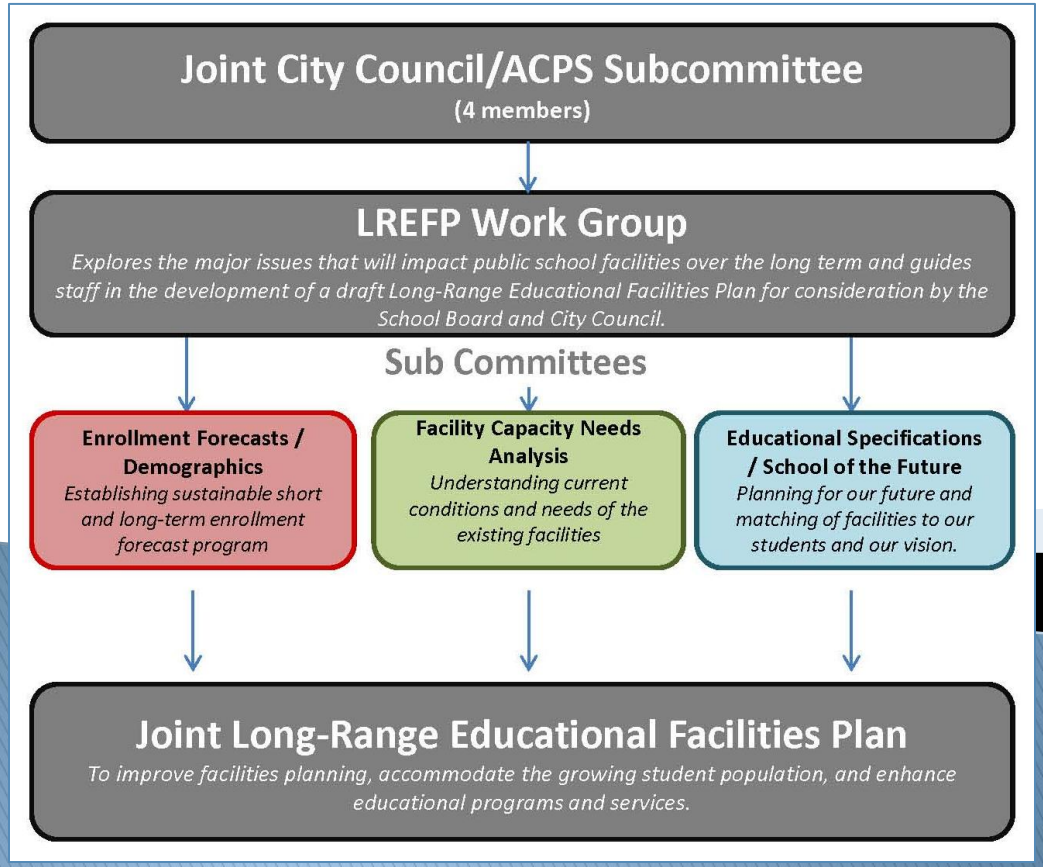
Educational Specifications Subcommittee Update

ACPS & City of Alexandria

June 17, 2014



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Work Program

- Work Program Goals
  - Define future educational specifications for K-5 and middle school

- Scope of Work of Technical Support:
  - Set the Framework
  - Orientation/data collection
  - Develop program options
  - Prepare architectural design considerations
  - Synthesize information into final document

Work Program

- Role of the Subcommittee:
  - Advise on the process
  - Assist in recruitment for community meetings
  - Provide input on materials for community meetings
  - Become informed on the results of meetings with subject matter experts
  - Report out to the full Work Group

Work Program

- 1st Community Meeting– February
  - Understand the meaning of "educational specification"
  - Discuss the overall process and community engagement plan including meeting schedule and topics
  - Visioning exercise
- 2nd Community Meeting– March
  - Consider Options based on results from meetings with subject matter experts and the subcommittee
- 3rd Community Meeting– June 24th at 4pm
  - Review draft documents

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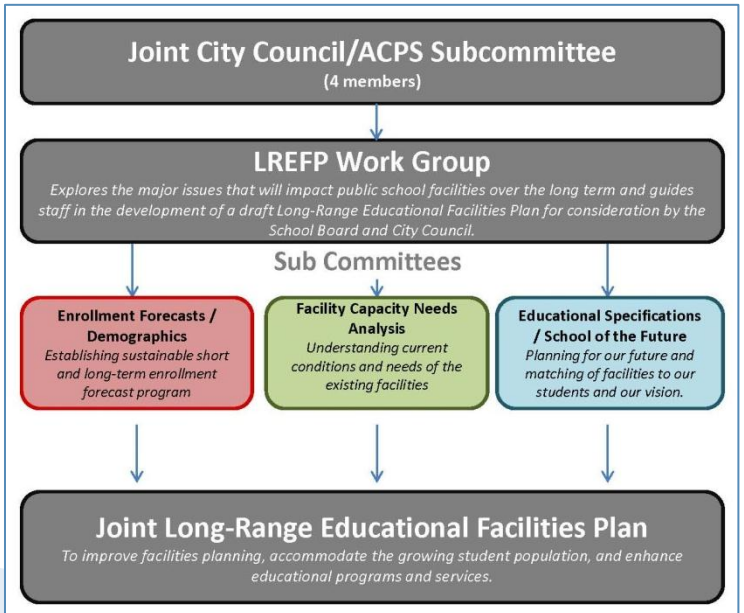
Review Work Program

- Next Steps
  - Synthesize feedback from the June community meeting
  - Review and provide feedback on finalized materials
  - Urban school model case studies



Educational Specification

- Guiding recipe and benchmark for future school renovations and new construction projects
- Not site specific

- Introduction
- Planning Concepts
- Design Principles
- Spaces

Elementary– 700 Prototype

GRADE	# OF CLASSROOMS	CAPACITY	TOTAL
Pre-K / Pre-S	5	18	90
Kindergarten	5	20	100
Grade 1	5	22	110
Grade 2	5	22	110
Grade 3	4	25	100
Grade 4	4	25	100
Grade 5	4	25	100
Total	**32**		**710**

FIG. 3.2 // **CLASSROOM CAPACITY**

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Elementary– 700 Prototype

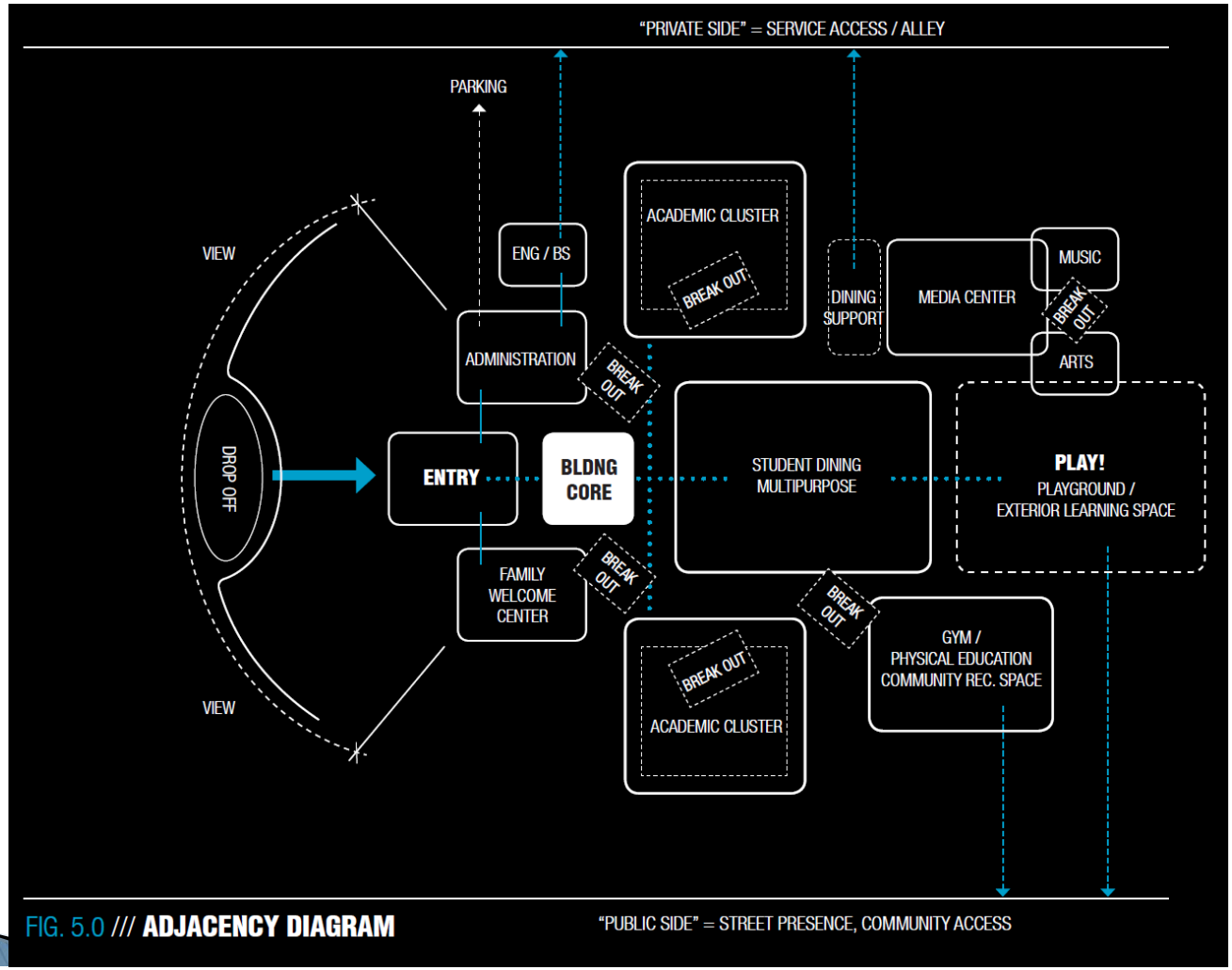

FIG. 5.0 /// **ADJACENCY DIAGRAM**

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Elementary– 700 Prototype

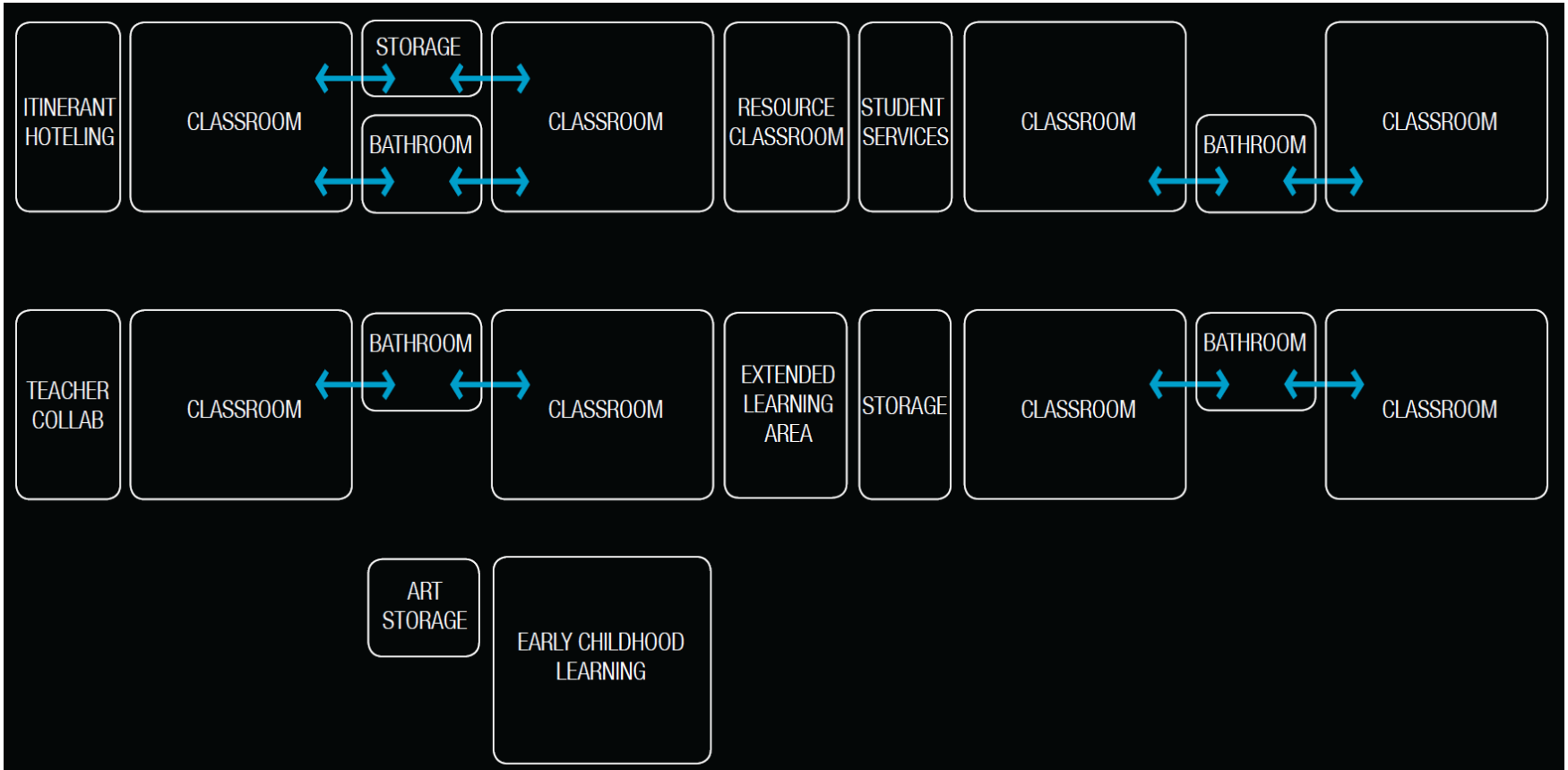

FIG. __ // **CORE ACADEMIC ADJACENCY DIAGRAM**

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Middle School– 1200 Prototype

GRADE	# OF CLASSROOMS	CAPACITY	TOTAL
Academic Classrooms (four teams per grade)	36	20	720
Science	12	20	240
Foreign Language / Electives	7	20	140
CTE	3	20	60
Visual Art	1	25	25
Performing Arts (Music Drama)	4	25	100
Physical Education	7	25	175
Special / Alternative (Reading, ELL)	3	15	45
Total	**73**		**1505**
@ 80% Utilization			**1208**

FIG. 3.2 // **CLASSROOM CAPACITY**

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Middle School– 1200 Prototype

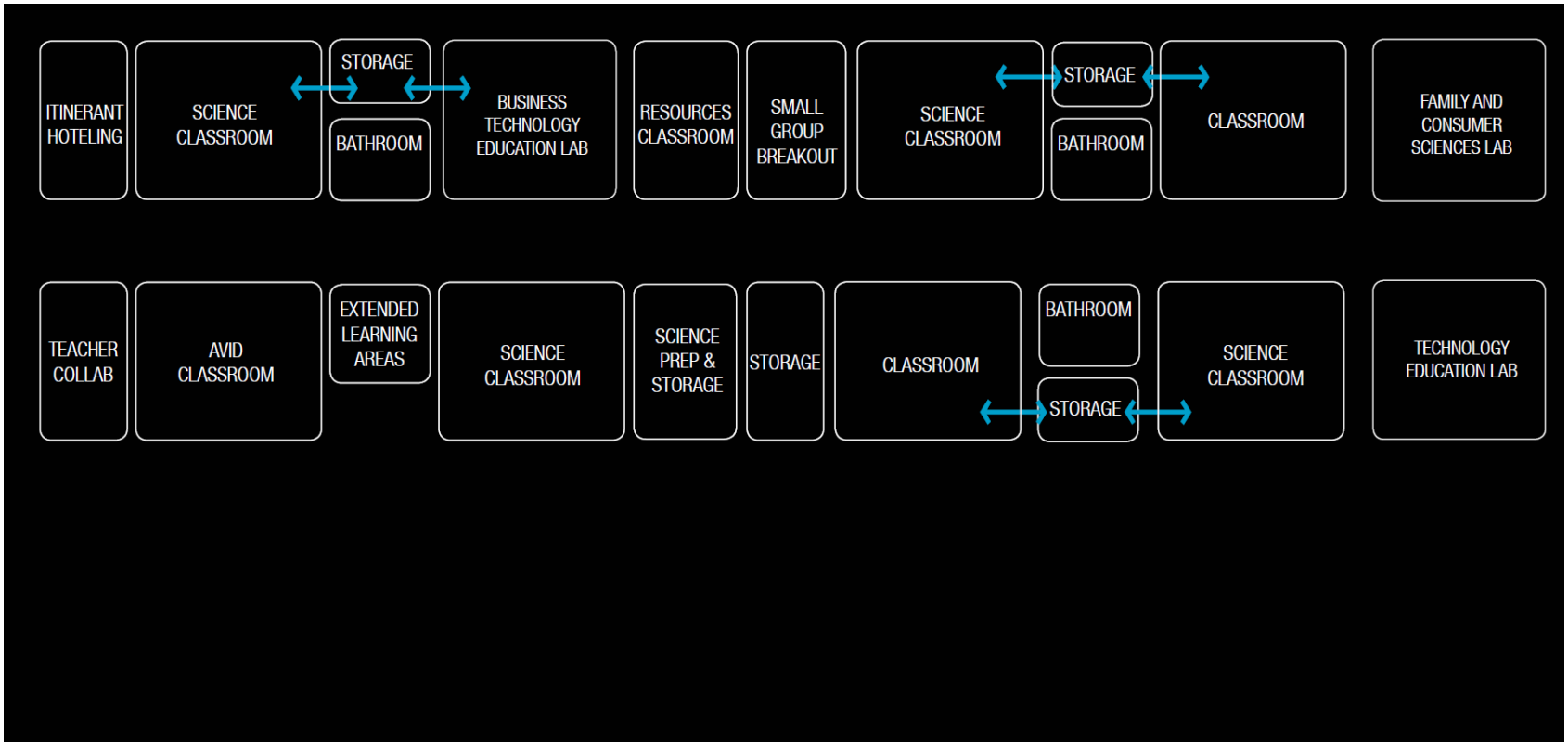

FIG. ___ // **CORE ACADEMIC ADJACENCY DIAGRAM**

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Discussion/Next Steps

- Review current draft

Enrollment Forecast Methodology

The Long Range Education Facilities Plan

June 17, 2014

Enrollment Forecasting

Requesting agreement on forecast methodology

- Components of the analysis (inputs)
- Outputs: mid-range forecast for CIP; forecast to 2040 for long-range planning (such as small area plans)
- Schedule for annual updating

Components of the Forecast

Past Trends

Components of the Long-Term Forecast

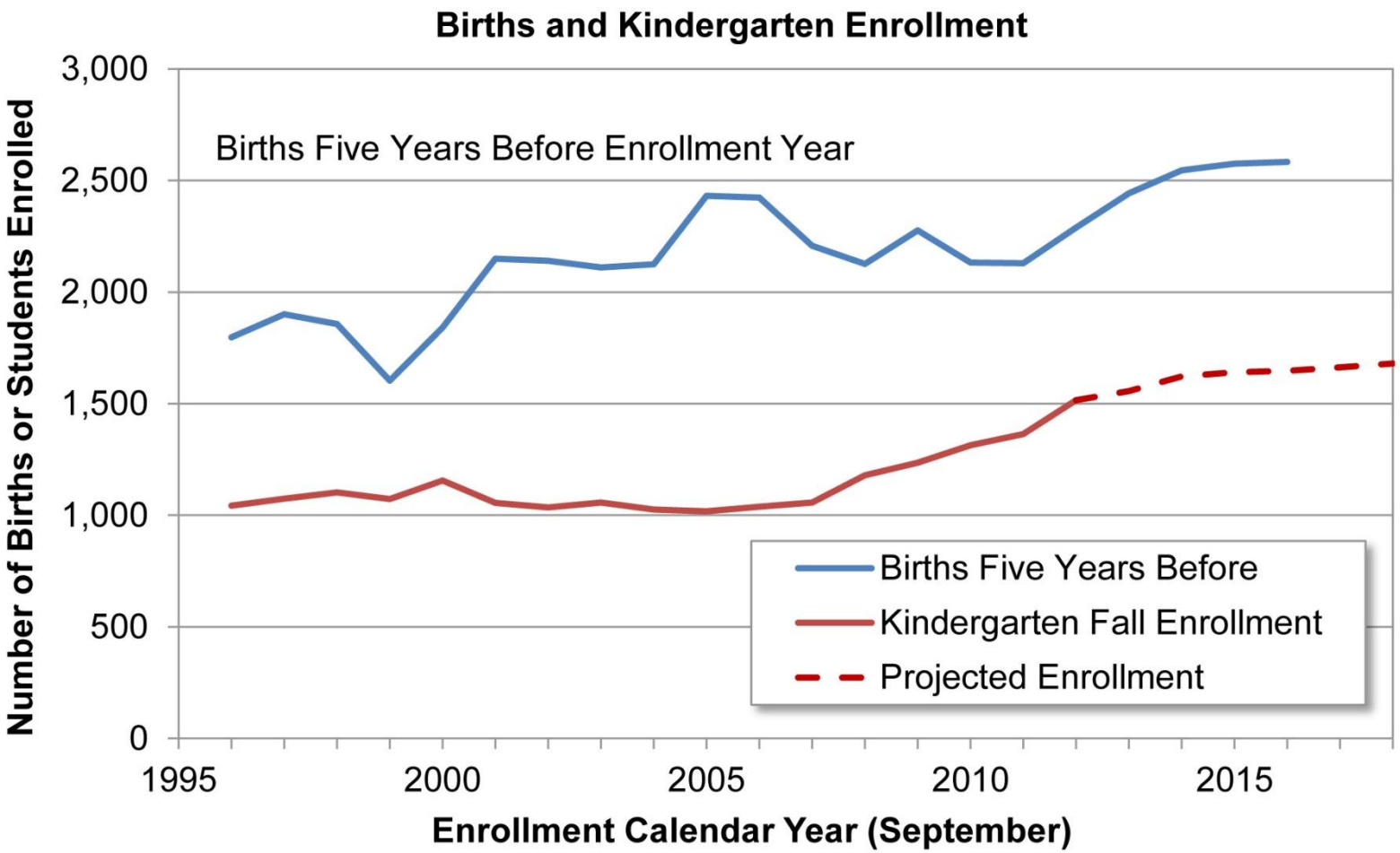
Main inputs to the forecast

- Population forecast and birth rate
- Kindergarten capture
- Cohort survival by grade

Reality checks include:

- Student generation by residential type, cost, age
- Students per 1,000 population over time and compared to other jurisdictions

The number of births in the city is going up, as is kindergarten enrollment



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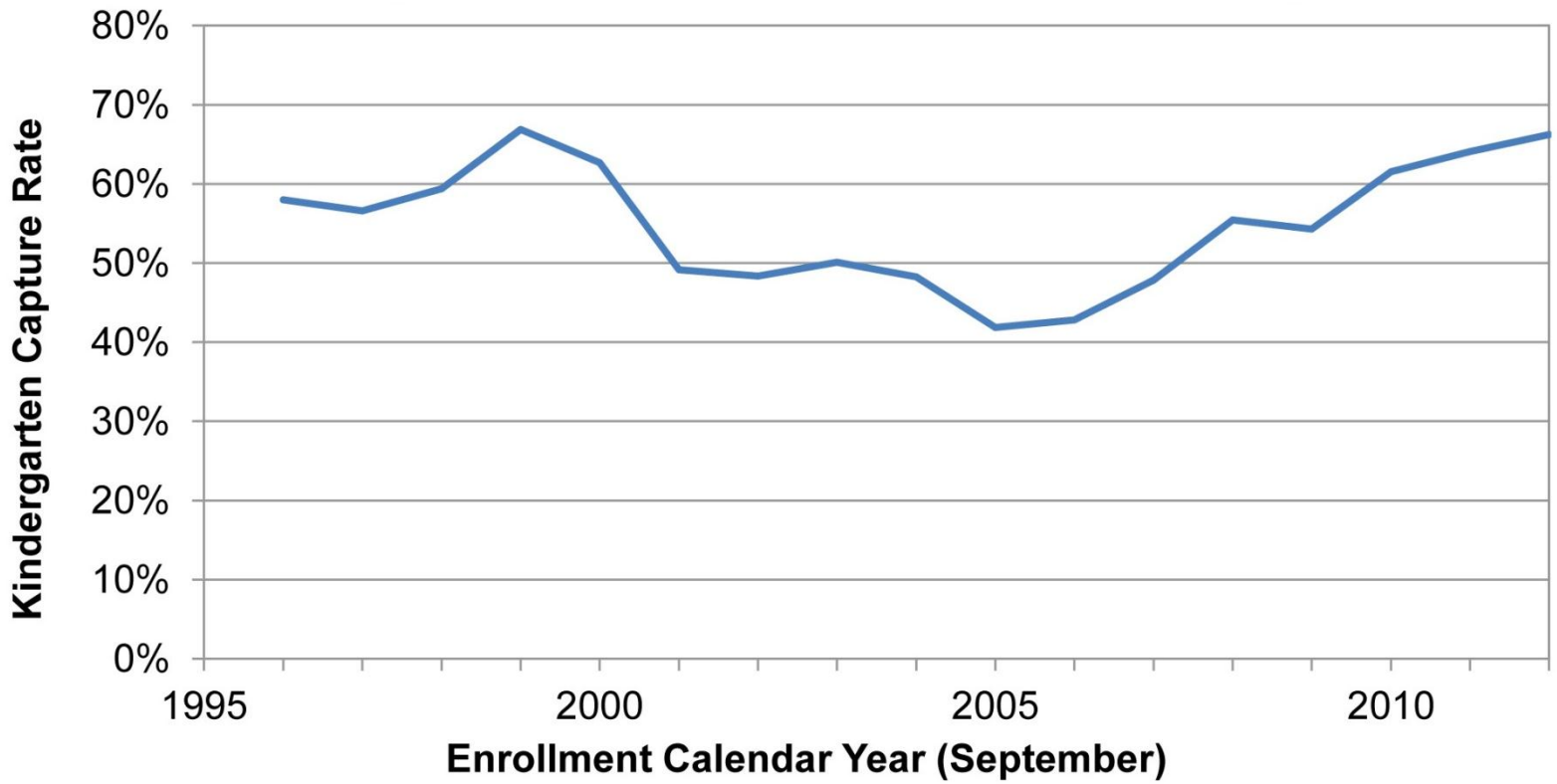
Our "kindergarten capture" rate has been increasing

What percentage of the children born in Alexandria attend Alexandria kindergarten 5 years later?



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More students are continuing on to the next grade

What is a "Cohort Survival" rate? It tracks the number of students continuing from one grade to the next. Example:

Grade	2010	2011
K	118	121
1	110	116
Cohort Survival from K to 1st		**98%**

	Average Cohort Survival		
	Elem.	**Middle**	**High**
Pre 2007	93.2%	93.5%	95.1%
Post 2007	97.8%	97.6%	99.8%
Difference	+4.6%	+4.0%	+4.7%

Since 2007, the cohort survival rate has increased at ALL levels

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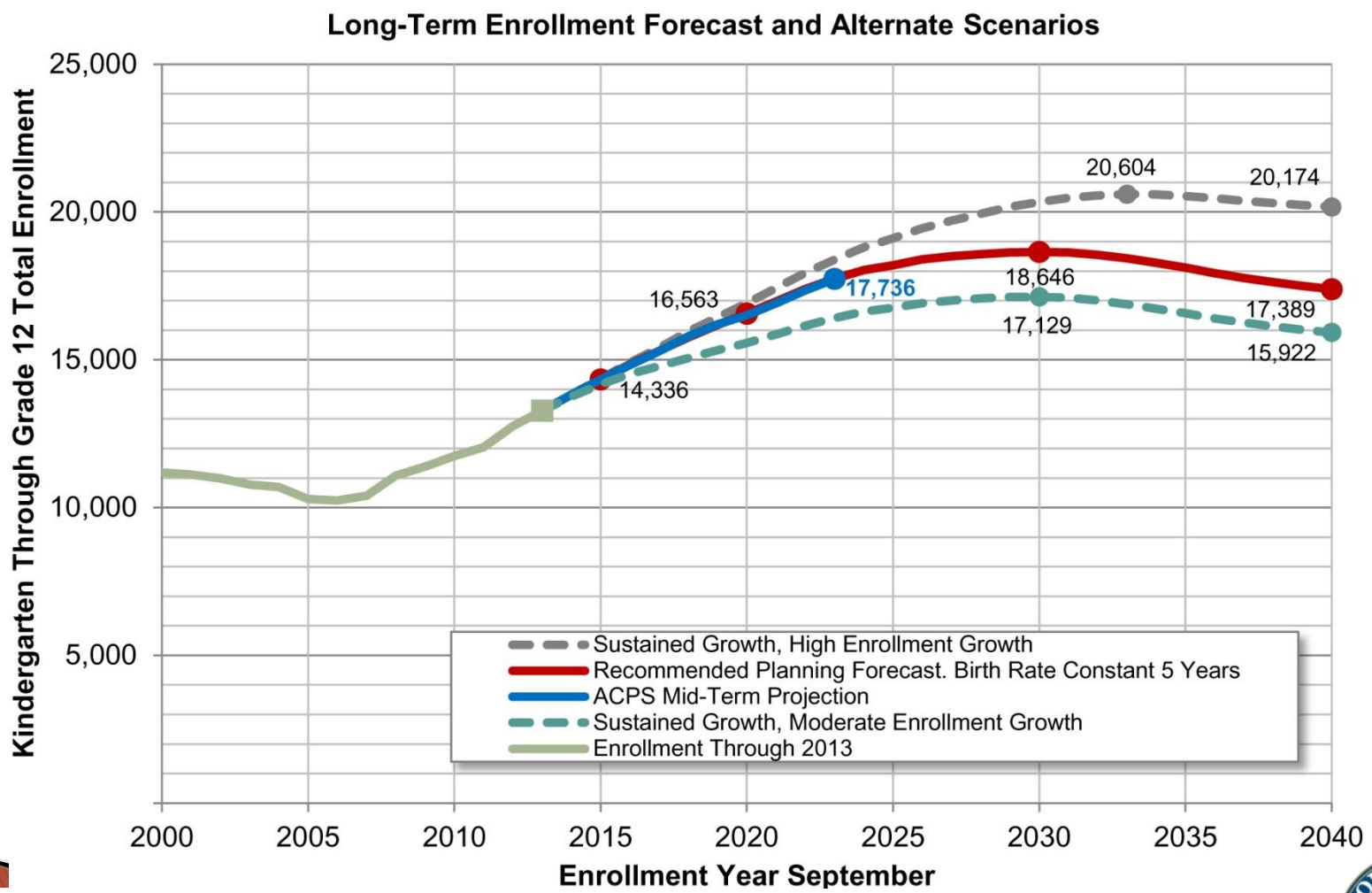
Long Term Forecast

and assumptions for key drivers

Long-Term Forecast



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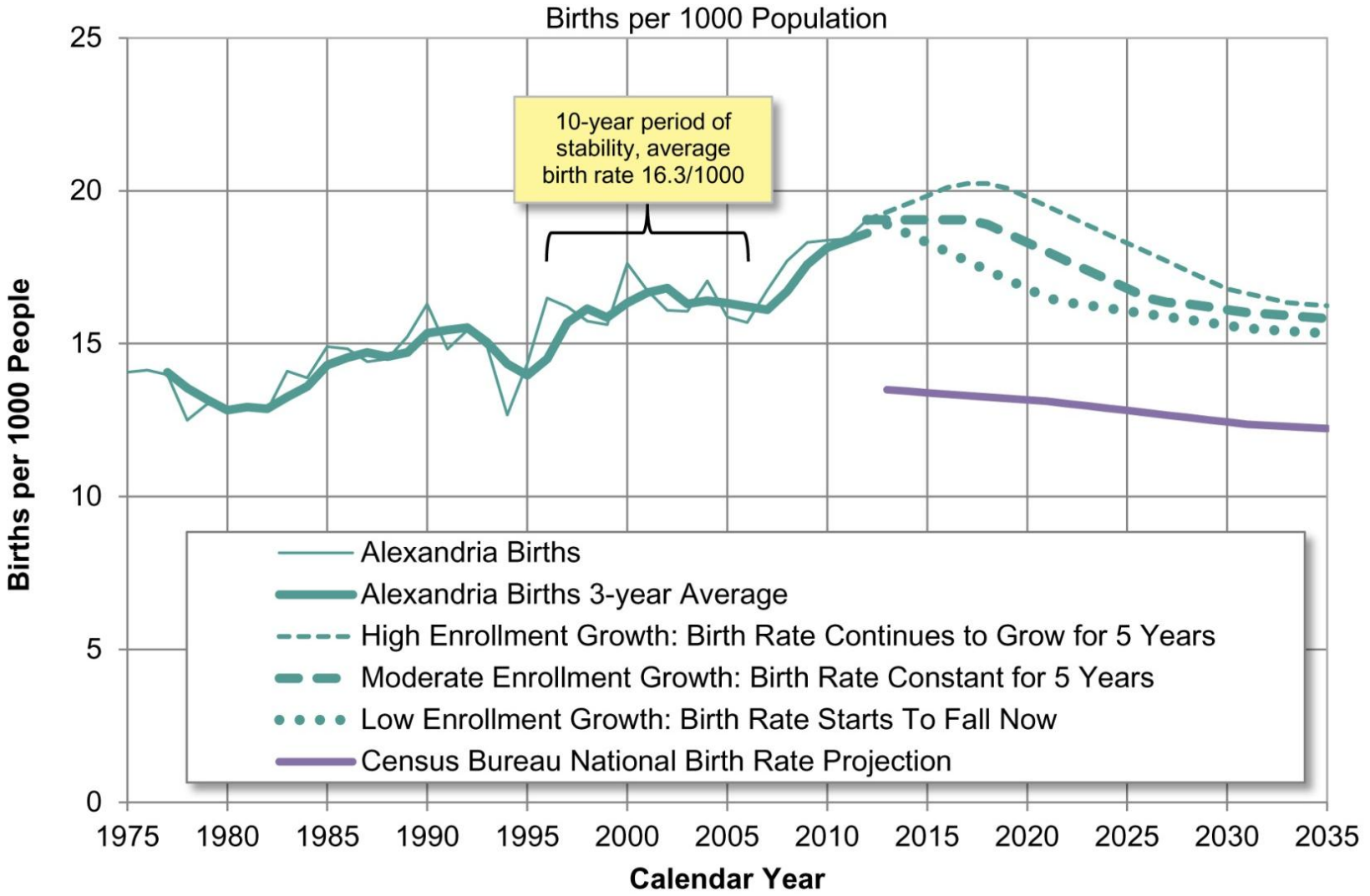
Birth Rate Assumptions



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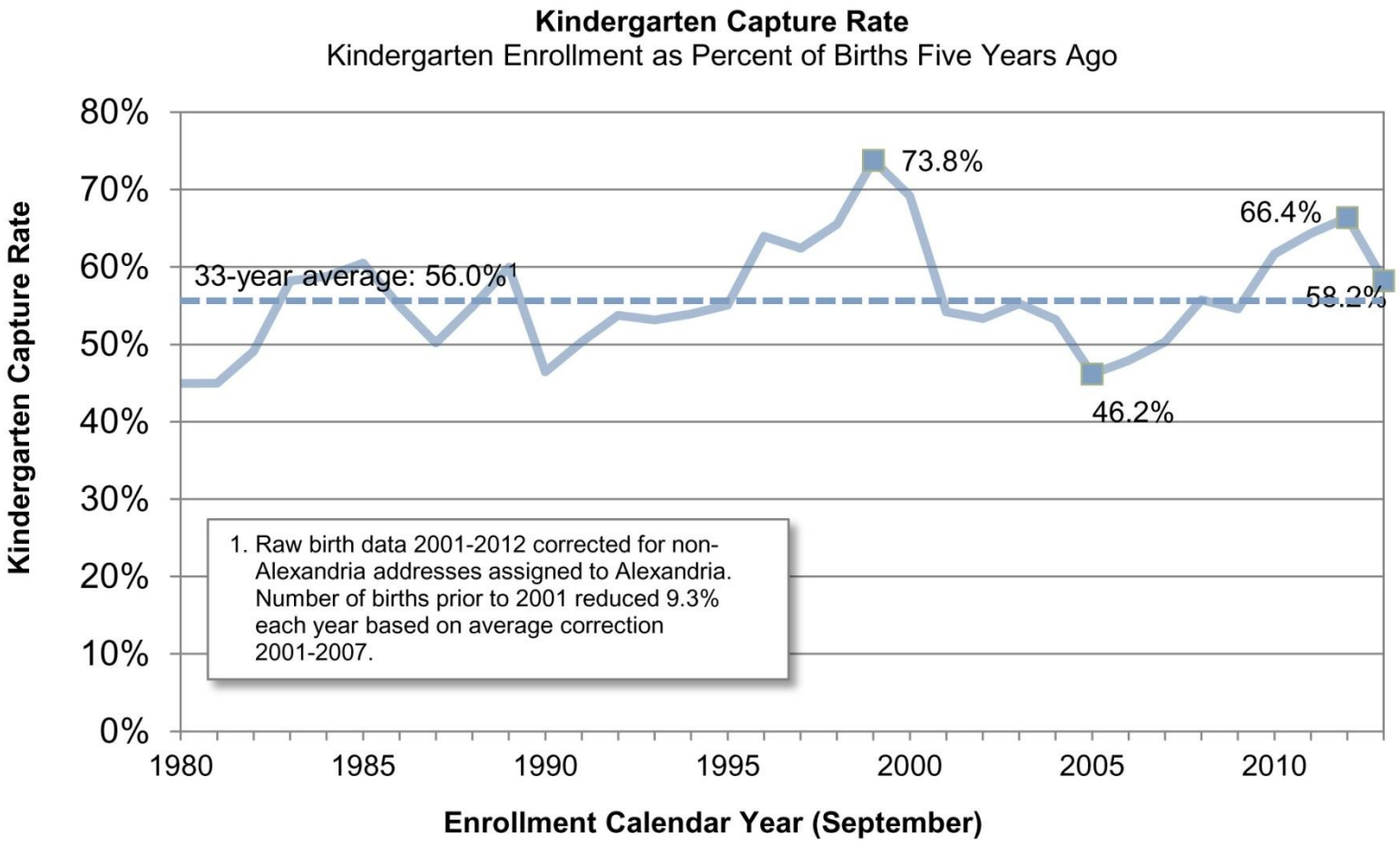
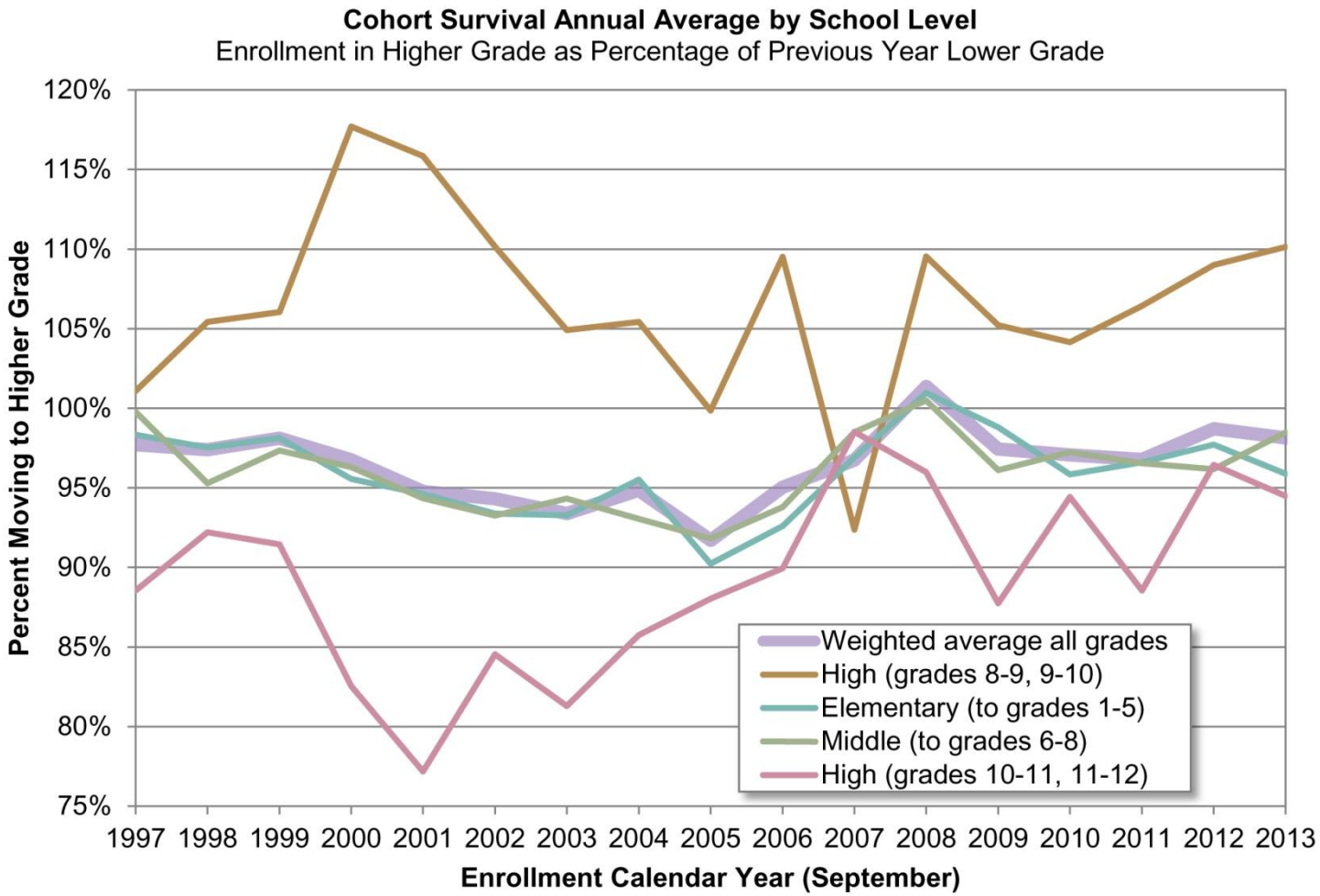
Kindergarten Capture



Cohort Survival



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Reality Checks

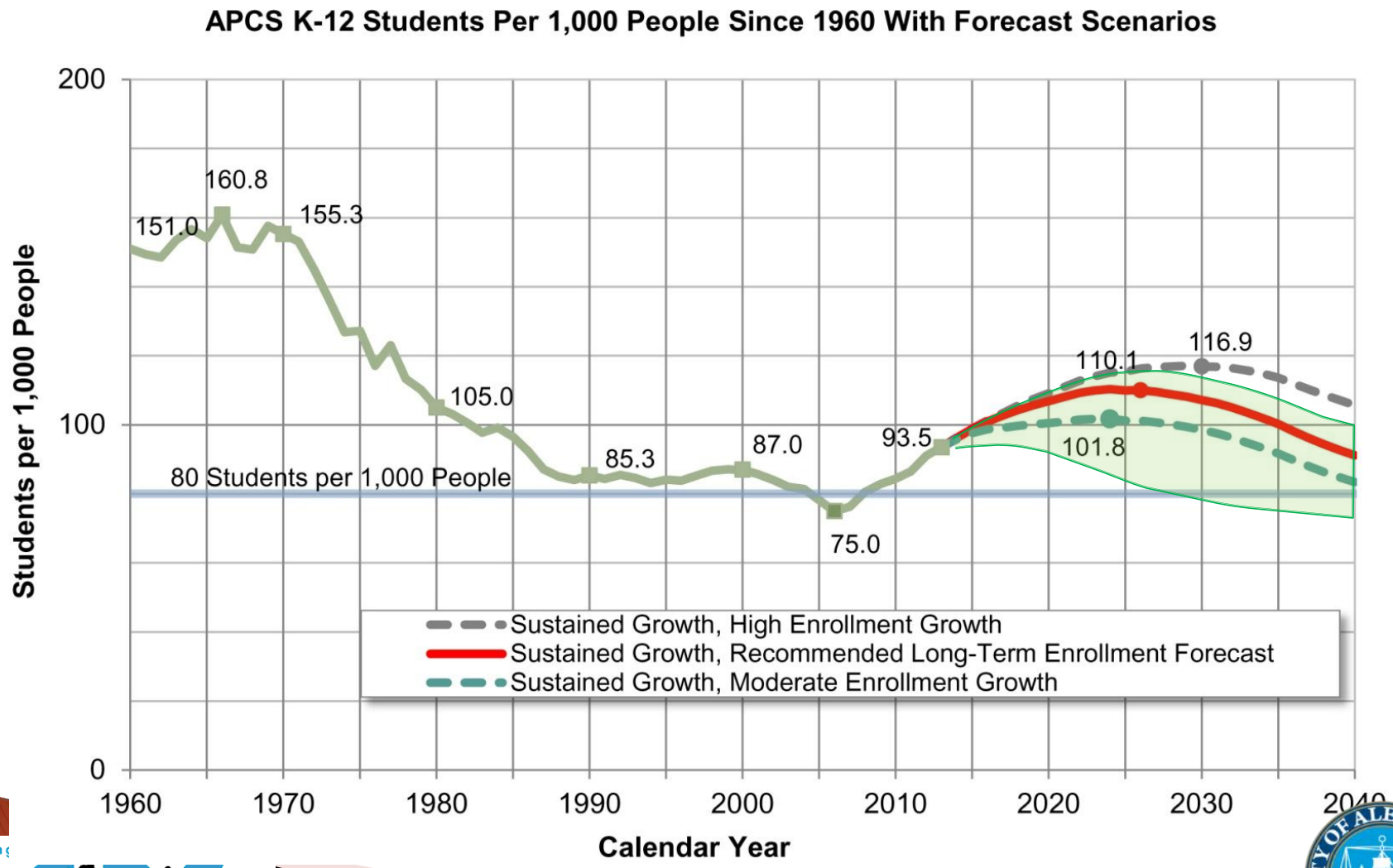
Testing the forecast

Reality Checks

Measures that put the forecast into context:

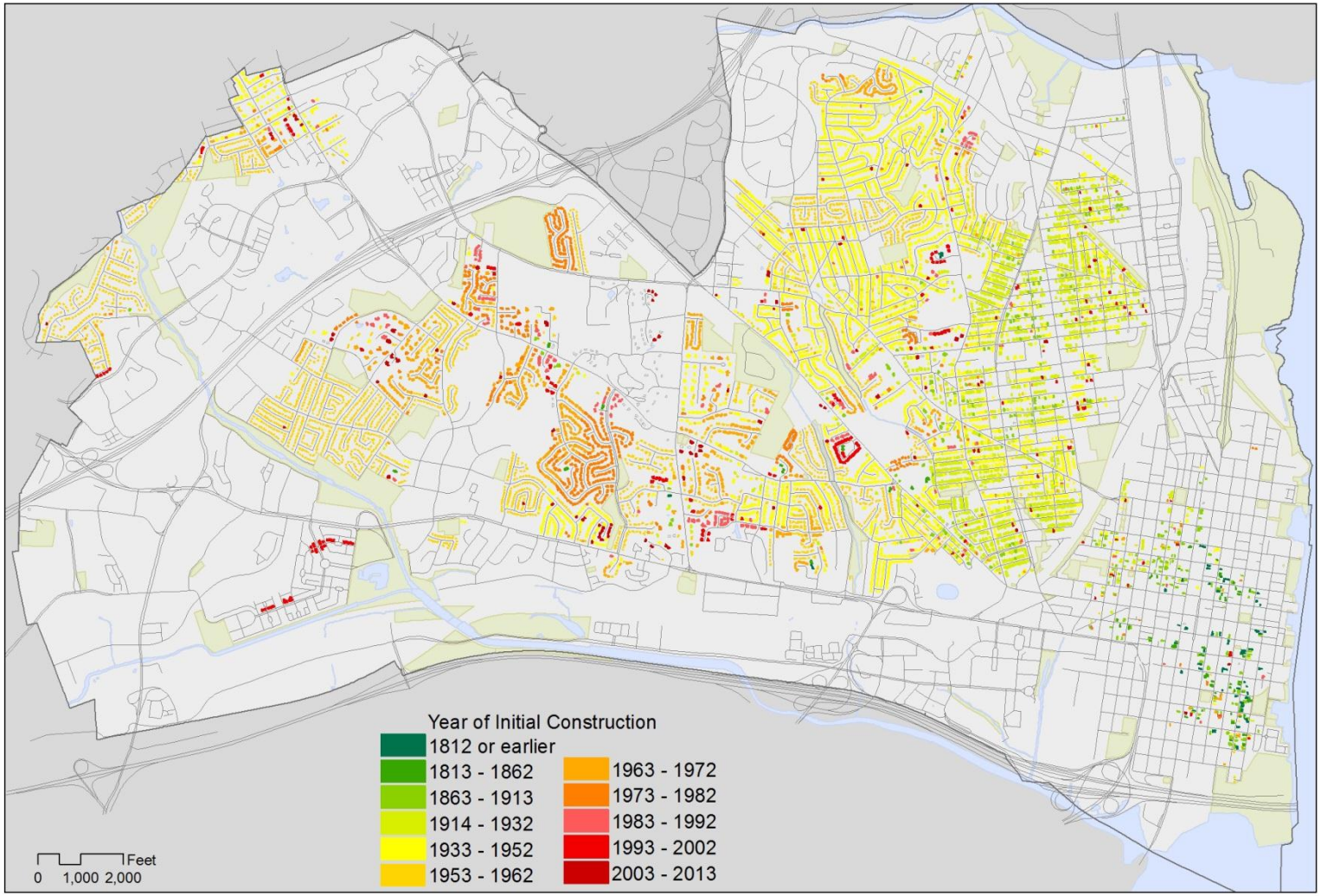
- Students per 1,000 population
- Student generation rate analysis
- Small area analysis
- Mid-year status updates

Reality Check: Students per 1000 people



We use GIS to calculate the number of students in each type of housing

Single



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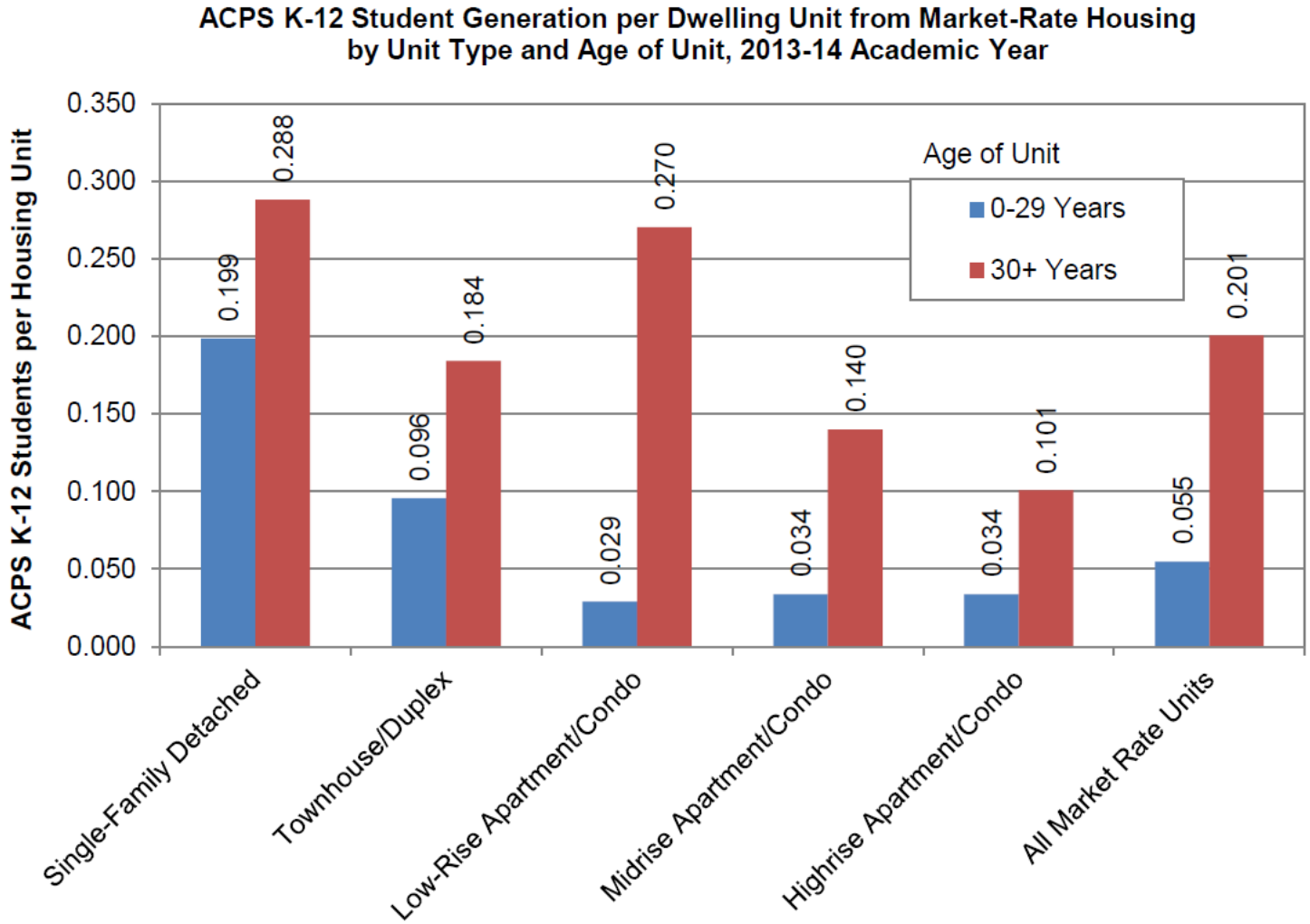
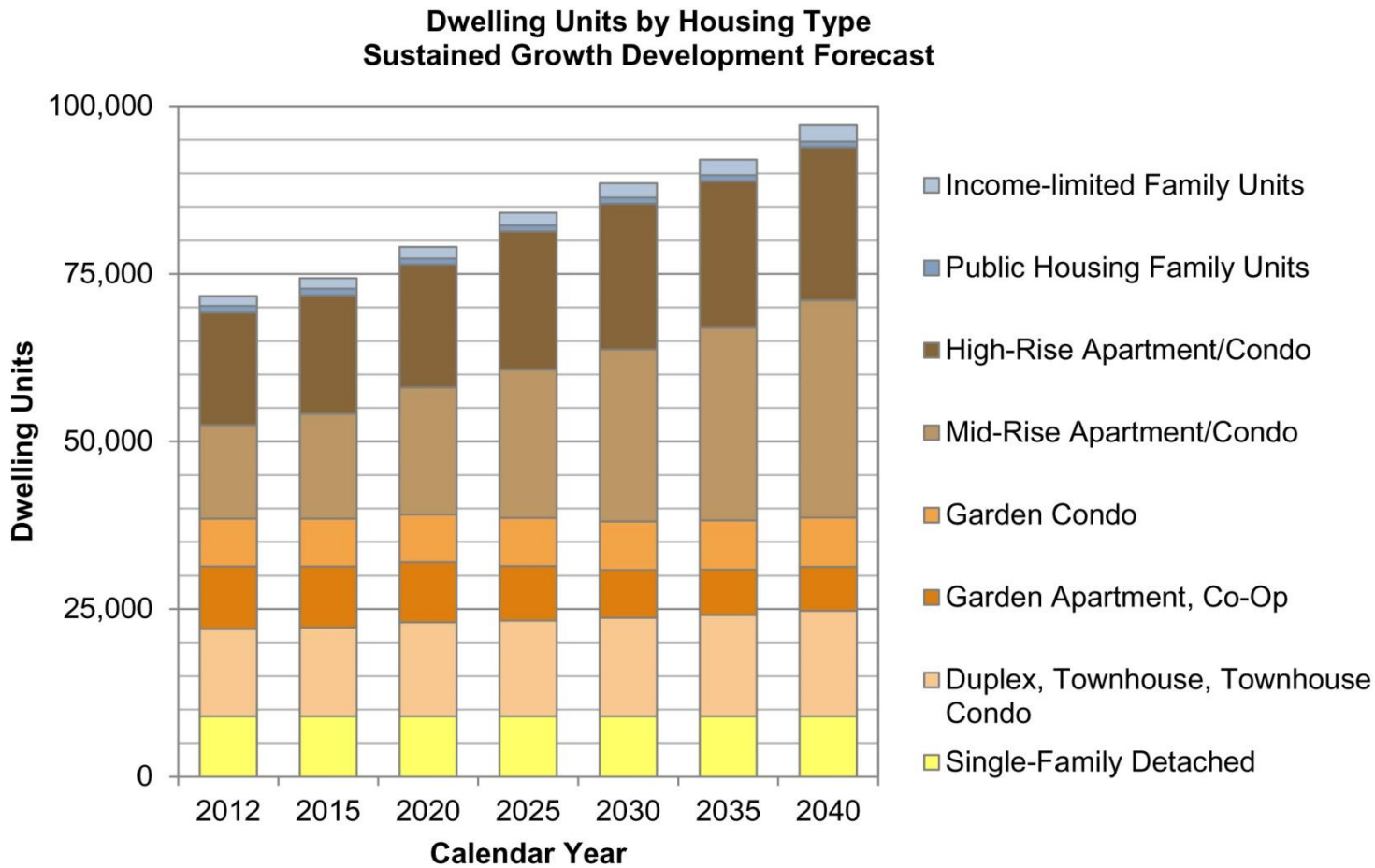
Units aged 30+ years have many more students



Market-rate housing includes market-rate rental projects accepting Section 8 housing choice vouchers. Does not include income-limited or otherwise subsidized housing projects which may also accept Section 8 vouchers.

Applying student generation rates to future development



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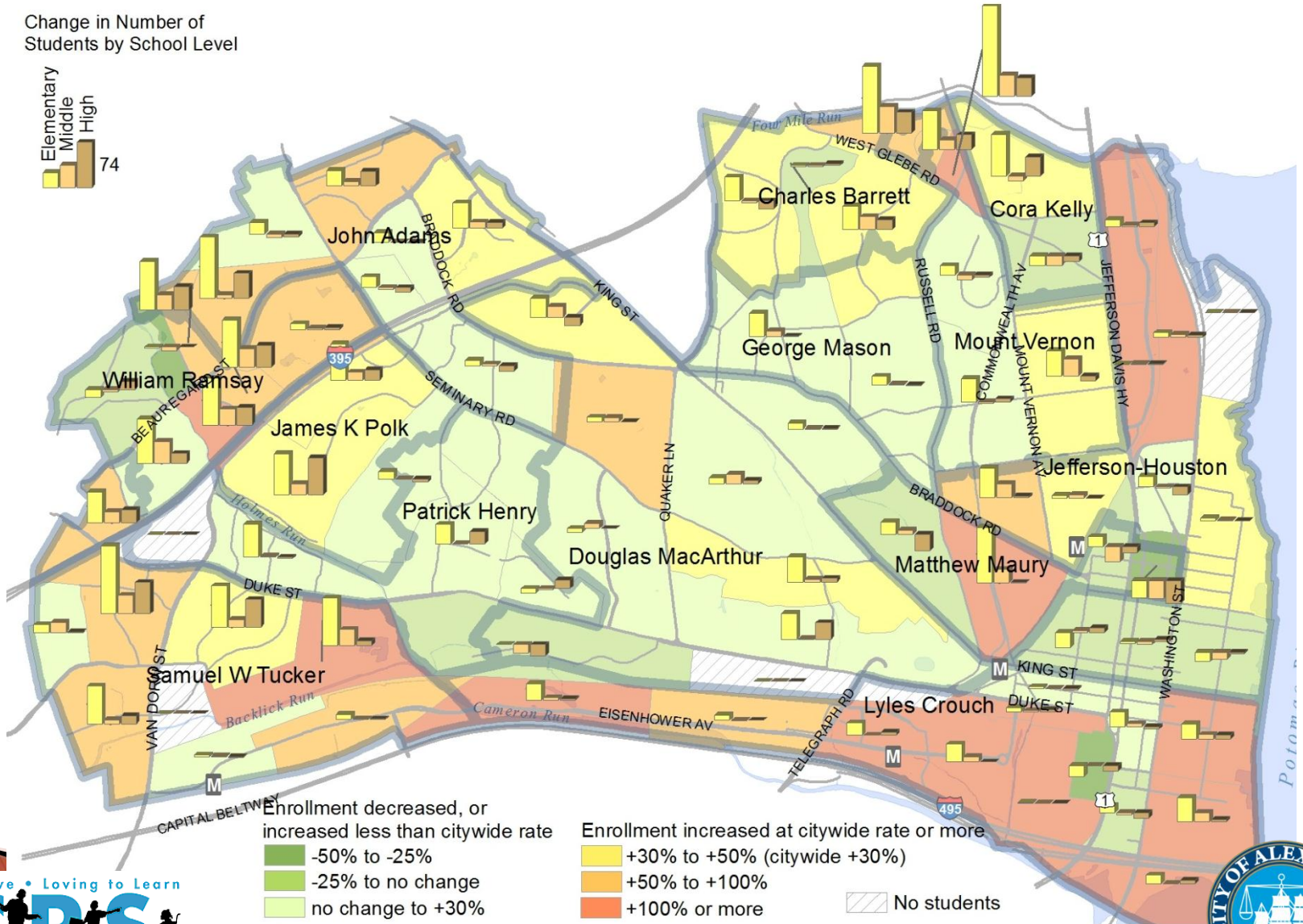
Small Area Analysis



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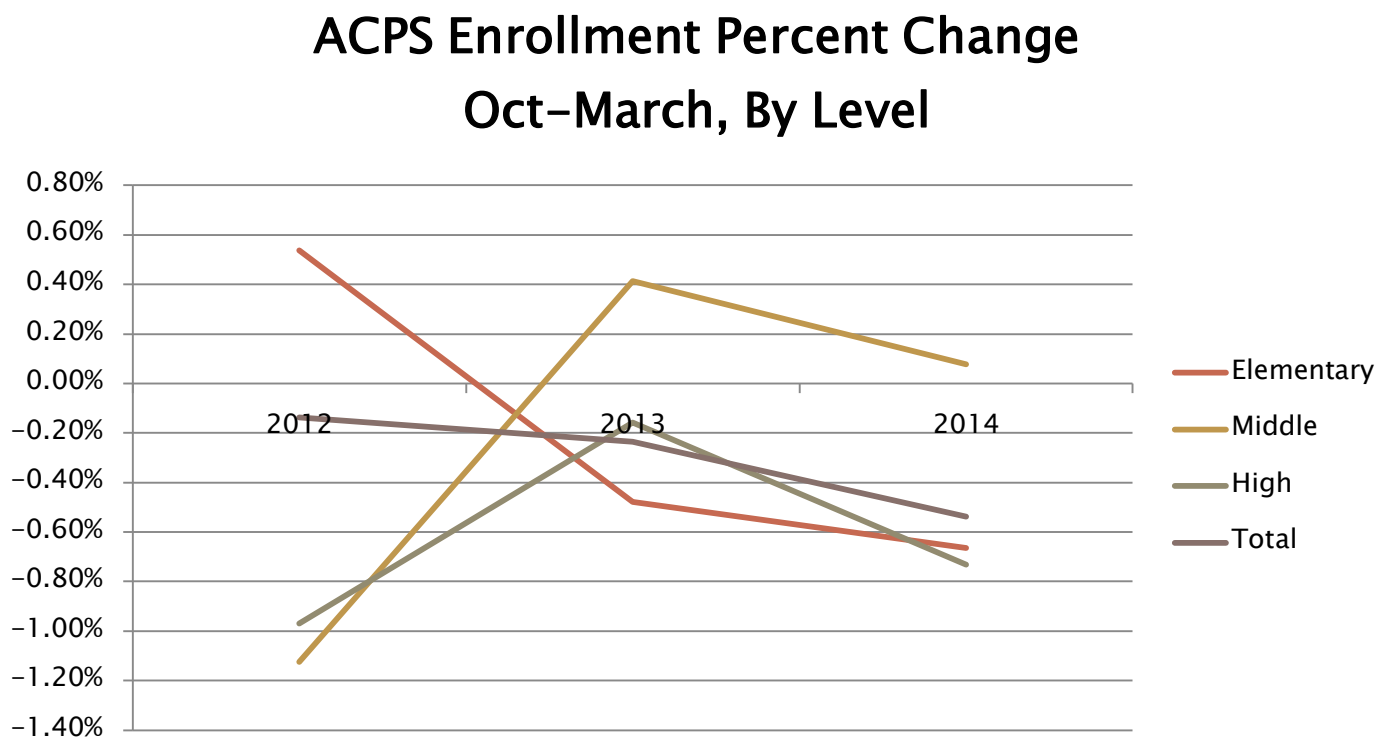
Enrollment Change October to March



	10/1/2012	3/31/2012	10/1/2013	3/31/2013	10/1/2014	3/31/2014
Elementary	7,089	7,127	7,519	7,483	7,677	7,626
Middle	2,312	2,286	2,425	2,435	2,602	2,604
High	2,994	2,965	3,161	3,156	3,284	3,260
	12,395	12,378	13,105	13,074	13,563	13,490

Schedule for Annual Updating

Schedule for Annual Updating

- **Summer:** State birth data is available; staff work includes address-matching to ensure database only includes births to Alexandria mothers.
- **October:** School year enrollment data becomes available; staff work includes calculating kindergarten capture and cohort survival (grade-to-grade changes).
  - Analysis: how did enrollment conform or depart from forecasts? What new trends are evident?
  - Draft forecasts are prepared for budget sessions.
- **Spring:** Review spring enrollment data.