Enrollment and Forecasting Subcommittee

ACPS & City of Alexandria

Tonight's Meeting

- Welcome and Introductions
- Committee Role
  - Advise on analytical approach
  - Review findings
  - Report out to full committee
- Enrollment Forecasting
- New Development Forecasting
- Using Focus Groups
- Next Steps

Enrollment Projection – Short Term

- Births, and share of births that become kindergarten students five years later (kindergarten capture), based on average of recent years, modified by trends
- Share of students moving from one grade to the next in each grade (cohort survival), based on average of recent years by school by grade, modified by trends

Enrollment Forecast – Long Term

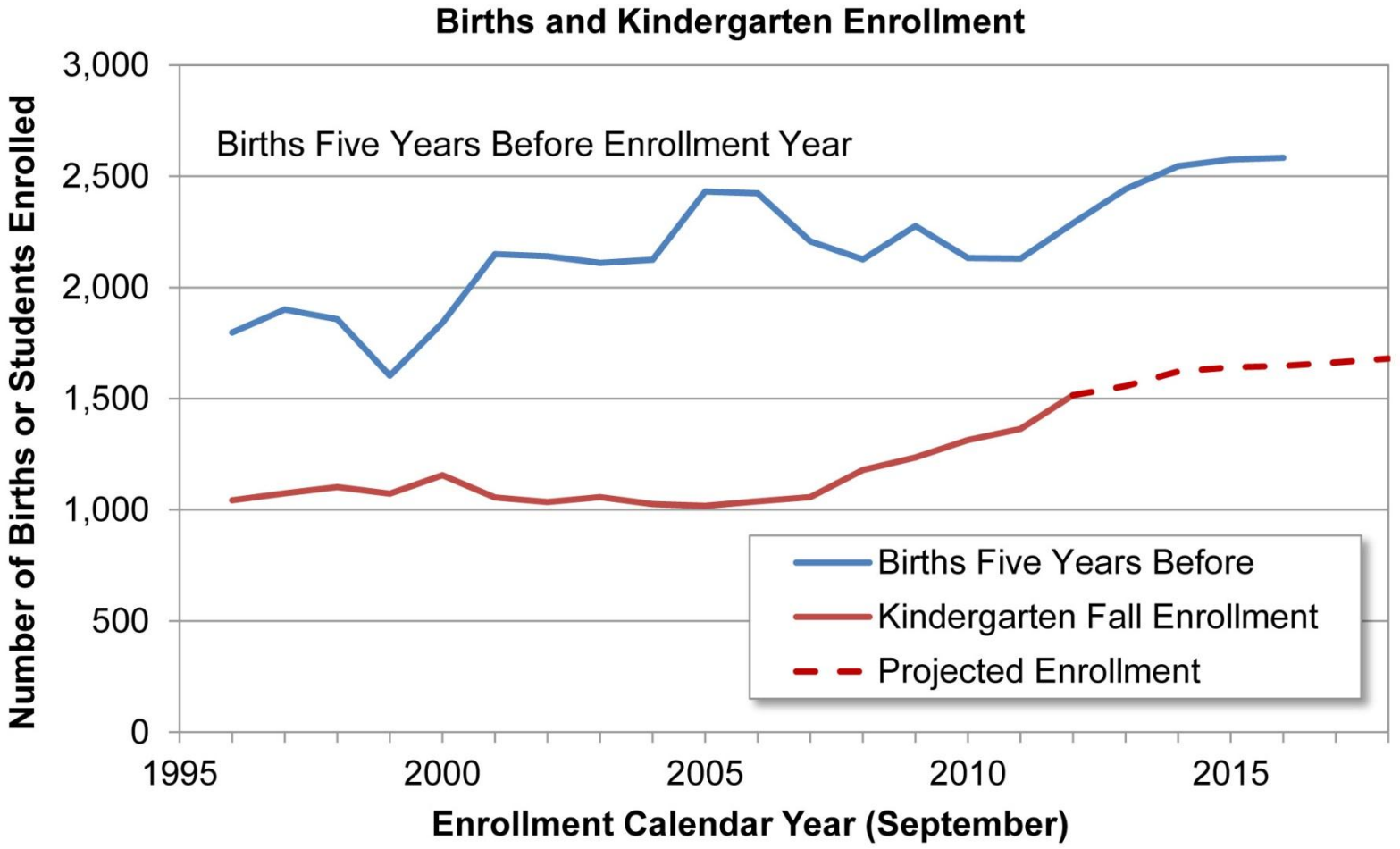
- Kindergarten capture projection
- Cohort survival projection

Modified as appropriate by estimates of

- Changes in share attending public school
- Factors that determine moves in and out of Alexandria by age and household type
- Family formation
- New development and redevelopment
- Neighborhood turnover – susceptible areas

Alternative projections based on assumptions

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



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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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Population change

Cohort survival and kindergarten capture – what changes these over time?

- Who moves in and out each year from existing units? Families with children vs those without children?
- What changes who moves in and out?
- Neighborhood turnover – potential change in household occupants and resulting student generation – where, what impacts?
- New development – who is attracted?

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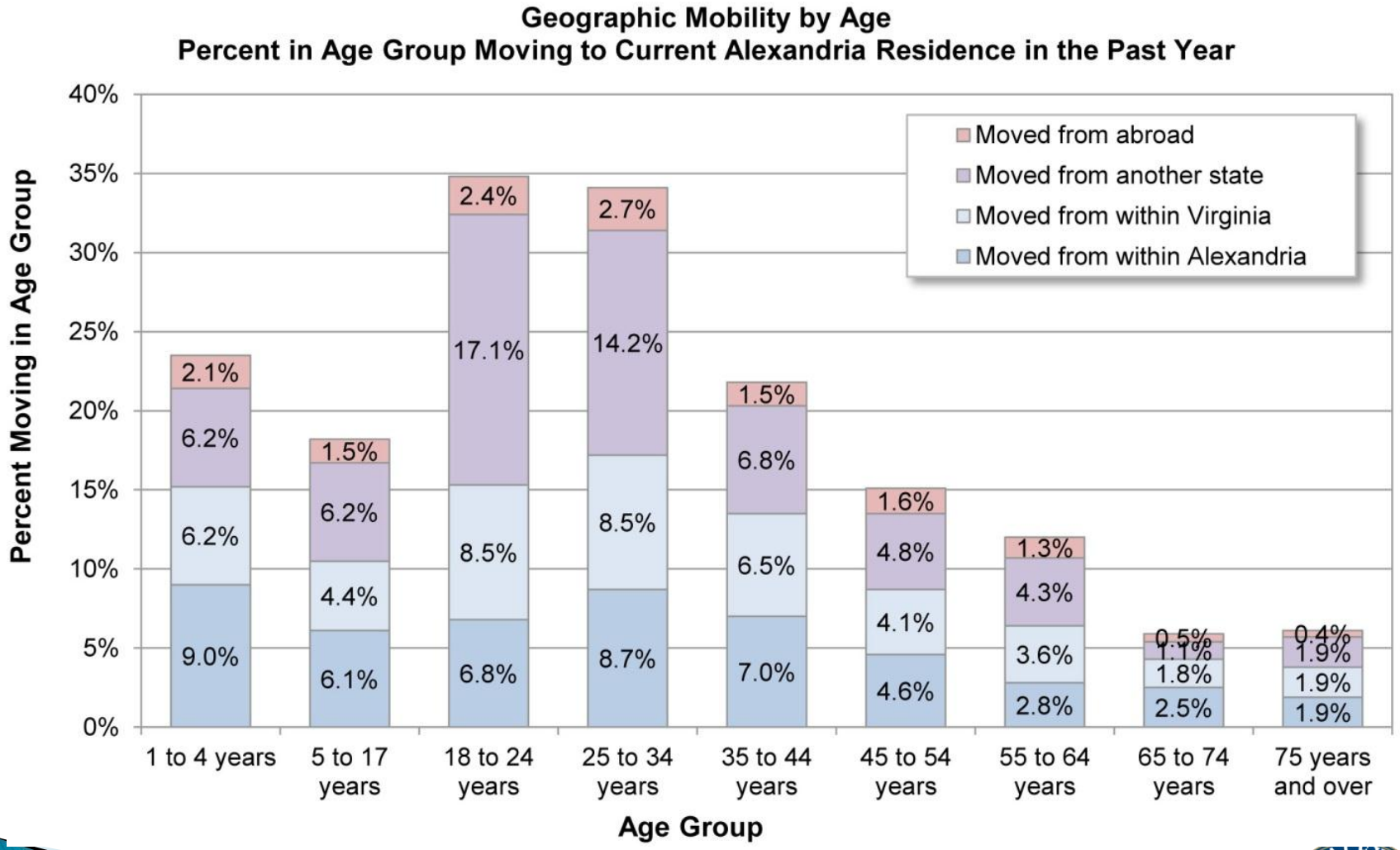
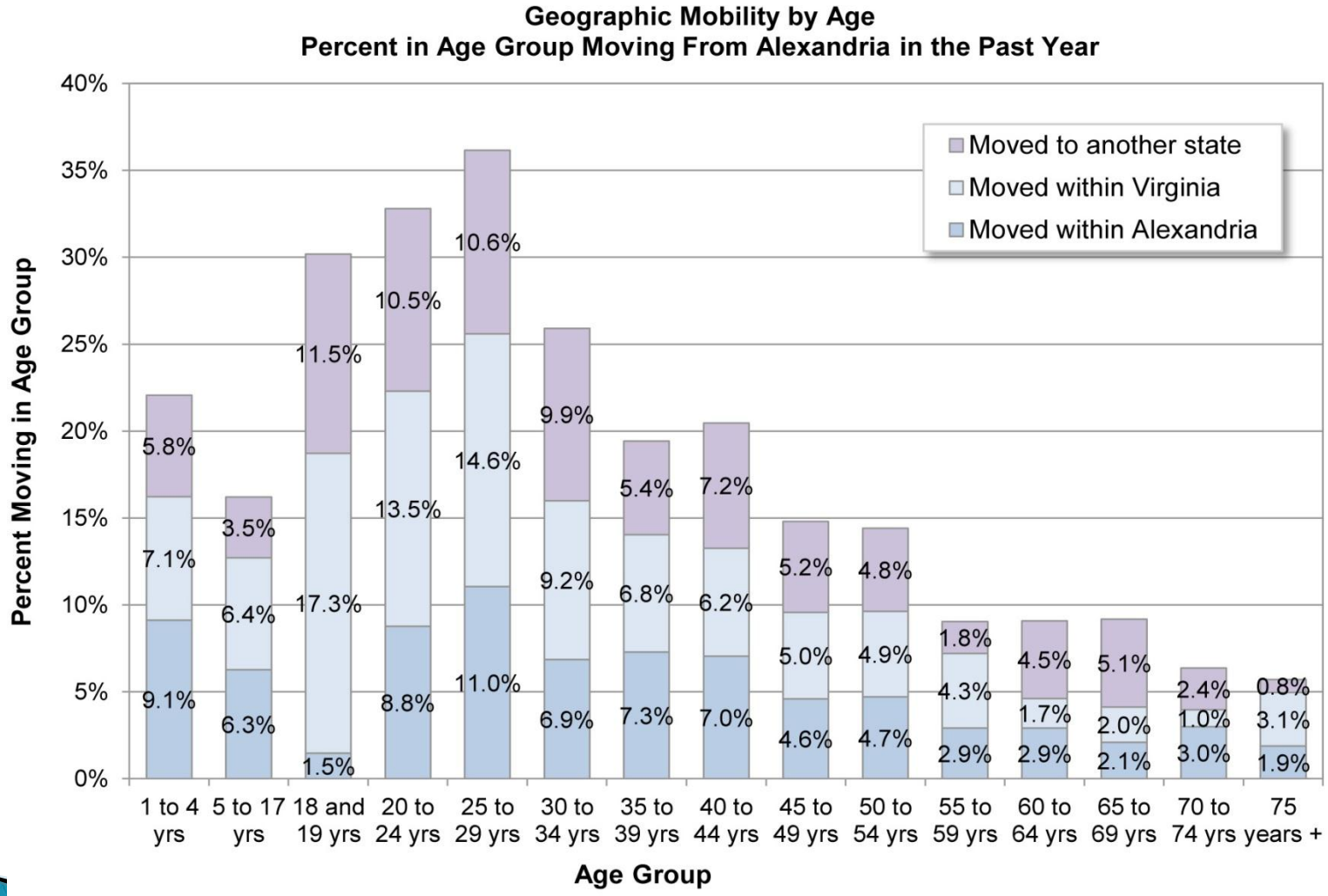
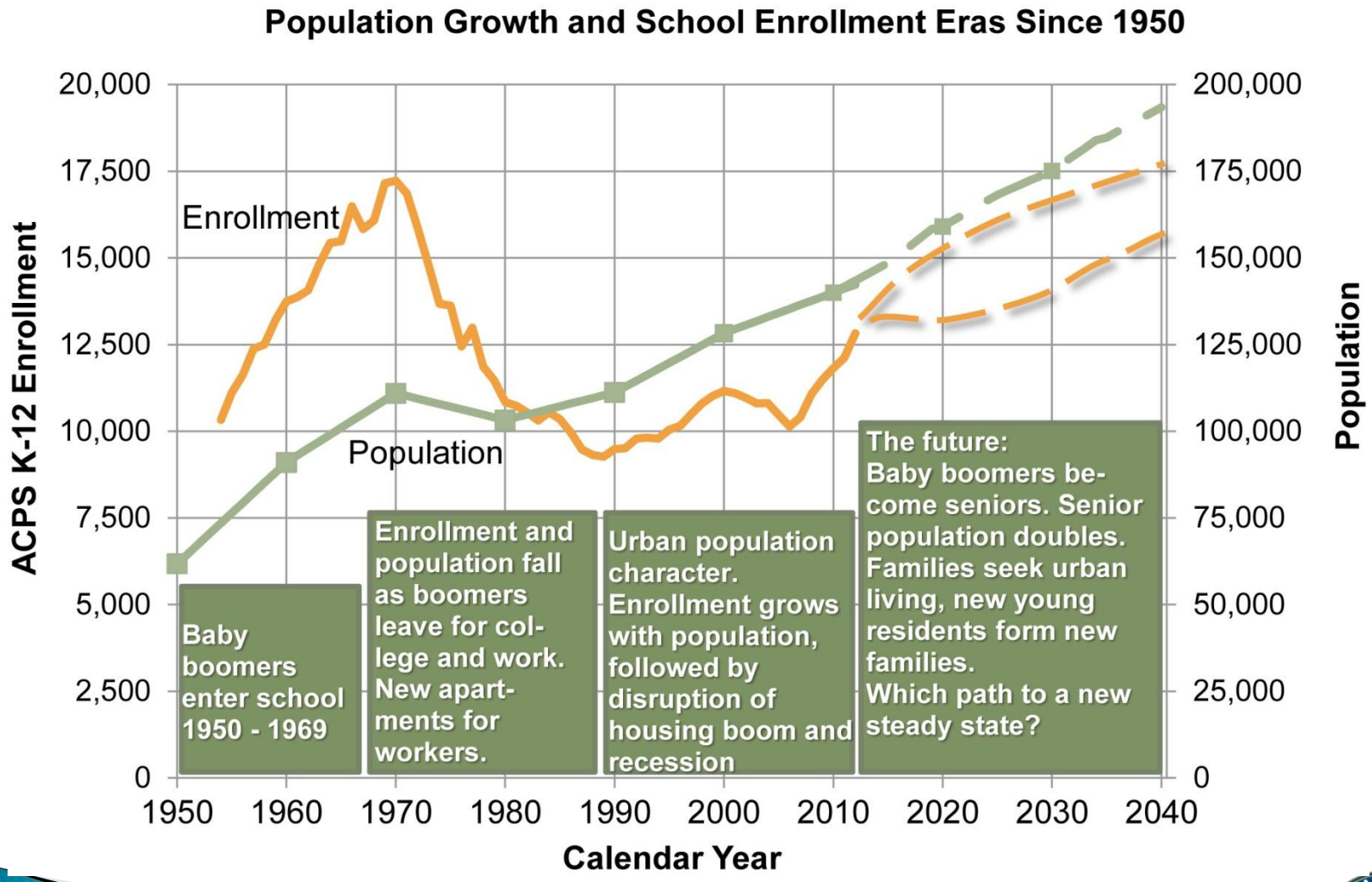
Moves In by Age



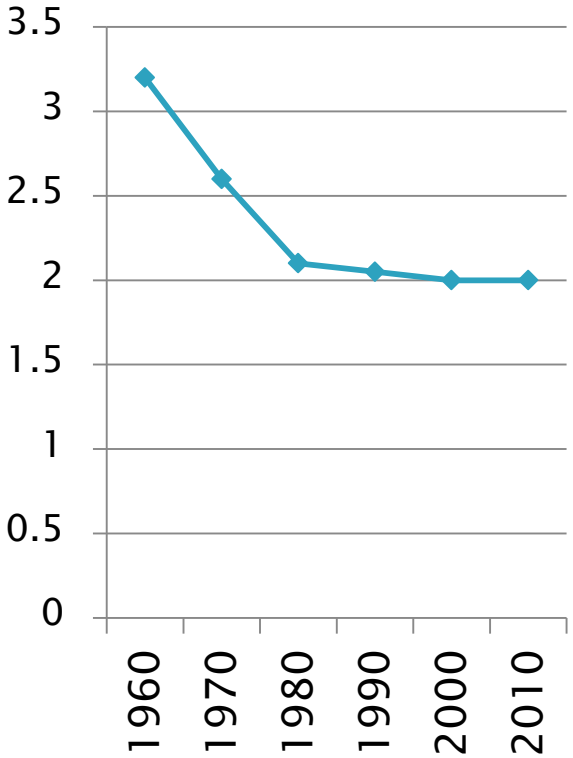
Moves Out by Age



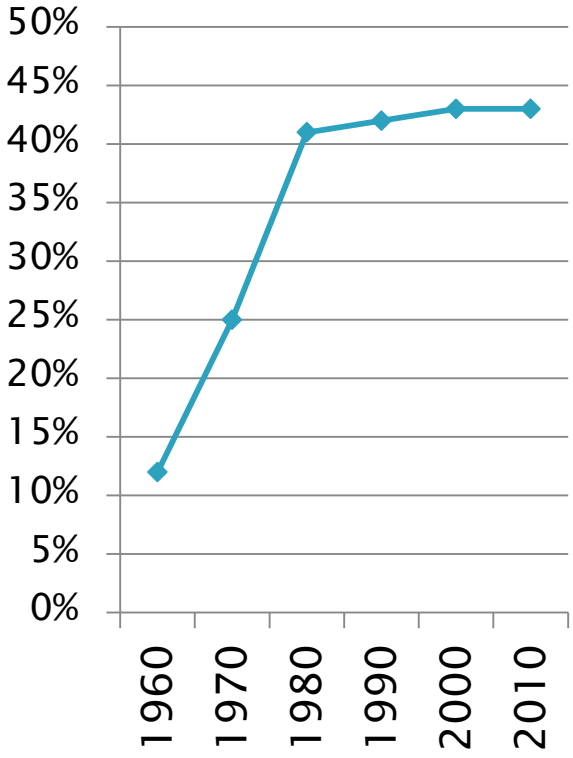
Historic Eras of Enrollment and Population



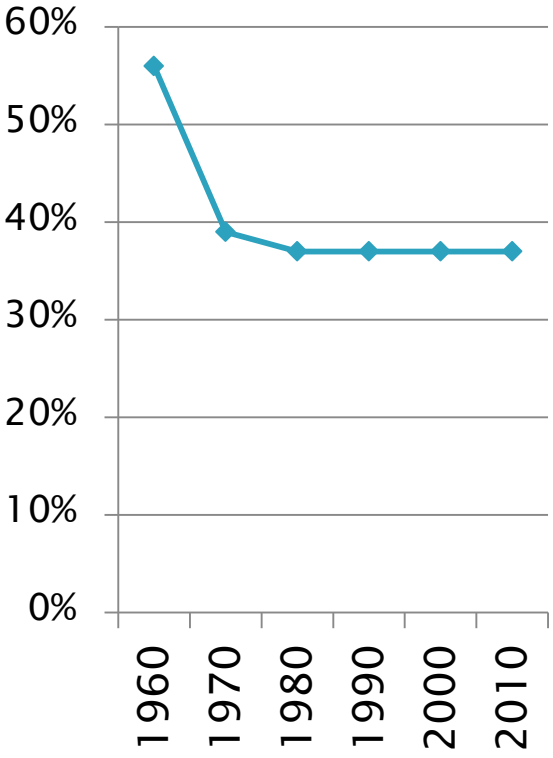
Change to an Urban Population



Low household size

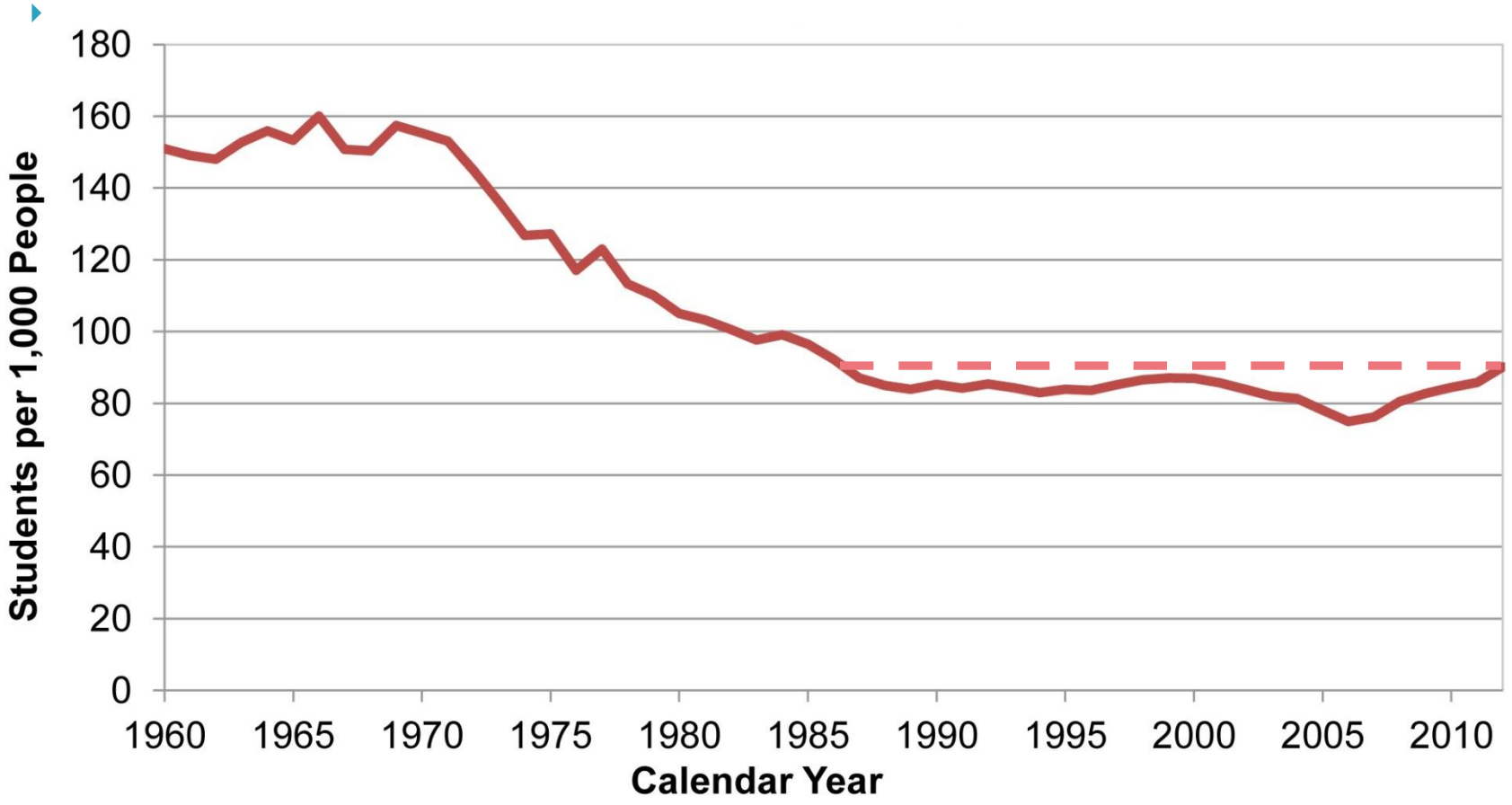


More single person households



Low percentage of single family homes

School enrollment, compared to population, was declining for 35+ years – until 2007



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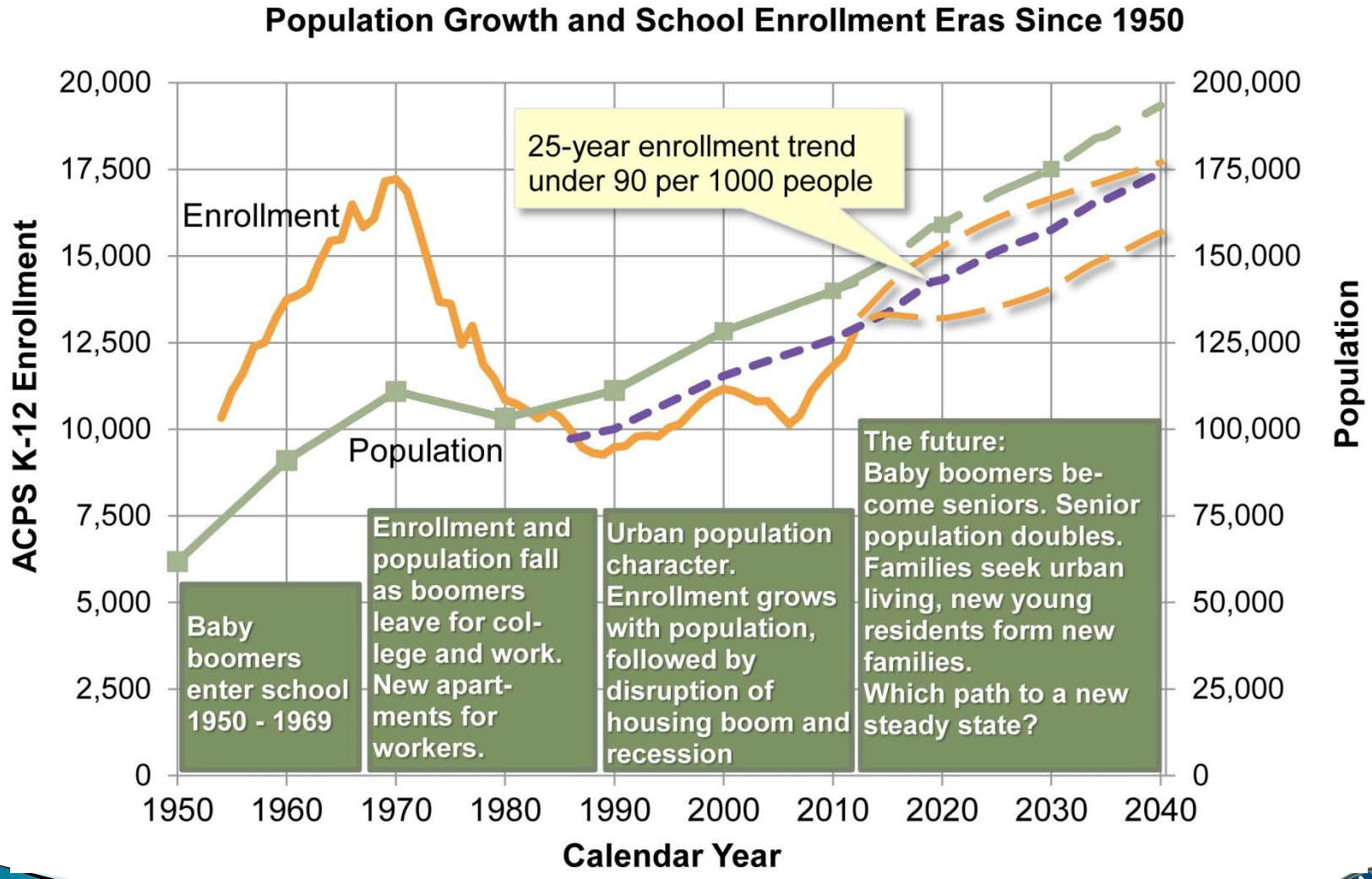
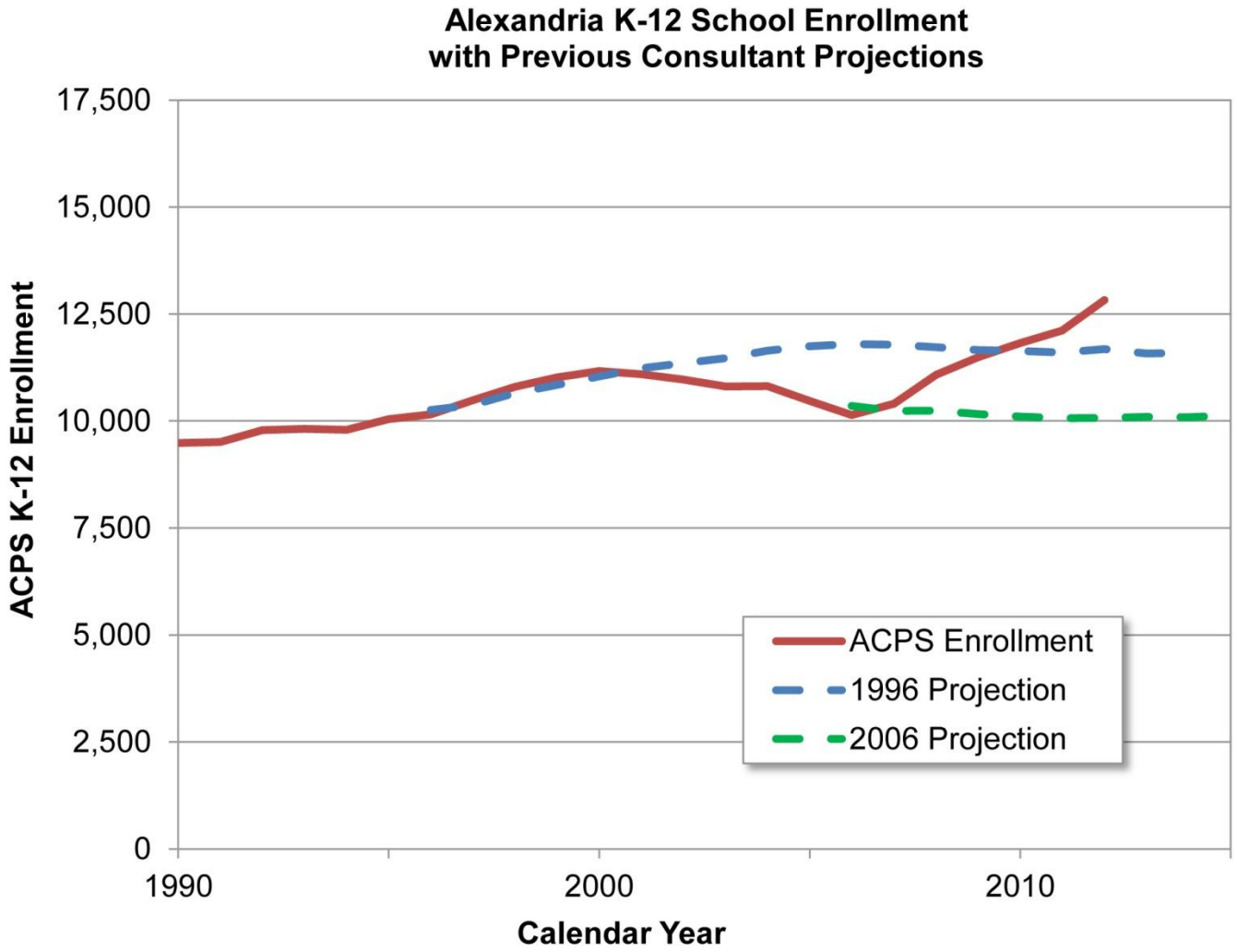
Historic Eras of Enrollment and Population



Past forecasts vs enrollment



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Goal and Work Program

Research topics:

1. Kindergarten capture, cohort survival – by neighborhood attendance area
2. Who moves in and out as a predictor?
3. Family structure a factor?
4. Neighborhood turnover – where, what effect?
5. Long term – is this a new era? If so, what is the direction?

Predictability

- How much has total enrollment changed from one year to the next over time?
- How much has kindergarten enrollment changed from one year to the next over time?
- How successful have past projections or forecasts been in estimating future enrollment?
- What factors seem to result in unusual changes in enrollment from year to year?
- Are there indicators that lead enrollment?
- How to account for unpredictability?

New Development

- As a contributor to changes in school enrollment, particularly in the long term.
- Types of new development.
- What existing housing is replaced?
- With about 1% annual growth in housing units, is in general a slow, upward-trending force on future enrollment.
- Unit mix moderates growth effect at least in early years after occupancy.

Annual Development Forecast

- Approved and in-process development from permit tracking system
- Area and corridor plans by development block from plan documents
- Infill under current zoning – parcels with substantial potential
- Long-term potential with typical redevelopment (shopping centers, garden apartments most susceptible)

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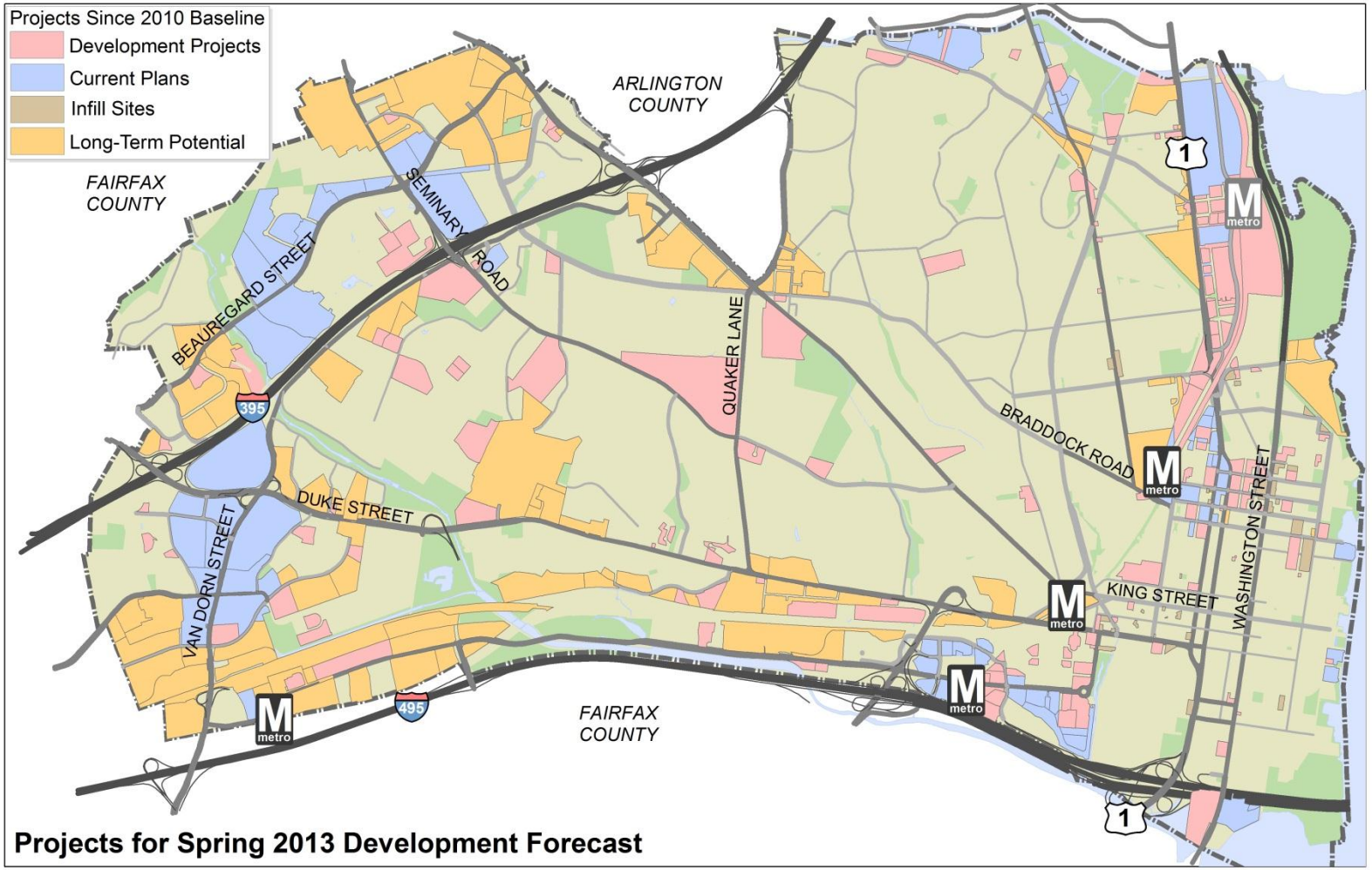
Forecasting Project Data Base



Projects for Spring 2013 Development Forecast

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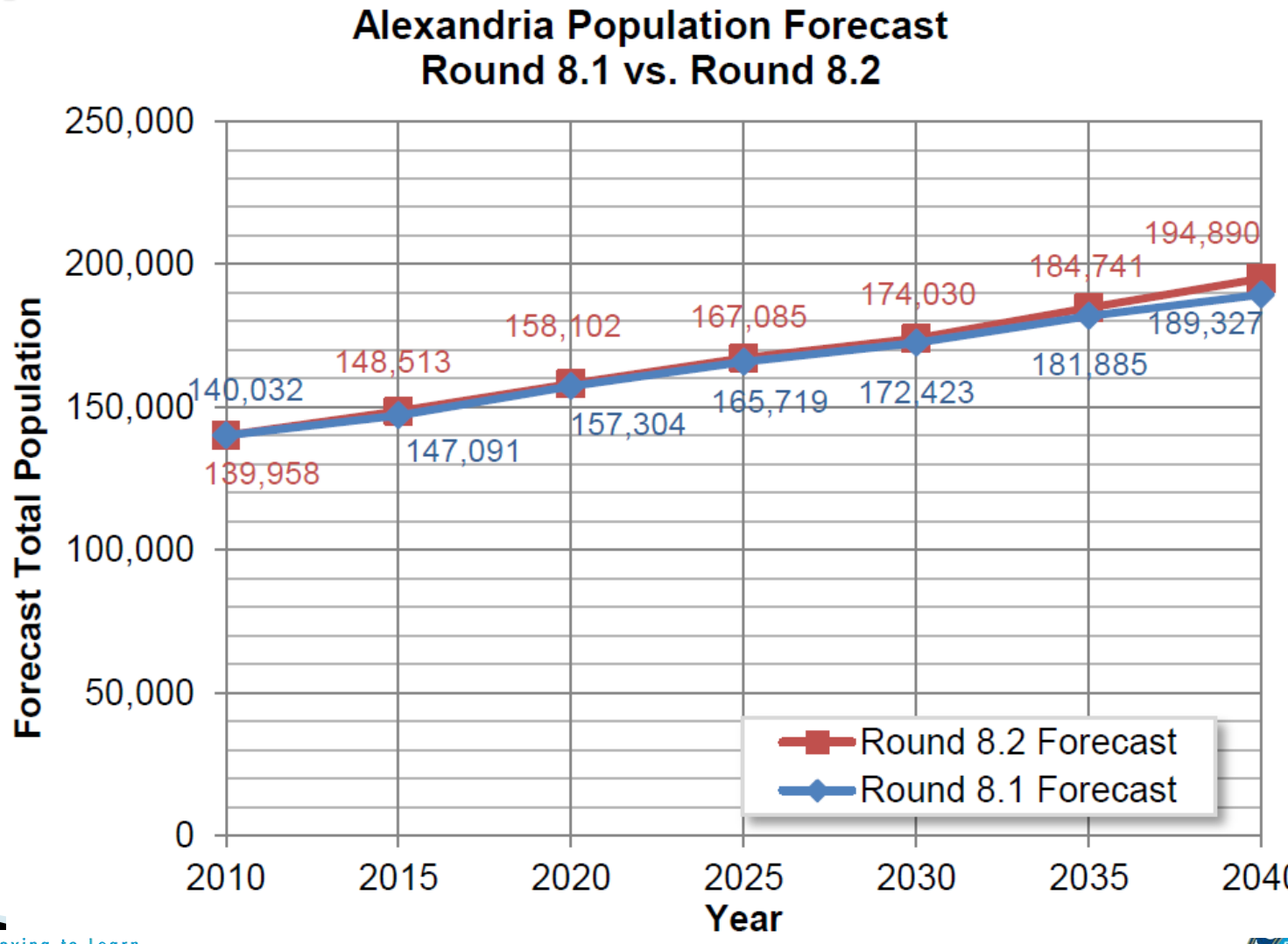
Population Forecast



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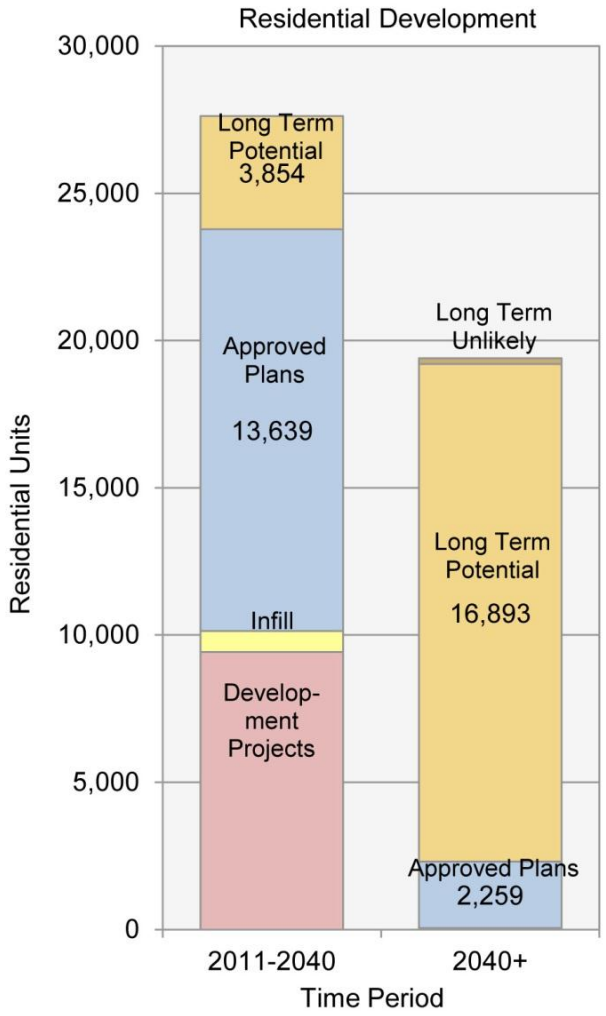
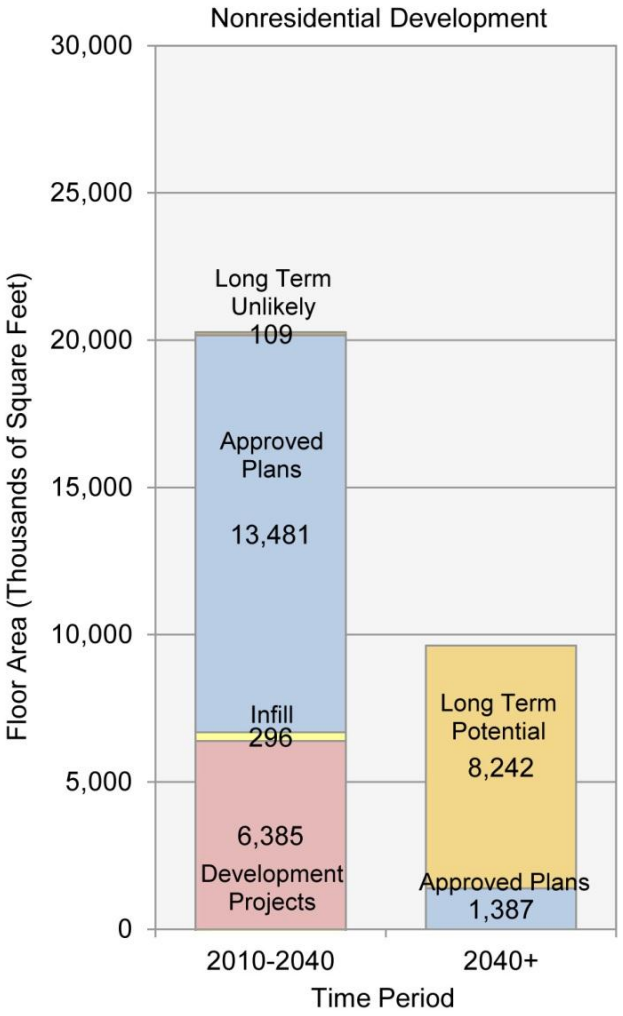
Summary by Project Category





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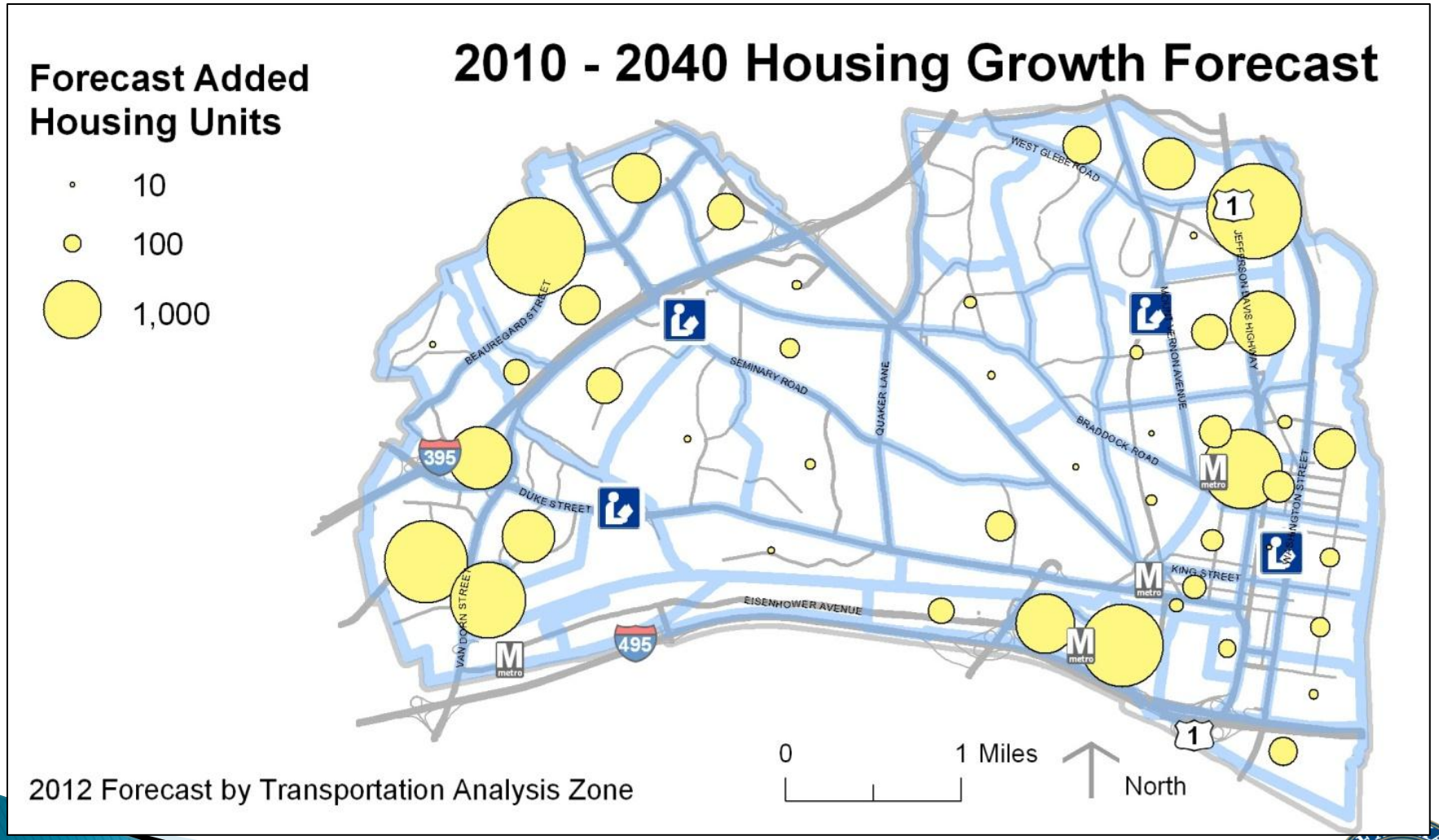
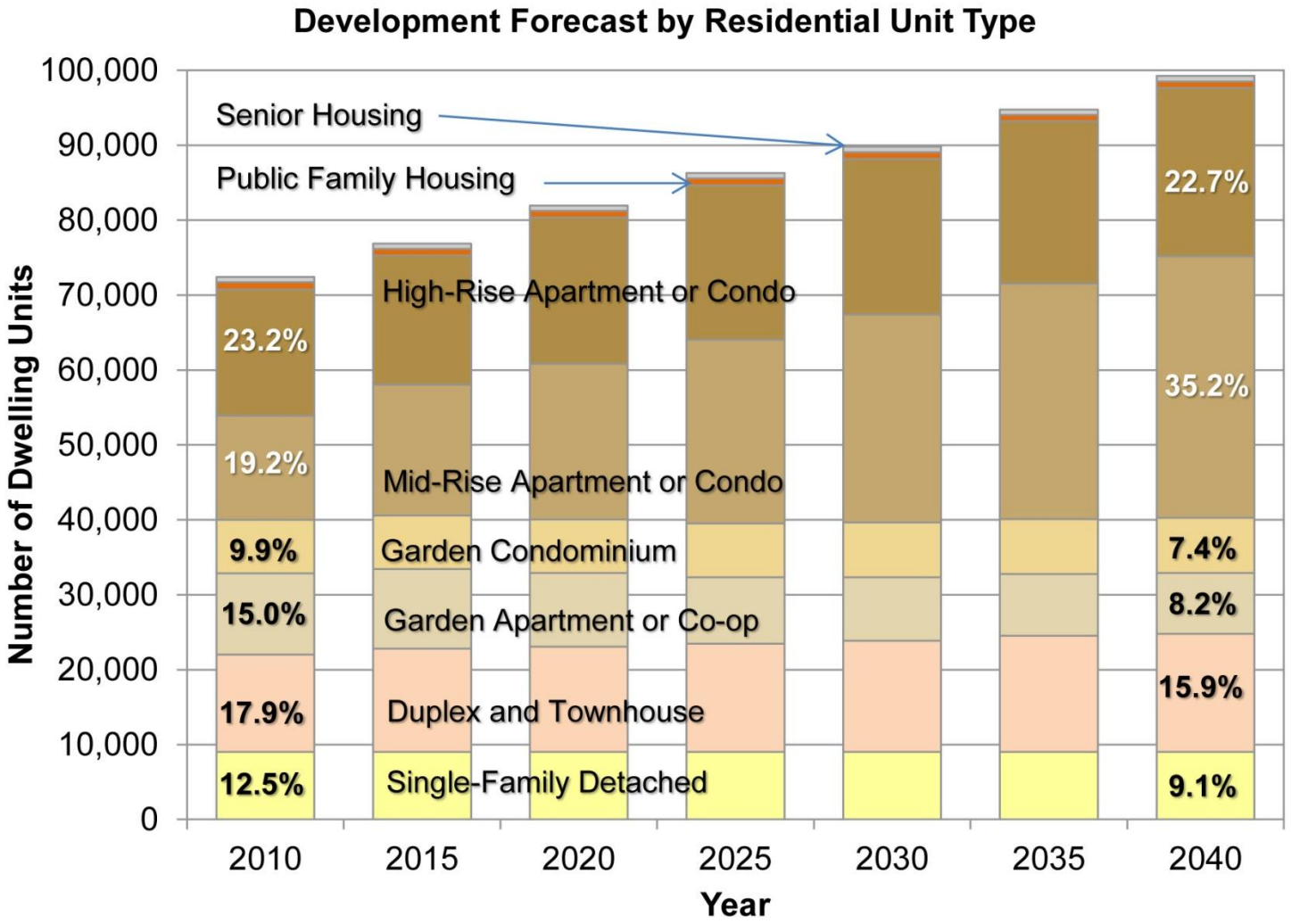
Residential Development Forecast



Unit Type Changes over Time



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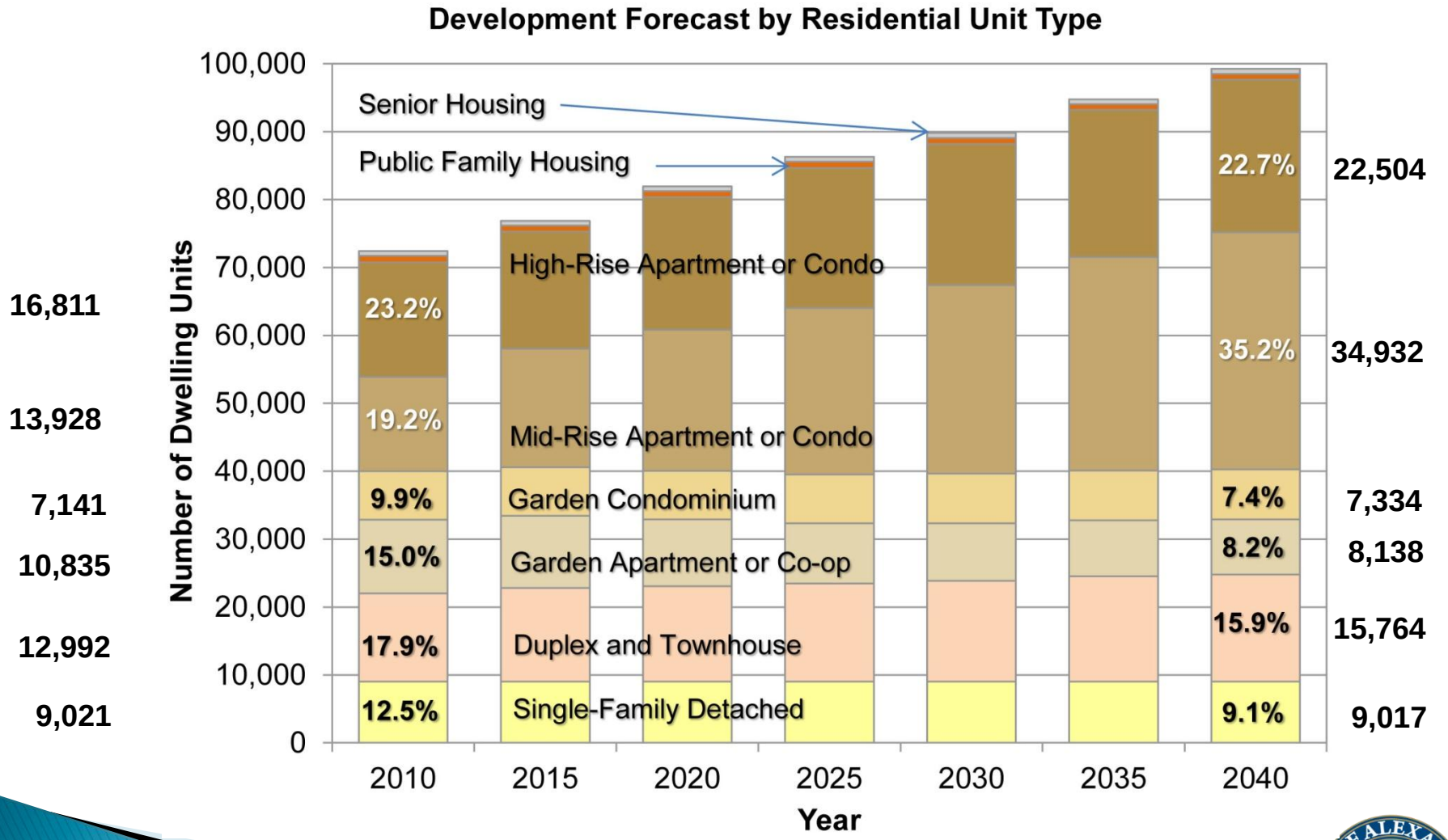
Number of Units



New Development Forecast Refinements

- Refine population forecast by residential building type and location (next round, driven by school enrollment forecasting)
- Update land use classification
- Improve building data base with complete addressing to unit level (1-2 years)
- Integrate with new permit tracking system for current projects (3 or so years)
- Regular updates between COG cycles

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Update Student Generation Factors

Analysis:

- Separate senior units
- Separate subsidized units
- Separate by structure age in 10-year categories
- Separate by size of unit
- Consider rehabilitation of units as a factor

Should provide better definition of potential student generation for existing development, demolitions, and new development

Refining Enrollment Forecasts

- Focus groups to examine factors contributing to change:
  - What changes can be expected?
  - How will changes influence school enrollment?

Focus Groups

- Evaluate effects of recent economic disruptions on enrollment
- Anticipate changes going forward
- Real estate – who is moving in and out?
- Employers – school impact on ability to attract workers
- Private school operators, parents
- Parents of pre-school children – plans to stay in Alexandria, send kids to private school?

July–August

- Hold focus groups
- Staff research on identified topics
- Prepare for next fall projections using 2013 fall enrollment data (final late October)

Supplemental

- Background on current population forecast
- Background on enrollment projections

Round 8.2 Forecast

2010 Baseline

+

Net New Development Forecast

=

Total Development Forecast
5-year increments to 2040

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New Development Forecast

- 400+ projects, 900 use/phasing entries

Proposed Use					Year	Retail Floor Area 5-Year Totals			
Use Code	Use Type	Use	Floor Area	DUs	Year Occ	2015	2020	2025	2030
400	Ret	General Commercial	5,600	0	2025	0	0	5,600	0
470	Hot	Hotel & Motel	-16,908	-40	2025	0	0	0	0
487	Ofc	Office Bldg (10,000 sf+)	39,896	0	2025	0	0	0	0
310	Res	Garden Apt (1-3 Story)	0	-183	2018	0	0	0	0
310	Res	Garden Apt (1-3 Story)	0	-113	2020	0	0	0	0
320	Res	Mid-rise Apt (4-6 Story)	0	360	2020	0	0	0	0
320	Res	Mid-rise Apt (4-6 Story)	0	360	2022	0	0	0	0
320	Res	Mid-rise Apt (4-6 Story)	0	205	2027	0	0	0	0
400	Ret	General Commercial	18,000	0	2015	18,000	0	0	0
330	Res	High-rise Apt (7+ Story)	674,259	596	2016	0	0	0	0
400	Ret	General Commercial	54,000	0	2016	0	54,000	0	0
330	Res	High-rise Apt (7+ Story)	641,964	601	2025	0	0	0	0
330	Res	High-rise Apt (7+ Story)	-283,801	-187	2012	0	0	0	0

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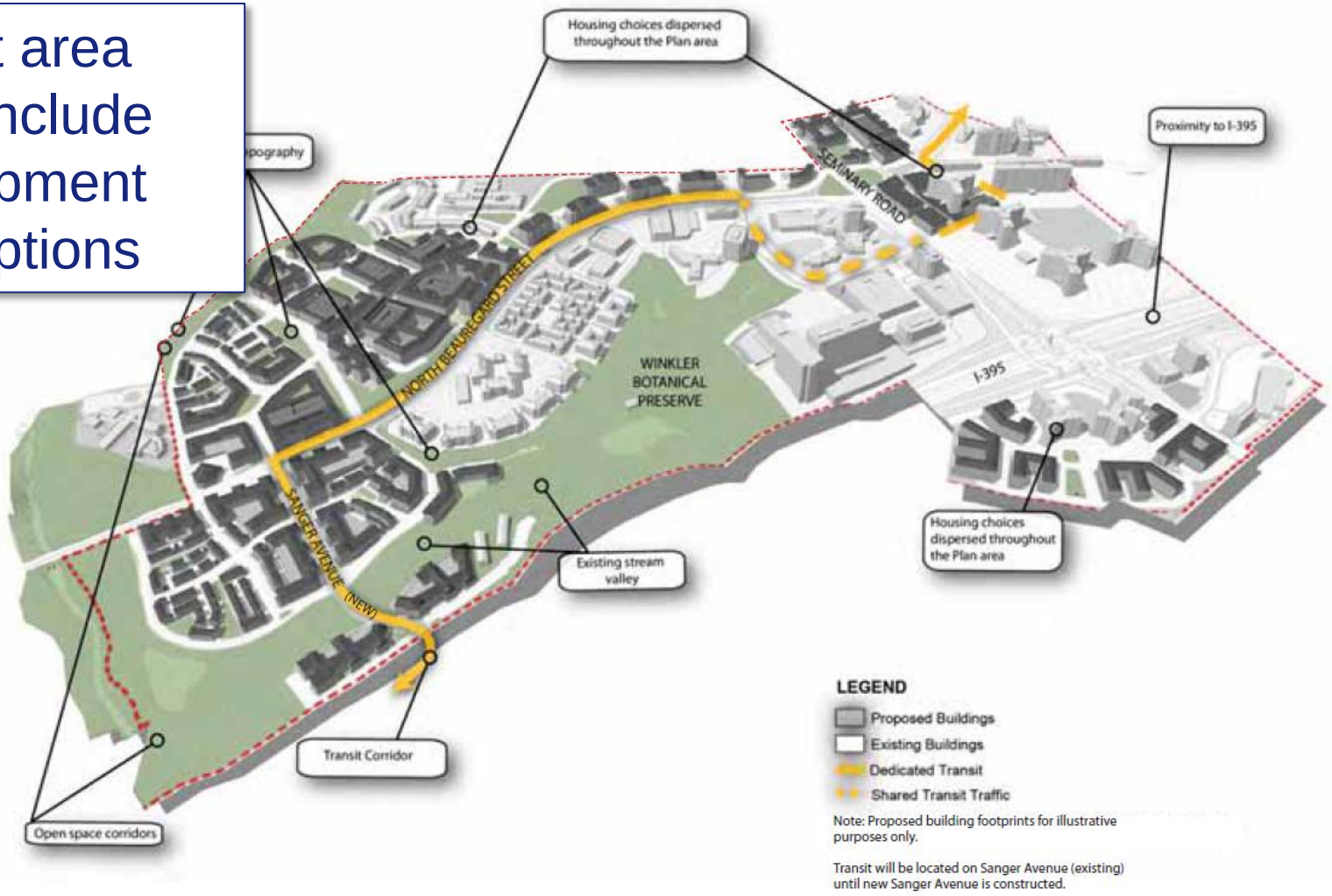
Beauregard Small Area Plan

Recent area plans include development assumptions



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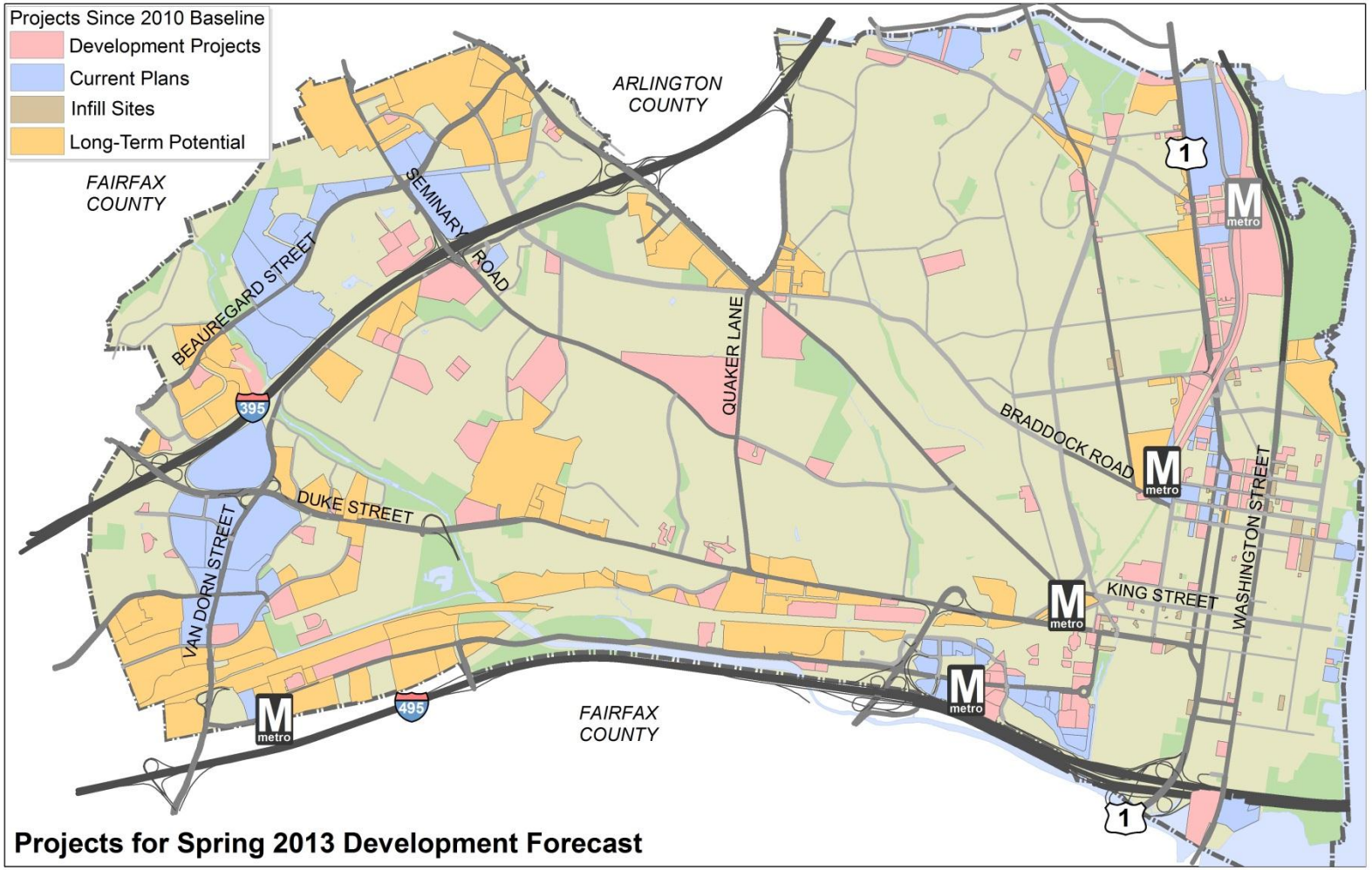
Forecasting Project Data Base



Projects for Spring 2013 Development Forecast

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Background – Enrollment

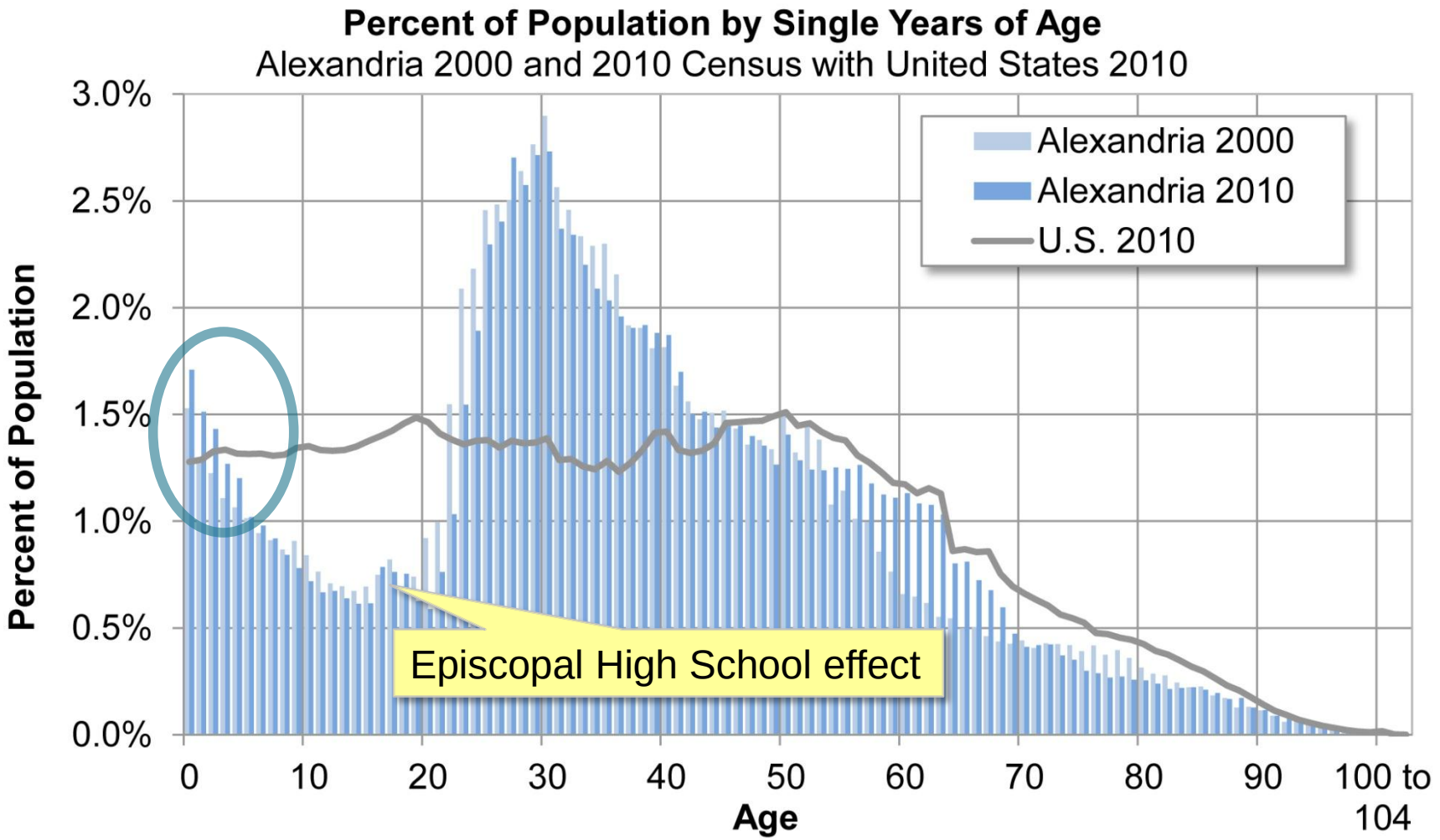
Estimating future enrollment

- Births, and share of births that become kindergarten students five years later (kindergarten capture)
- Share of students moving from one grade to the next in each grade (cohort survival)
- Share of age cohort attending public school

Affected by

- Factors that determine moves in and out of Alexandria by families with children
- New development and redevelopment
- Neighborhood turnover

Alexandria's age profile



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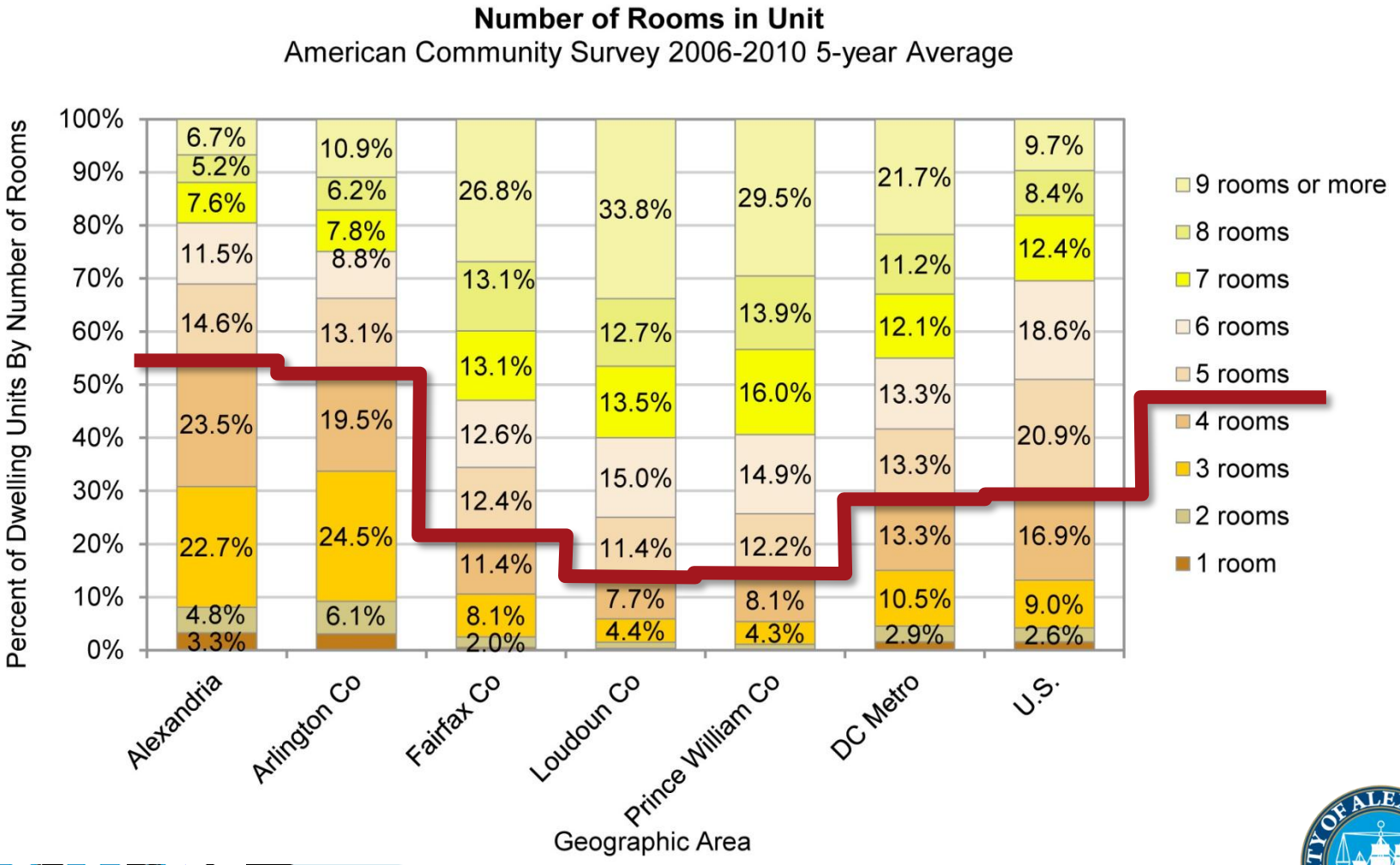
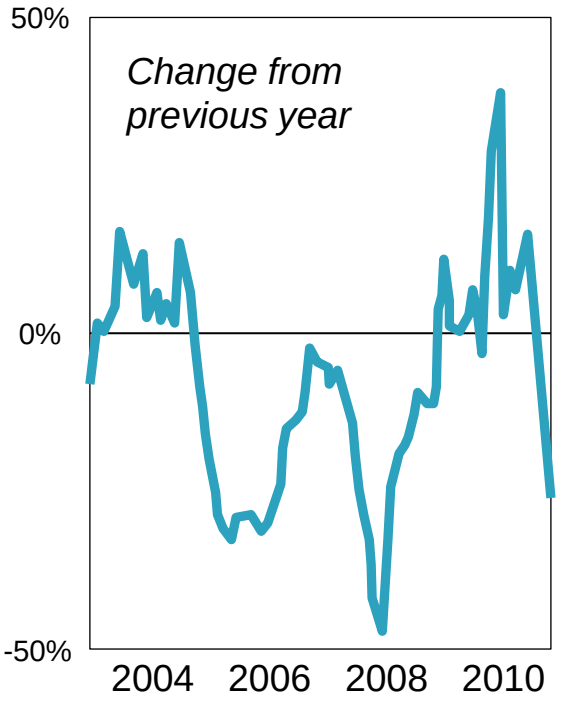
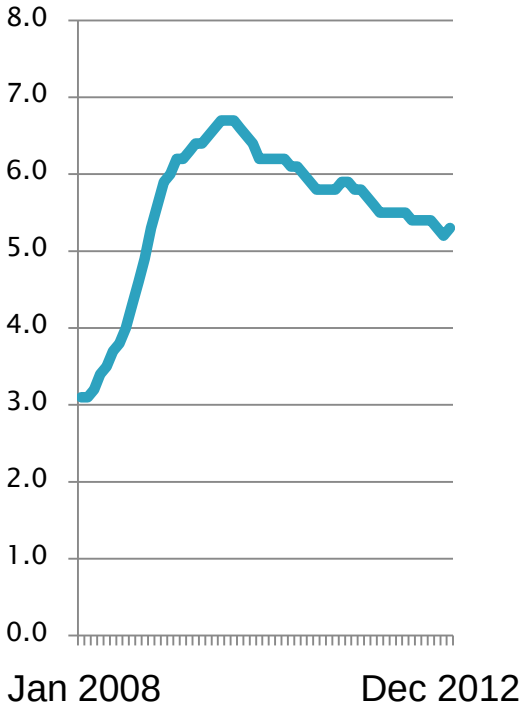
More than half of Alexandria's housing stock has 4 rooms or less



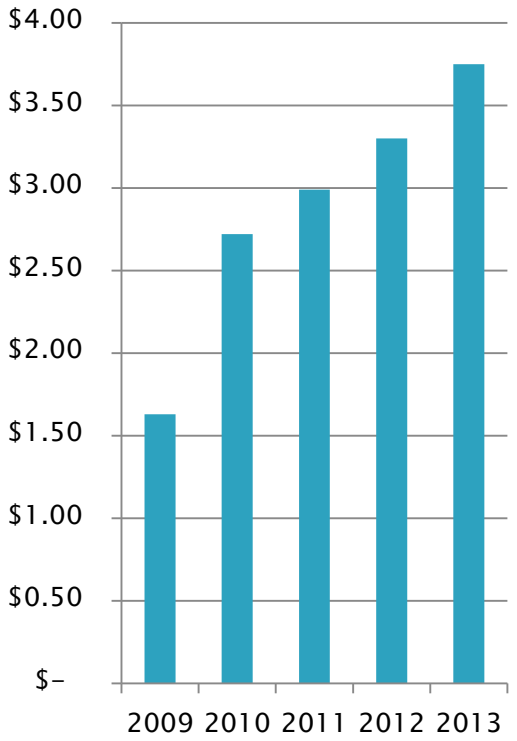
Several factors reduced families ability to move out of the City beginning in 2007



Home sales fell



Unemployment rate rose



Gas prices rose

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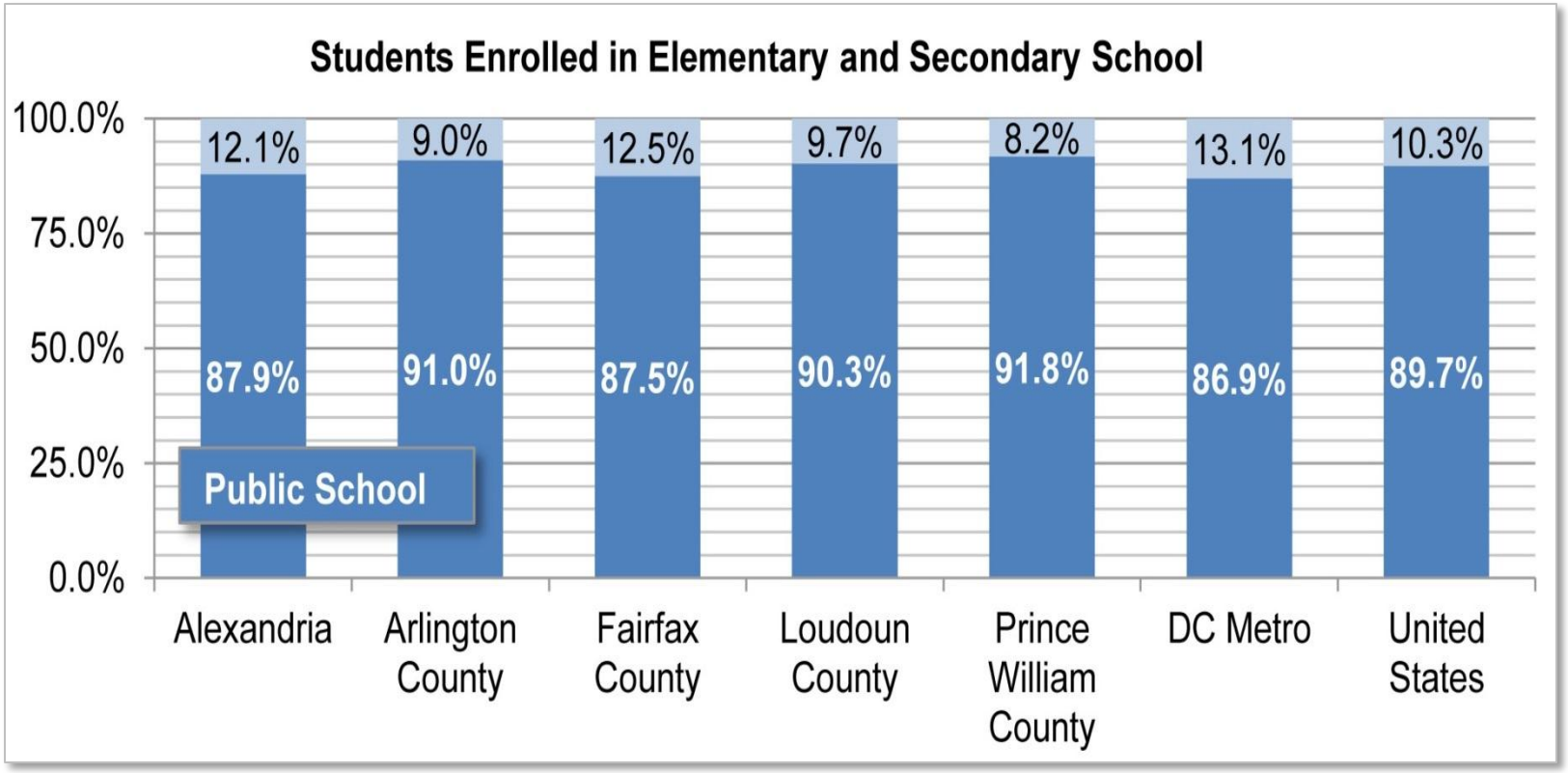
12.1% of Alexandria's children enrolled in school attend private school



American Community Survey 2006-2010 5-year average data, corrected for residential high school population for Alexandria only.

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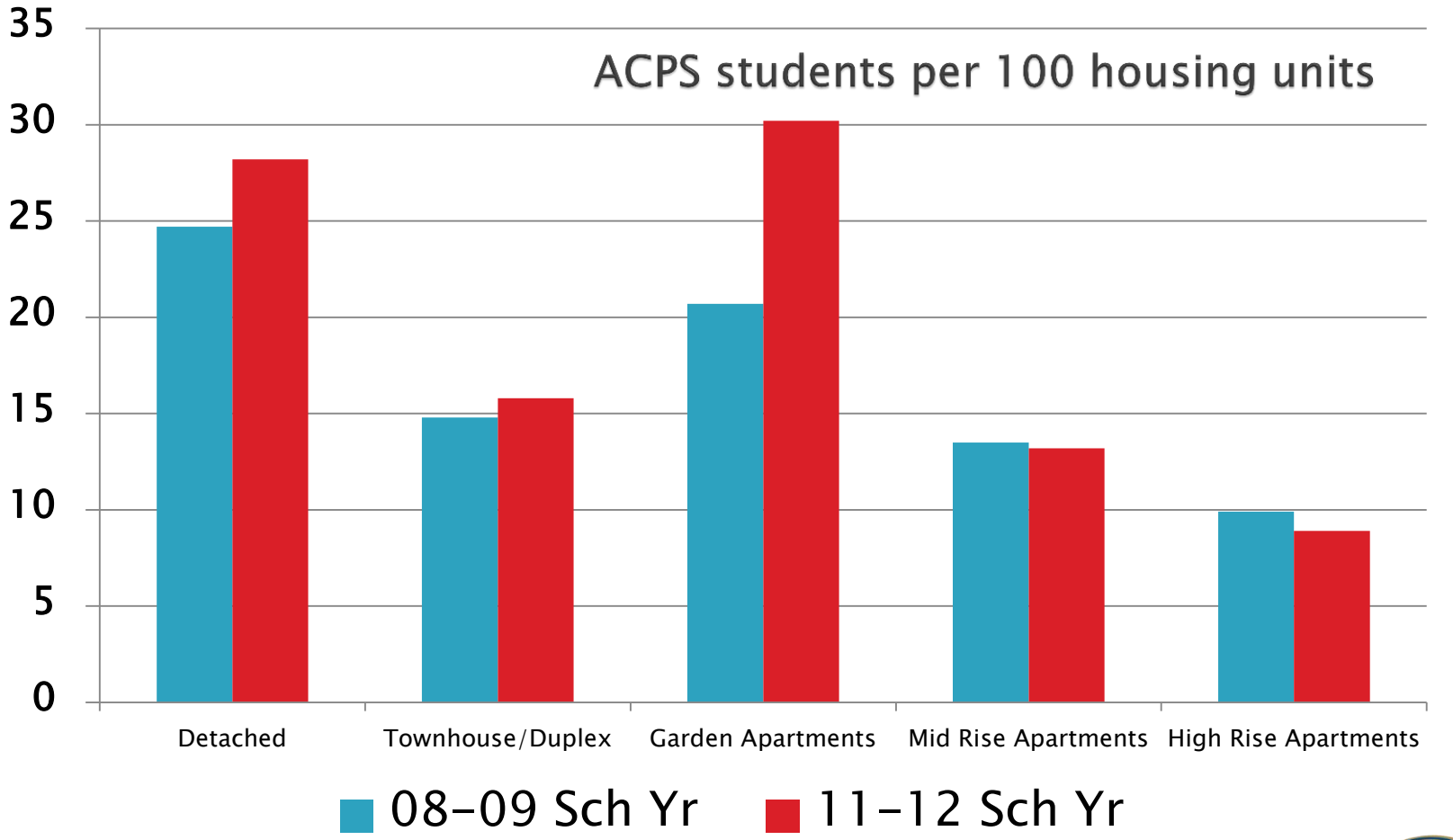
Growth in enrollment is from single-family and gardens, but not mid- and high-rise



Impact of future development

Students estimated from planned development and redevelopment, 2010-2020

	2010-15	2015-20
Townhouse	74	22
Garden apartment	-63	-274
Mid-rise apartment	103	85
High-rise apartment	-4	40
Total	110	-127

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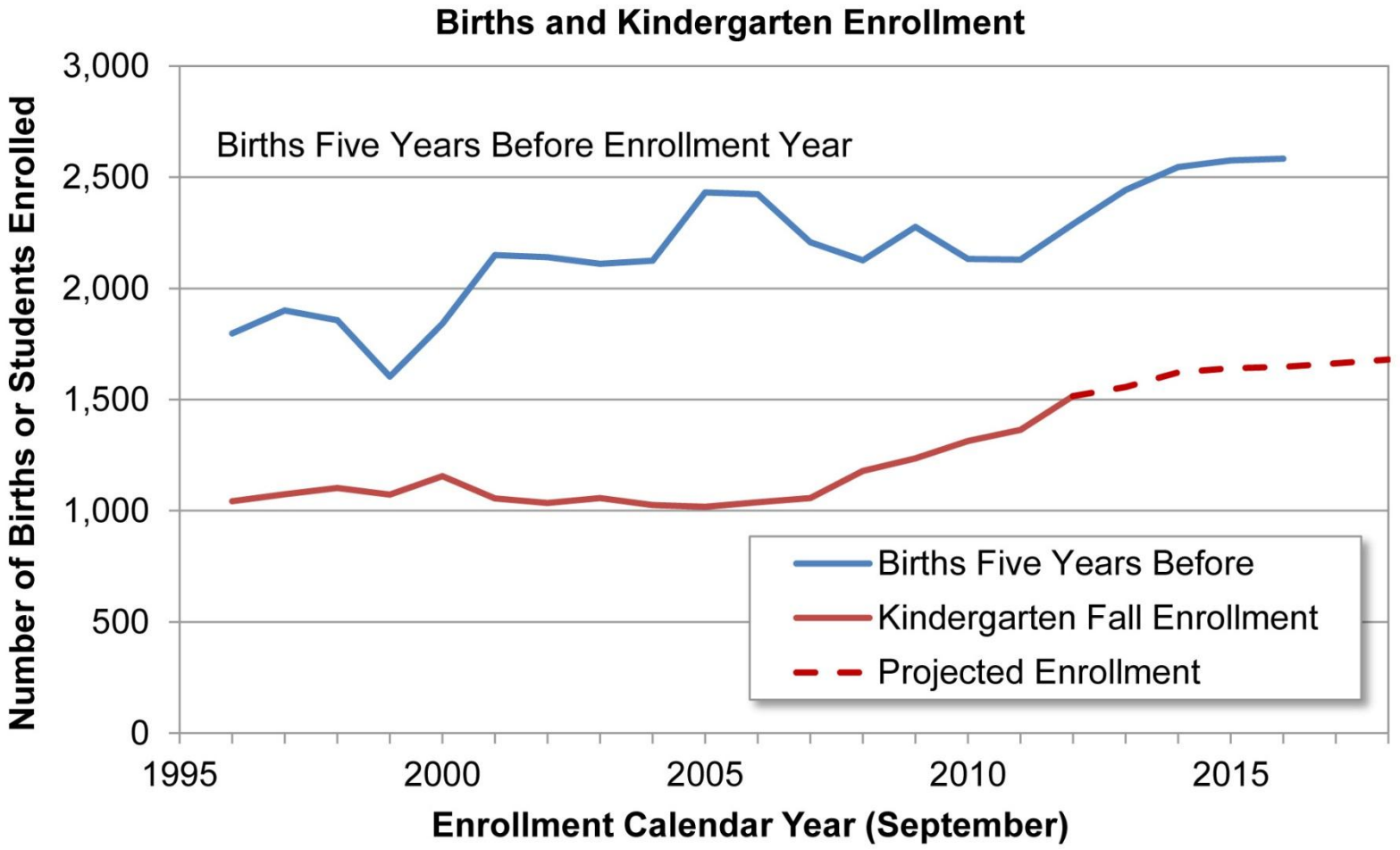
The number of births in the city is going up, as is kindergarten enrollment



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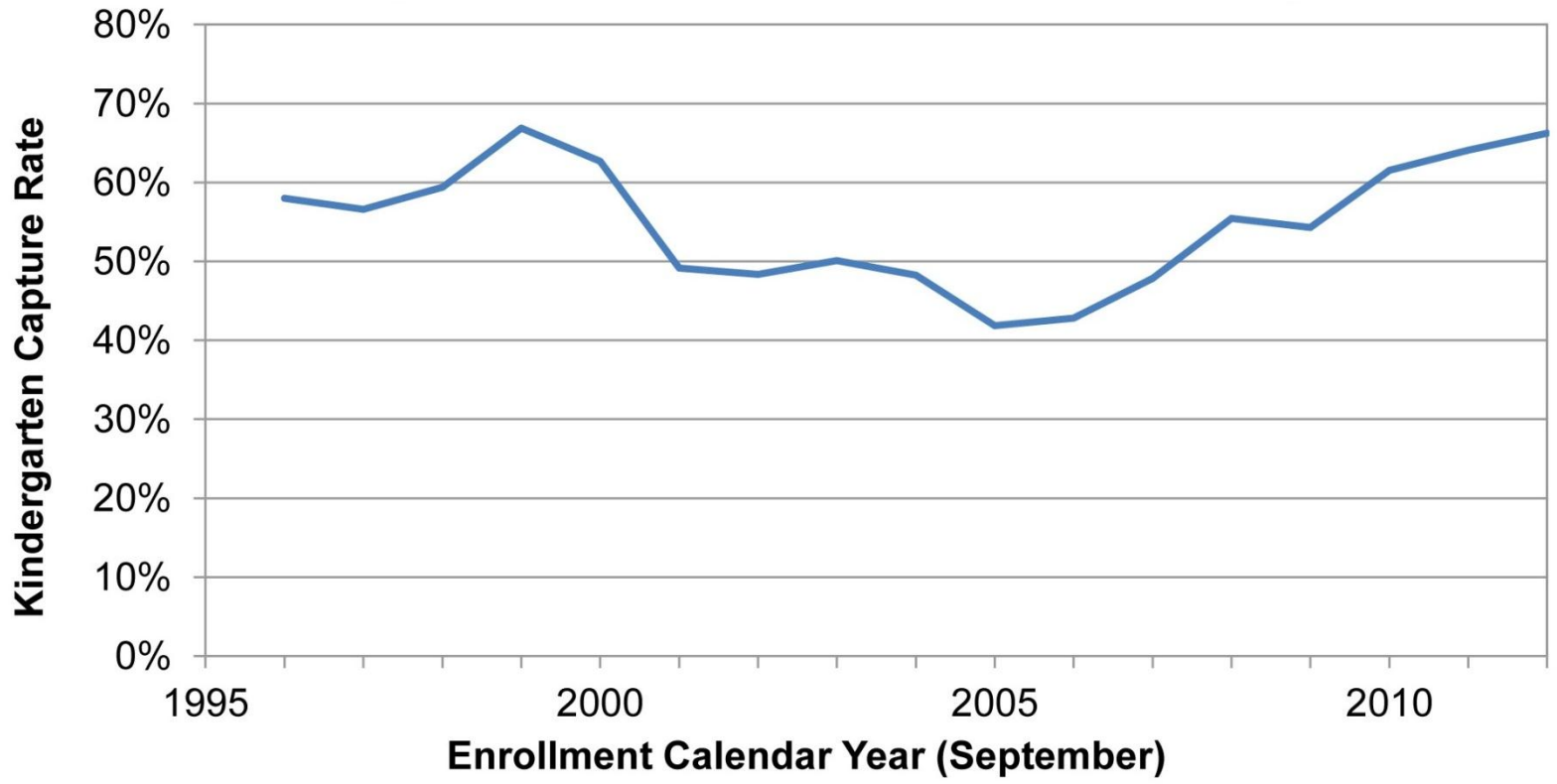
Our "kindergarten capture" rate is increasing

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



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

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Summary of key trends

- The latest data for key indicators are continuing to show growth
  - More children being born in Alexandria, but increase is moderating
  - More of the children born in Alexandria are entering kindergarten five years later
  - More of them staying in Alexandria schools after kindergarten…through high school.

Assumptions for the 2019 medium forecast

- Births: modest increase continuing recent growth trend
- Kindergarten capture (3yr average) : 64%
- Cohort Survival (3yr average)
  - Grades K-5: 96.7%
  - Grades 6-8: 96.5%
  - Grades 9-12: 99.7%
- New development: apply 3yr average student generation rates
- Projection for FY2019: **16,270**

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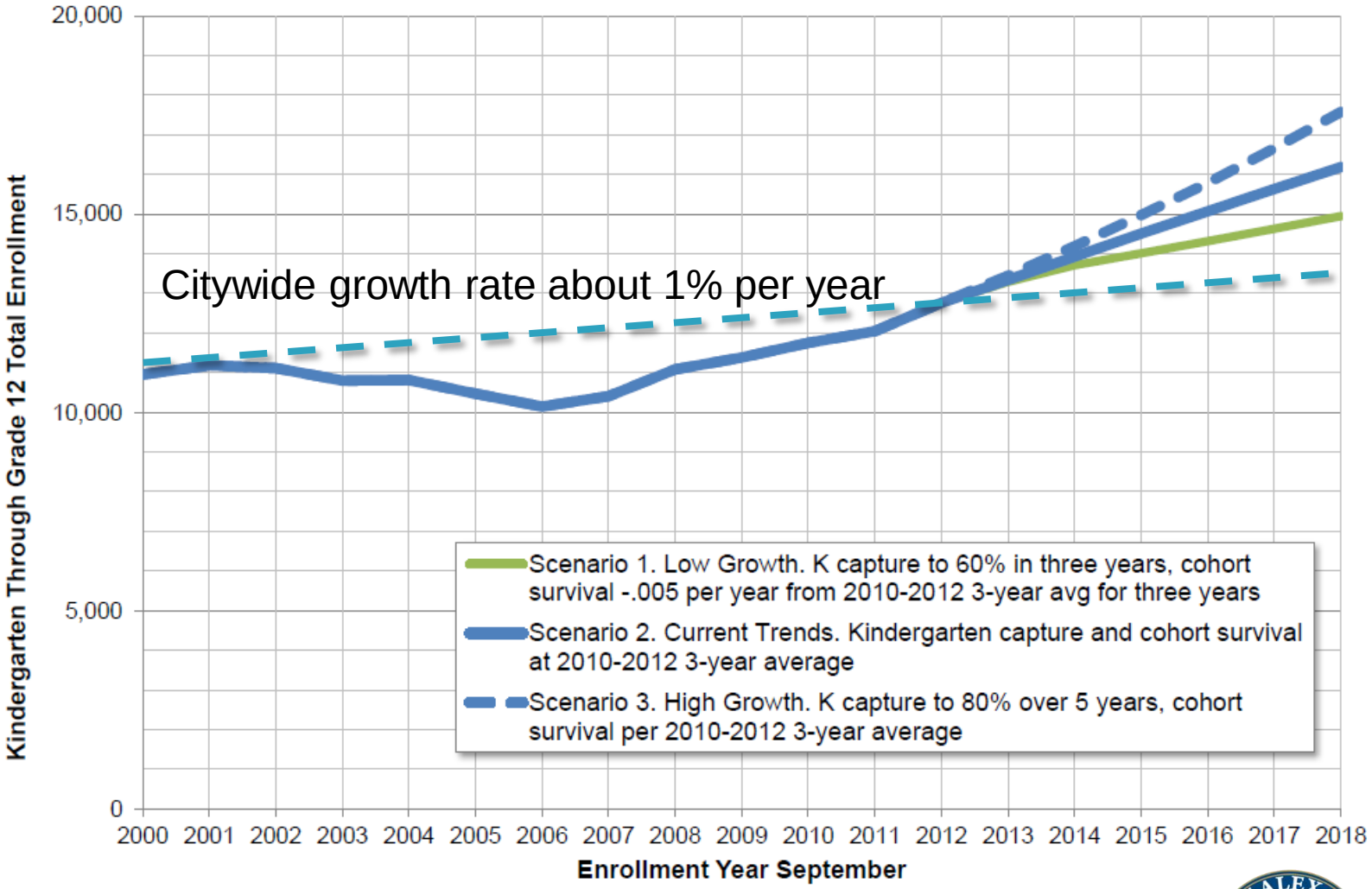
ACPS enrollment: historical and projected



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