

Amazon in Arlington and the Washington Region: Context & Forecast of Housing Demand

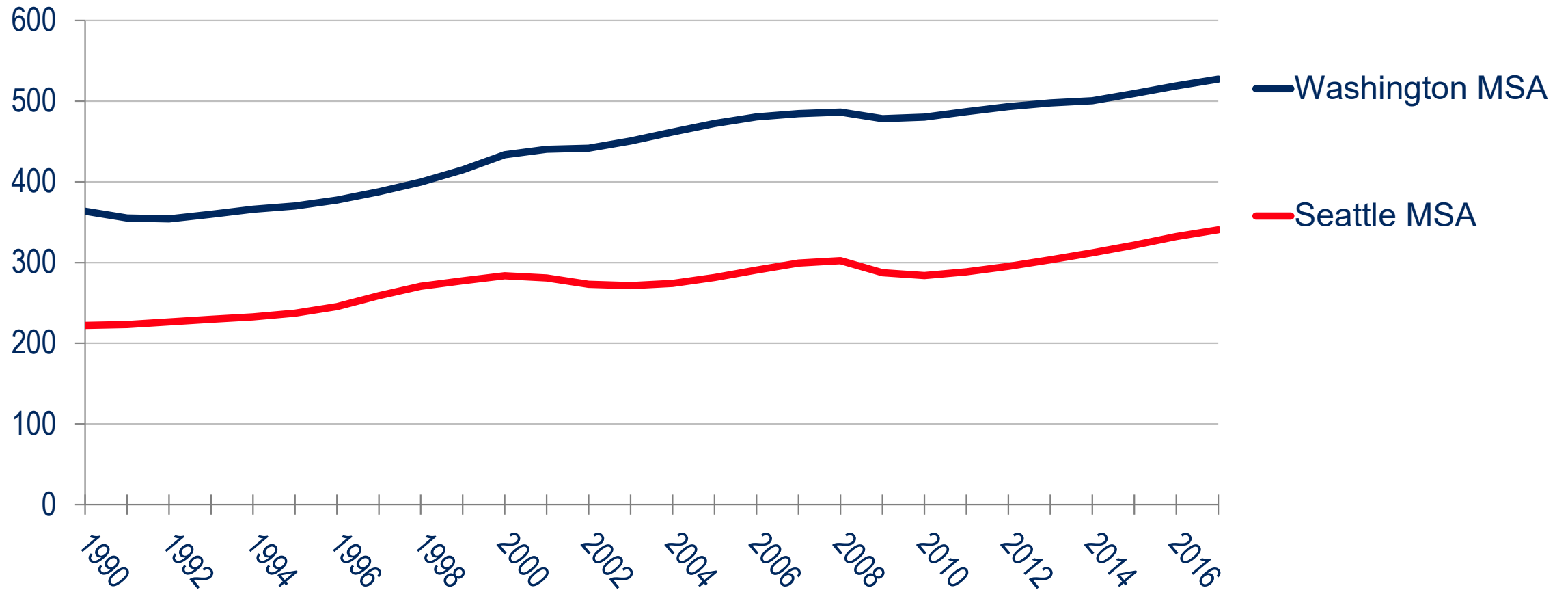
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Amazon in Arlington: Context

Density by Metro Area: Jobs Per Land Square Mile



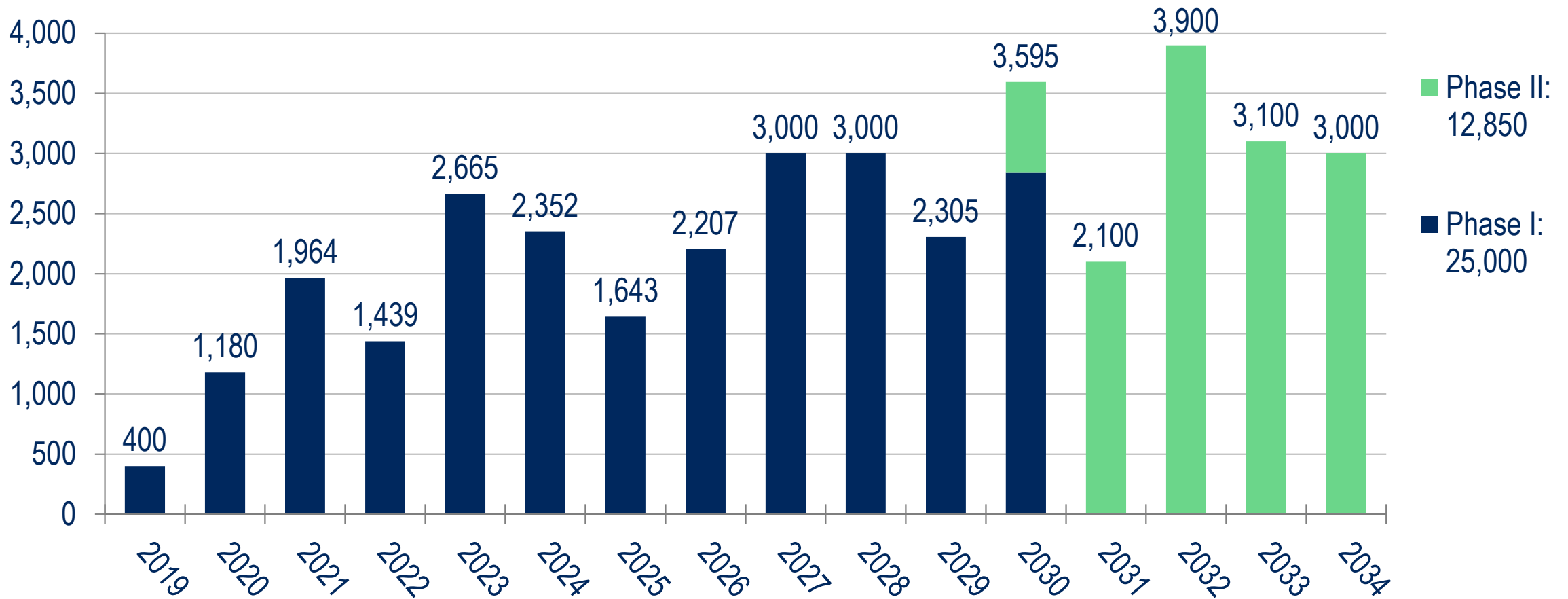
Sources: U.S. Bureau of Labor Statistics; The Stephen S. Fuller Institute at the Schar School, GMU

Density: Arlington County vs. City of Seattle

	Arlington County	Seattle City	Arlington as a % of Seattle
Sq. Mi.	26	83	31%
Residents	234,965	724,745	32%
--- Per Sq. Mi.	9,037	8,732	103%
Private Office Space (MMs SF)	32	55	58%
--- Per Sq. Mi.	1.2	0.7	186%

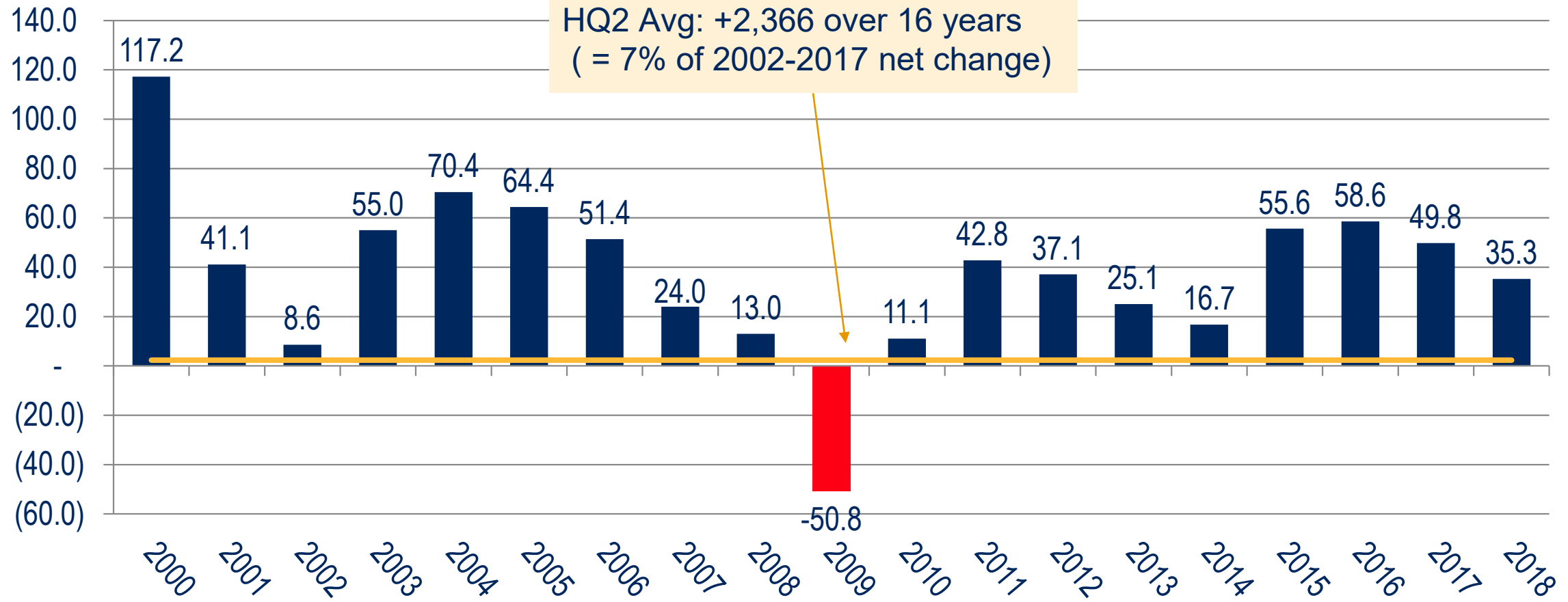
Sources: U.S. Census; Cushman & Wakefield; The Stephen S. Fuller Institute at the Schar School, GMU

HQ2 Employment Schedule



Sources: Commonwealth of Virginia MOU; The Stephen S. Fuller Institute at the Schar School, GMU

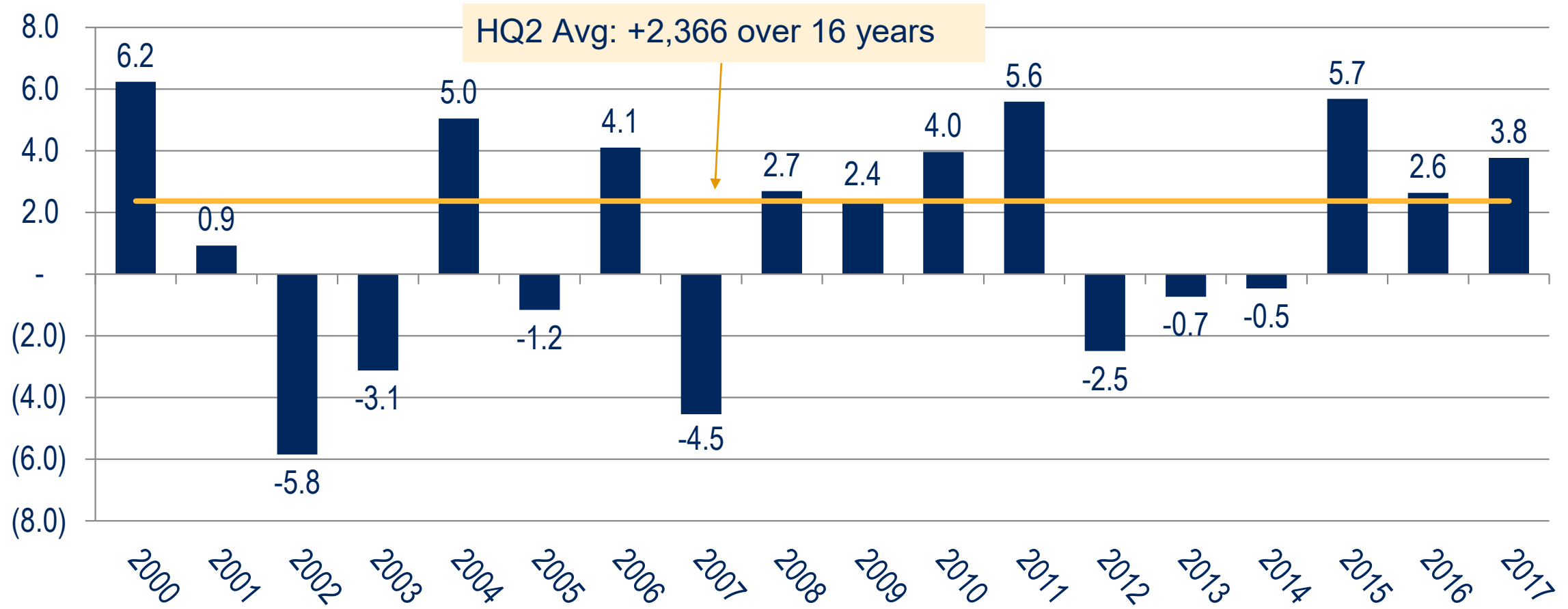
Job Change in the Washington Region 2000 – 2018 (in thousands)



Sources: U.S. Bureau of Labor Statistics (Not Seasonally Adjusted), The Stephen S. Fuller Institute at the Schar School, GMU

Job Change in Arlington County*

2000 – 2017 (in thousands)

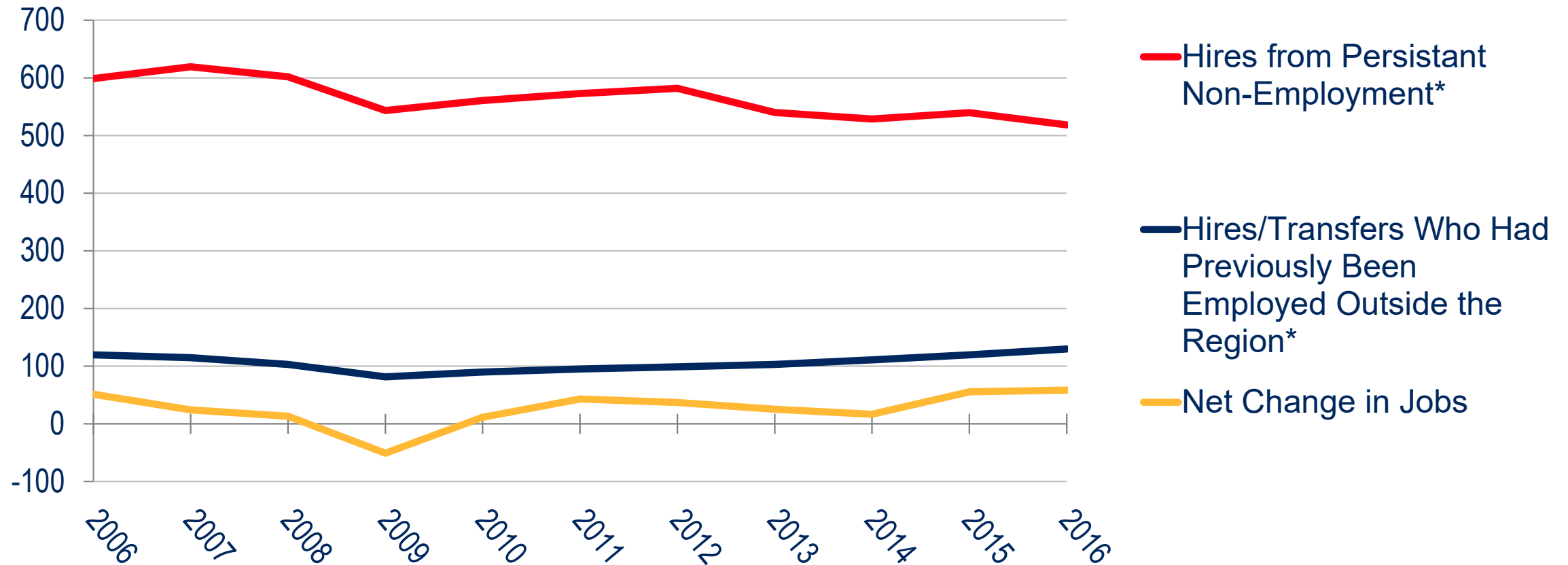


Sources: U.S. Bureau of Labor Statistics (QCEW), The Stephen S. Fuller Institute at the Schar School, GMU

*Excludes military jobs

Growth vs Change

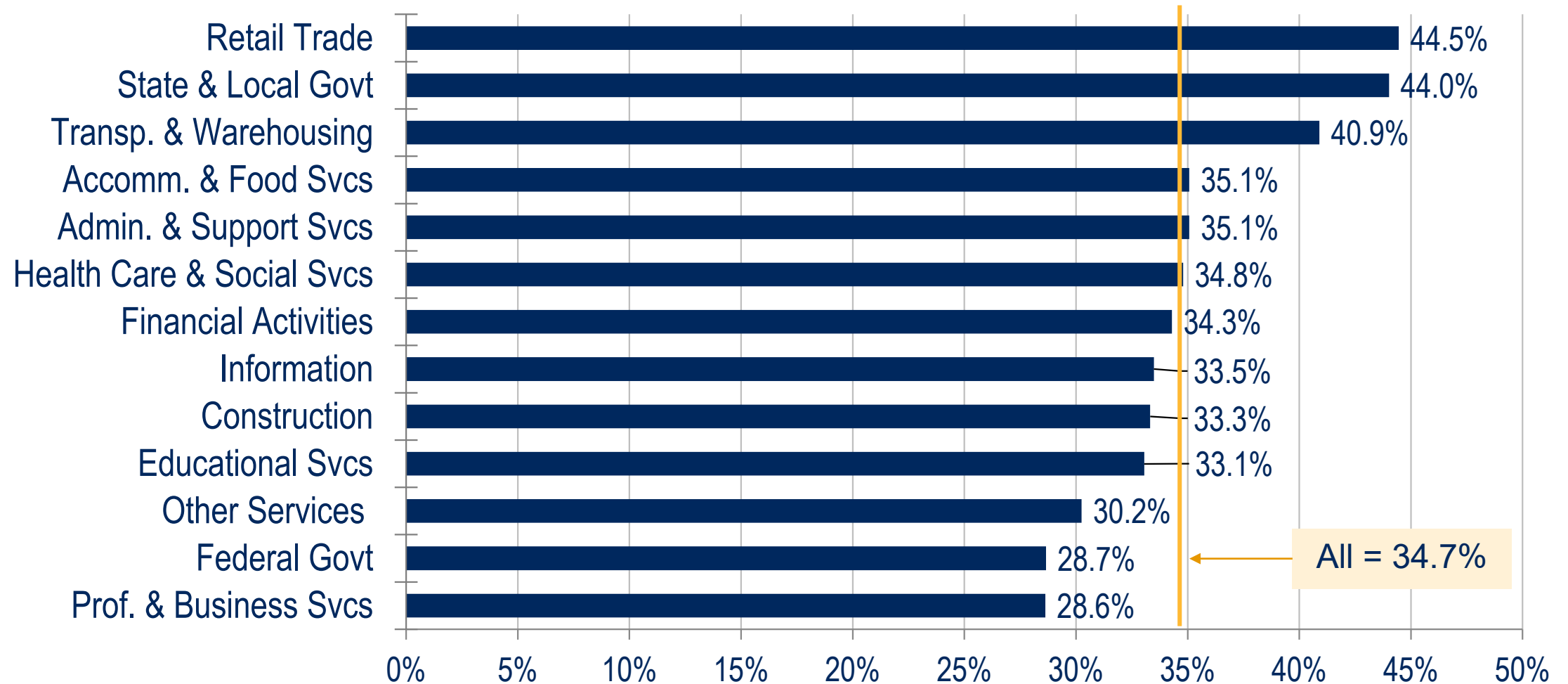
Private Sector Jobs in the Washington Region: Net Change Compared to Gross Flows By Year (000s)



Sources: U.S. Bureau of Labor Statistics; LEHD (J2J, Beta, v3Q2018); The Stephen S. Fuller Institute at the Schar School, GMU

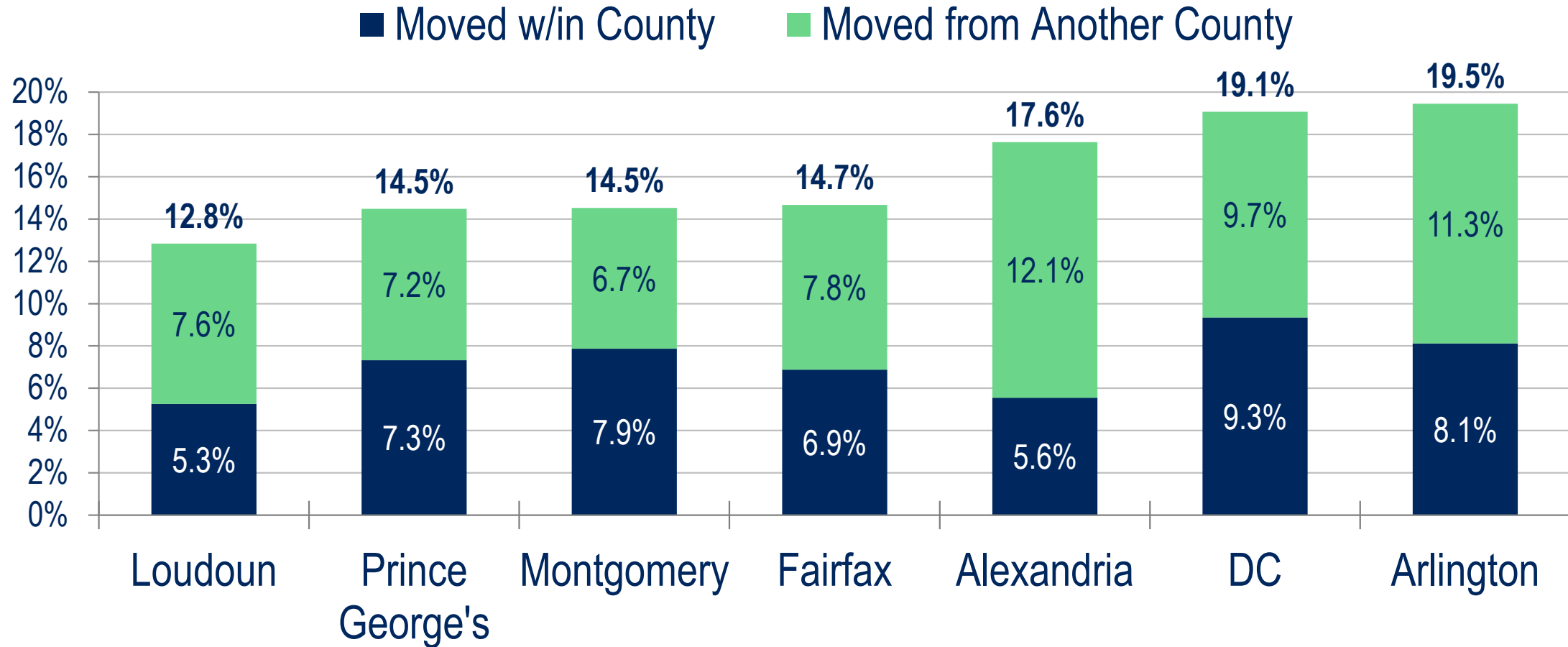
* As of prior quarter

% of the Washington Region's Workers Born in DC, VA, or MD by Industry



Sources: U.S. Census Bureau (2014-2016 ACS Microdata); The Stephen S. Fuller Institute at the Schar School, GMU

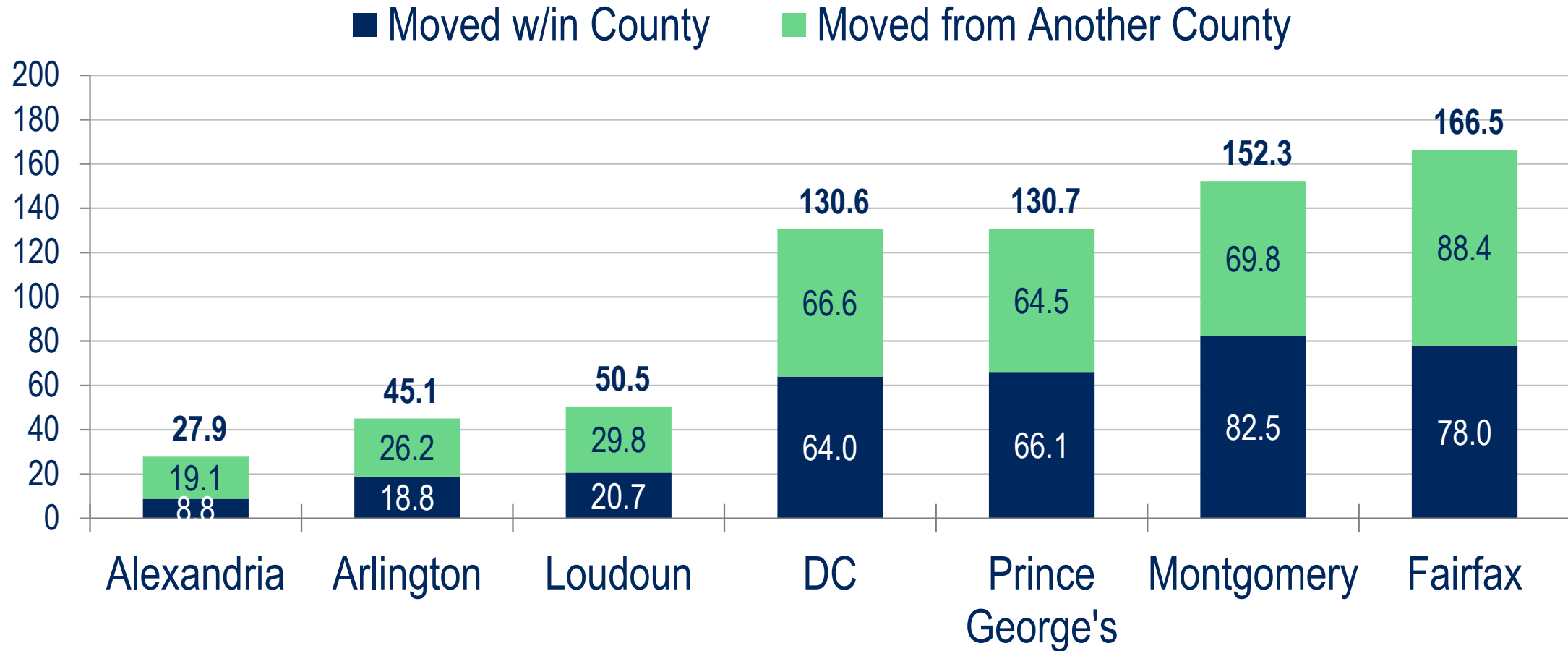
Share of Residents* That Moved in the Past Year By Place of Current Residence, 2017



Source: U.S. Census (2017 American Community Survey) The Stephen S. Fuller Institute at the Schar School, GMU

* Excludes children less than one years old

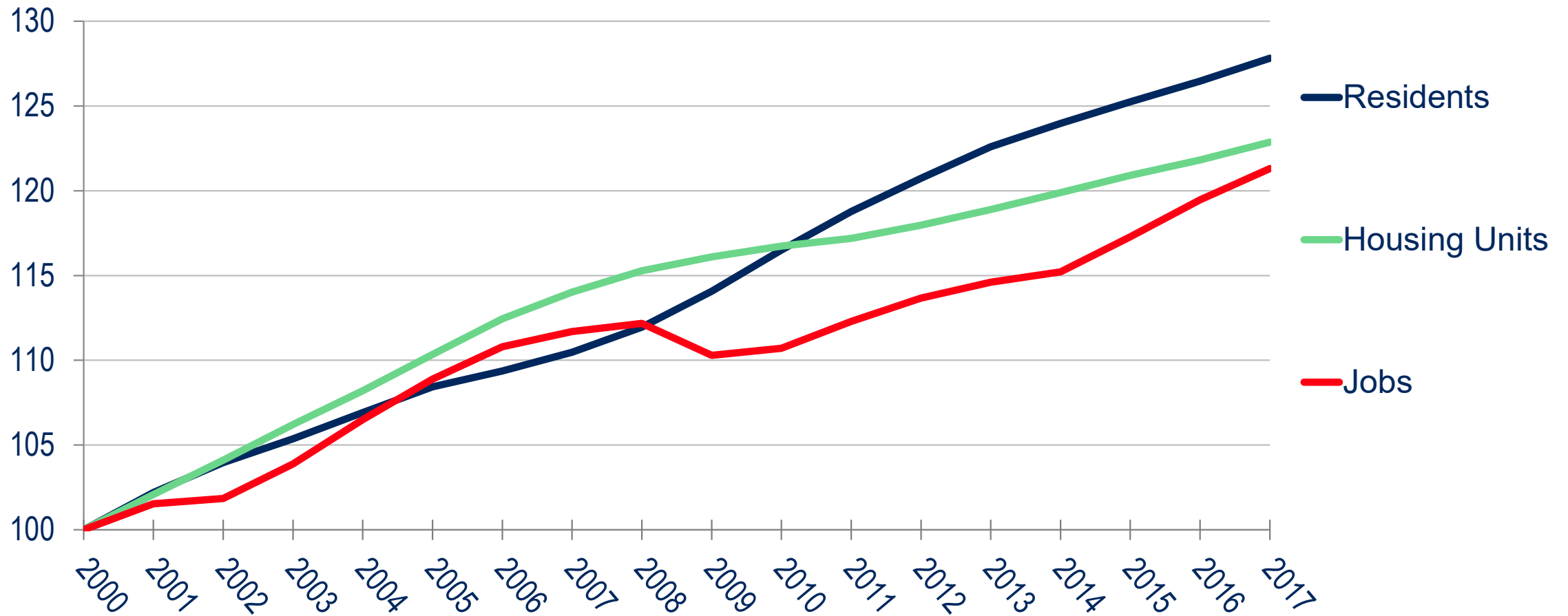
Number of Residents* That Moved in the Past Year By Place of Current Residence, 2017 (000s)



Source: U.S. Census (2017 American Community Survey) The Stephen S. Fuller Institute at the Schar School, GMU

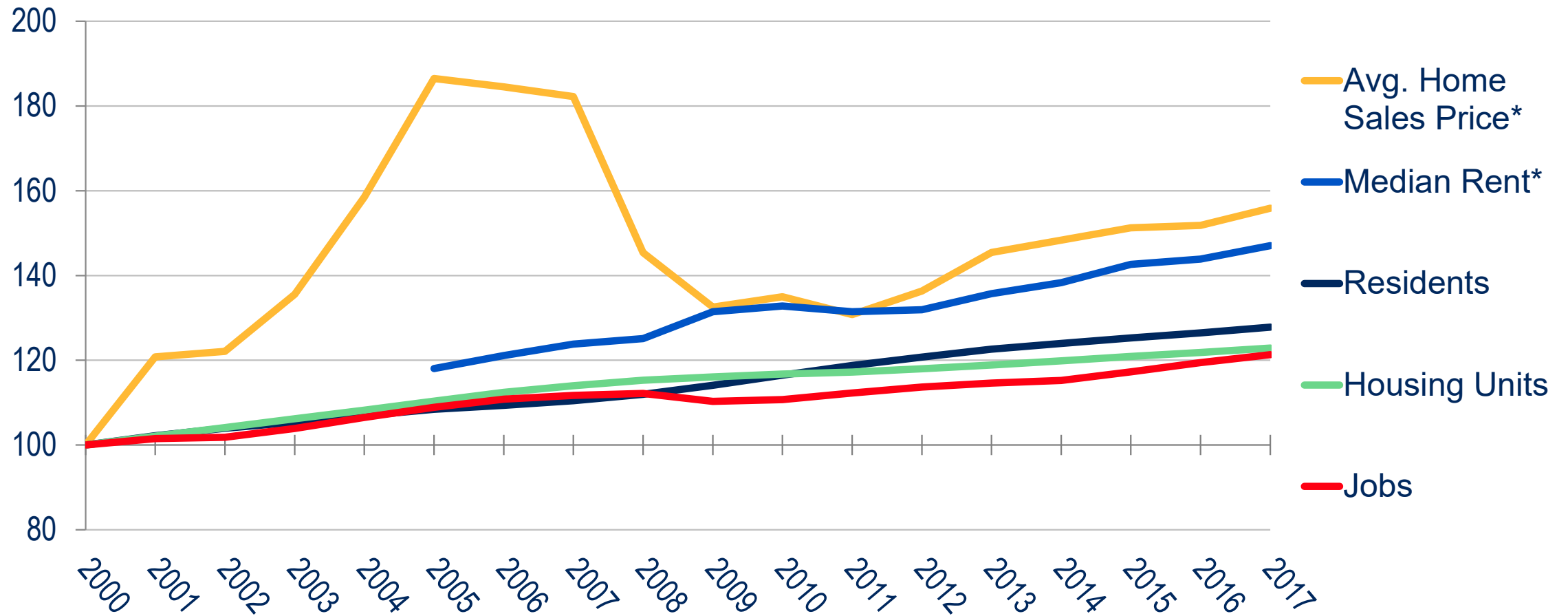
* Excludes children less than one years old

Growth in the Washington Region: Jobs, Residents & Housing (2000 = 100)



Sources: U.S Census Bureau; U.S. Bureau of Labor Statistics; The Stephen S. Fuller Institute at the Schar School, GMU

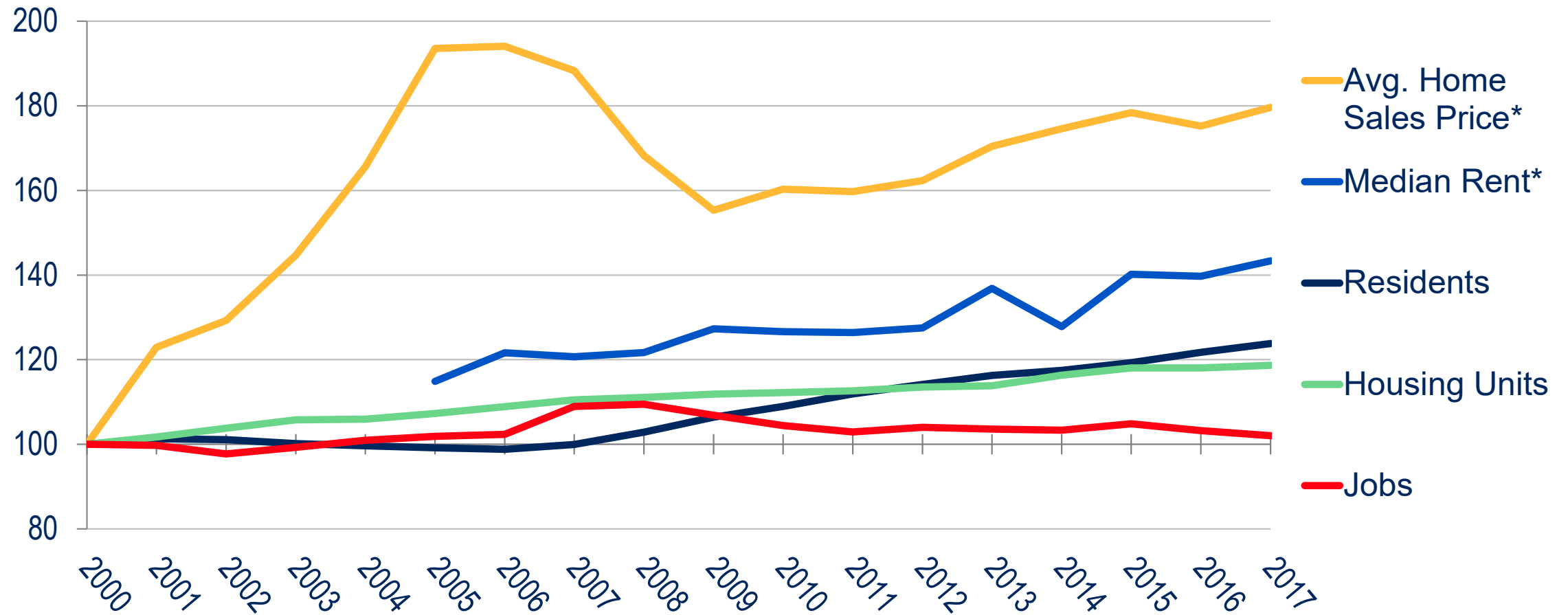
Growth in the Washington Region: Jobs, Residents, Housing, & Home Price (2000 = 100)



Sources: U.S Census Bureau; U.S. Bureau of Labor Statistics; ShowingTime by RBI; The Stephen S. Fuller Institute at the Schar School, GMU

* Adjusted for the Consumer Price Index of all items except shelter NOTE: Geography used for median rent in 2005-2013 excludes Culpeper and Rappahannock

Growth in the City of Alexandria: Jobs, Residents, Housing, & Home Price (2000 = 100)



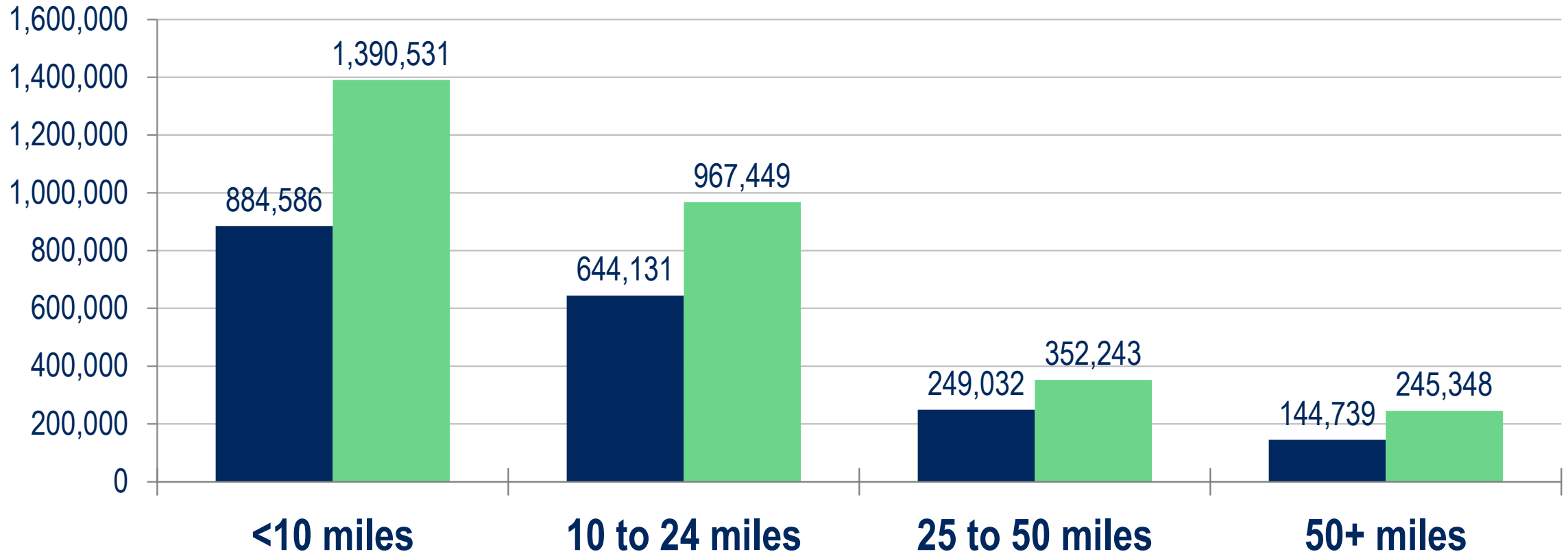
Sources: U.S Census Bureau; U.S. Bureau of Labor Statistics; ShowingTime by RBI; The Stephen S. Fuller Institute at the Schar School, GMU

* Adjusted for the Consumer Price Index of all items except shelter

Commuting and Housing Choice

Distance Between Home and Job Washington Region

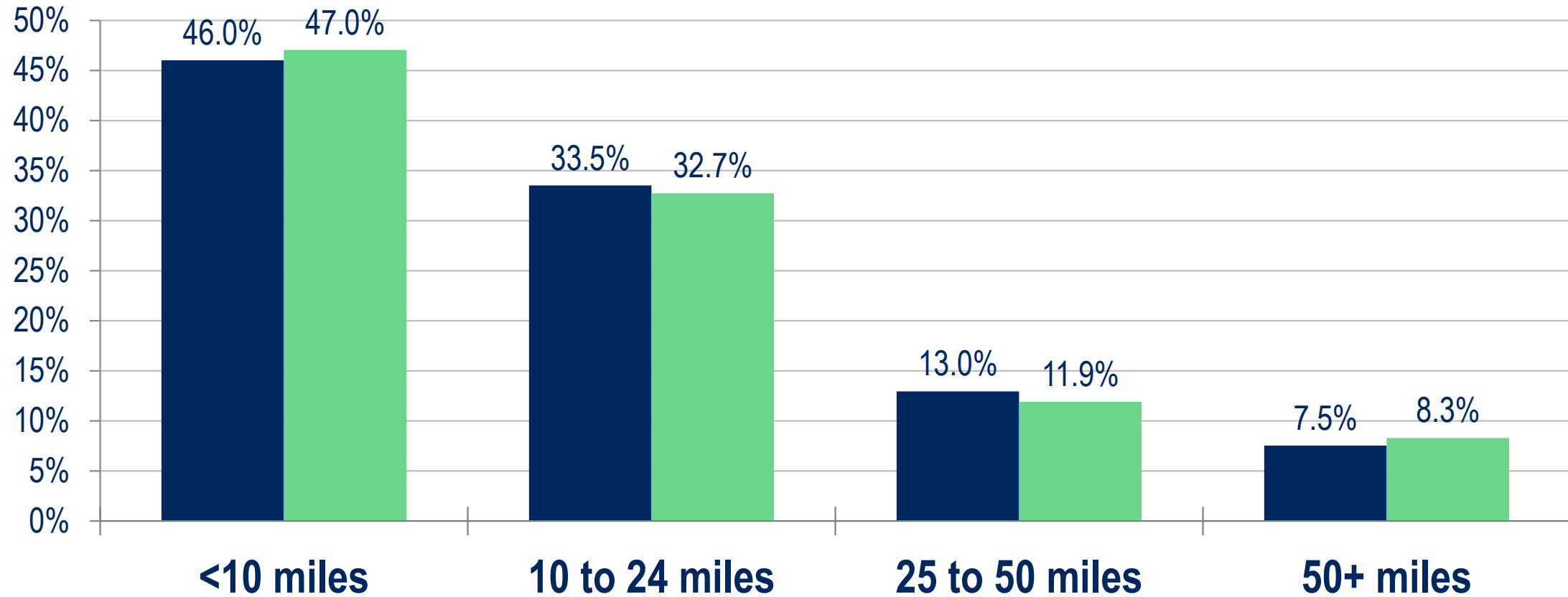
■ 2002 ■ 2015



Source: LEHD; The Stephen S. Fuller Institute at the Schar School, GMU

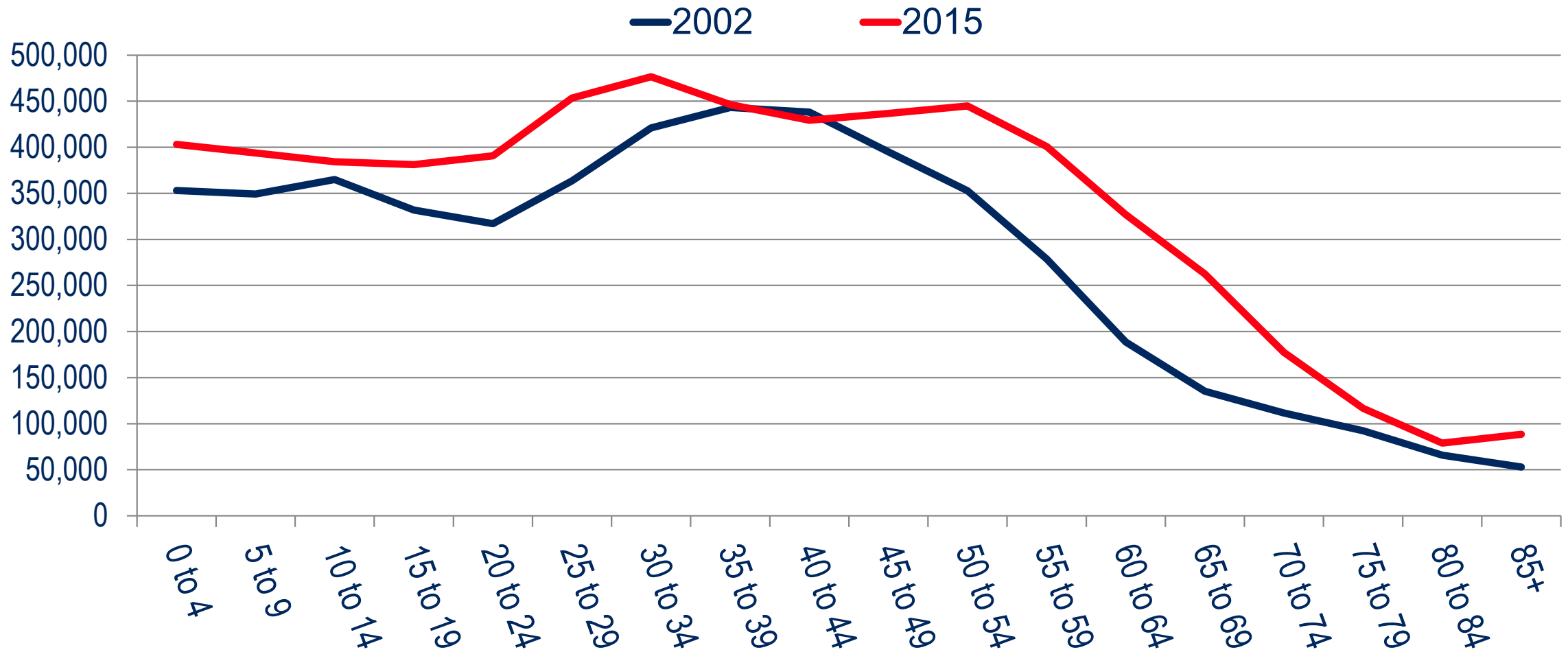
Distribution of Distance Between Home and Job Washington Region

■ 2002 ■ 2015



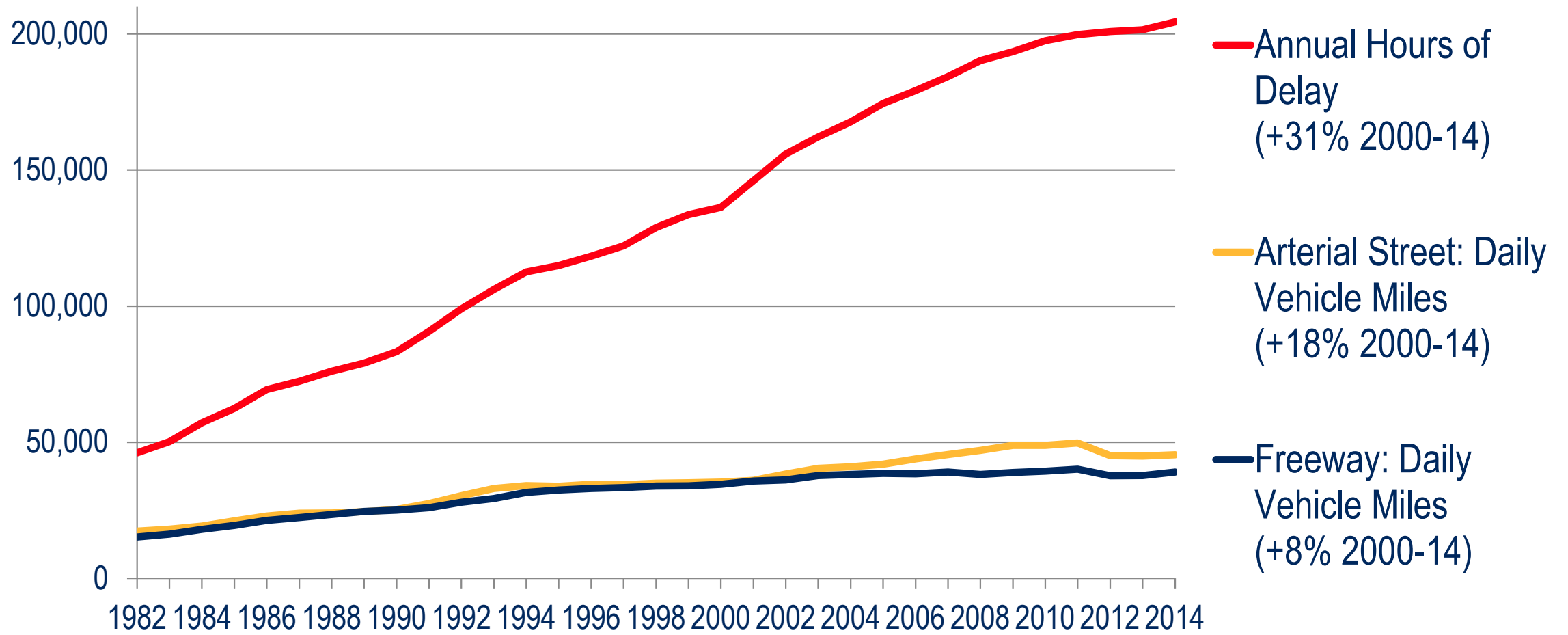
Source: LEHD; The Stephen S. Fuller Institute at the Schar School, GMU

Population by Age in the Washington Region



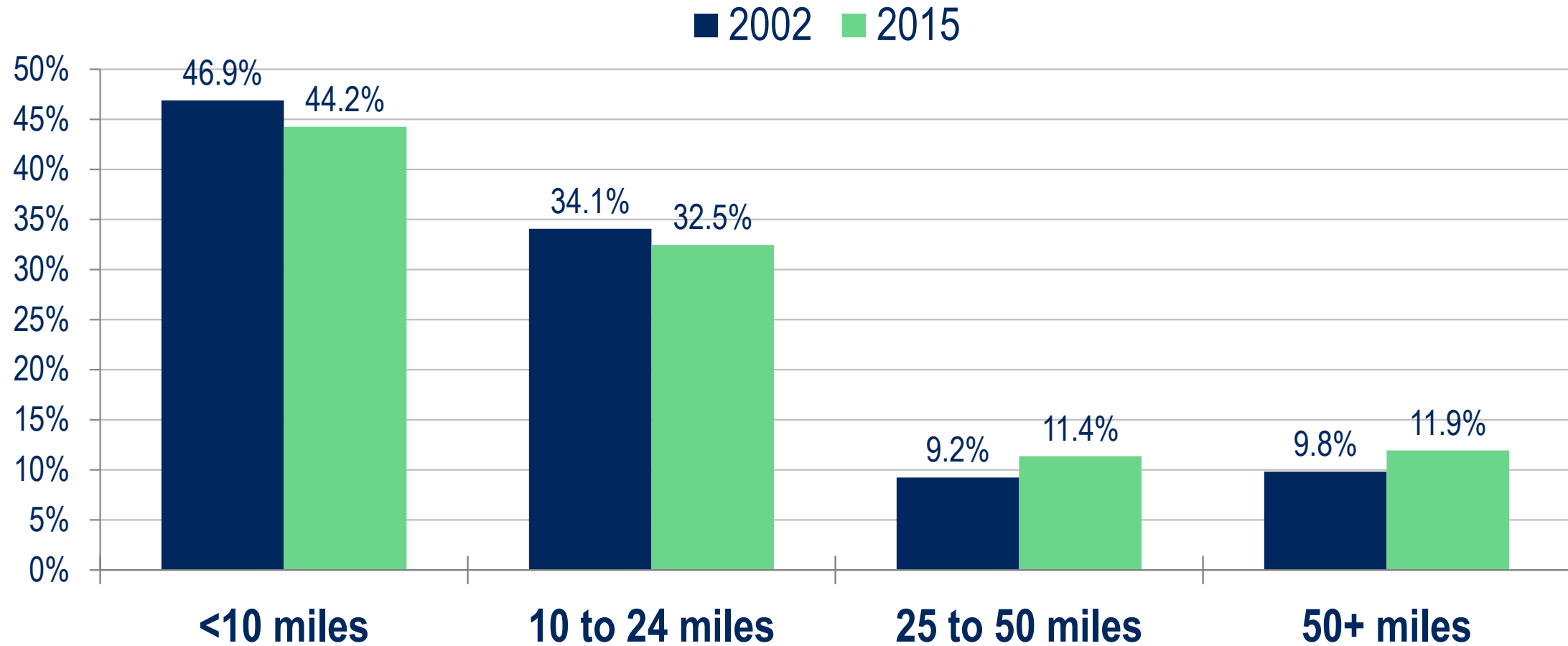
Sources: U.S. Census; The Stephen S. Fuller Institute at the Schar School, GMU

Washington Region Traffic Congestion

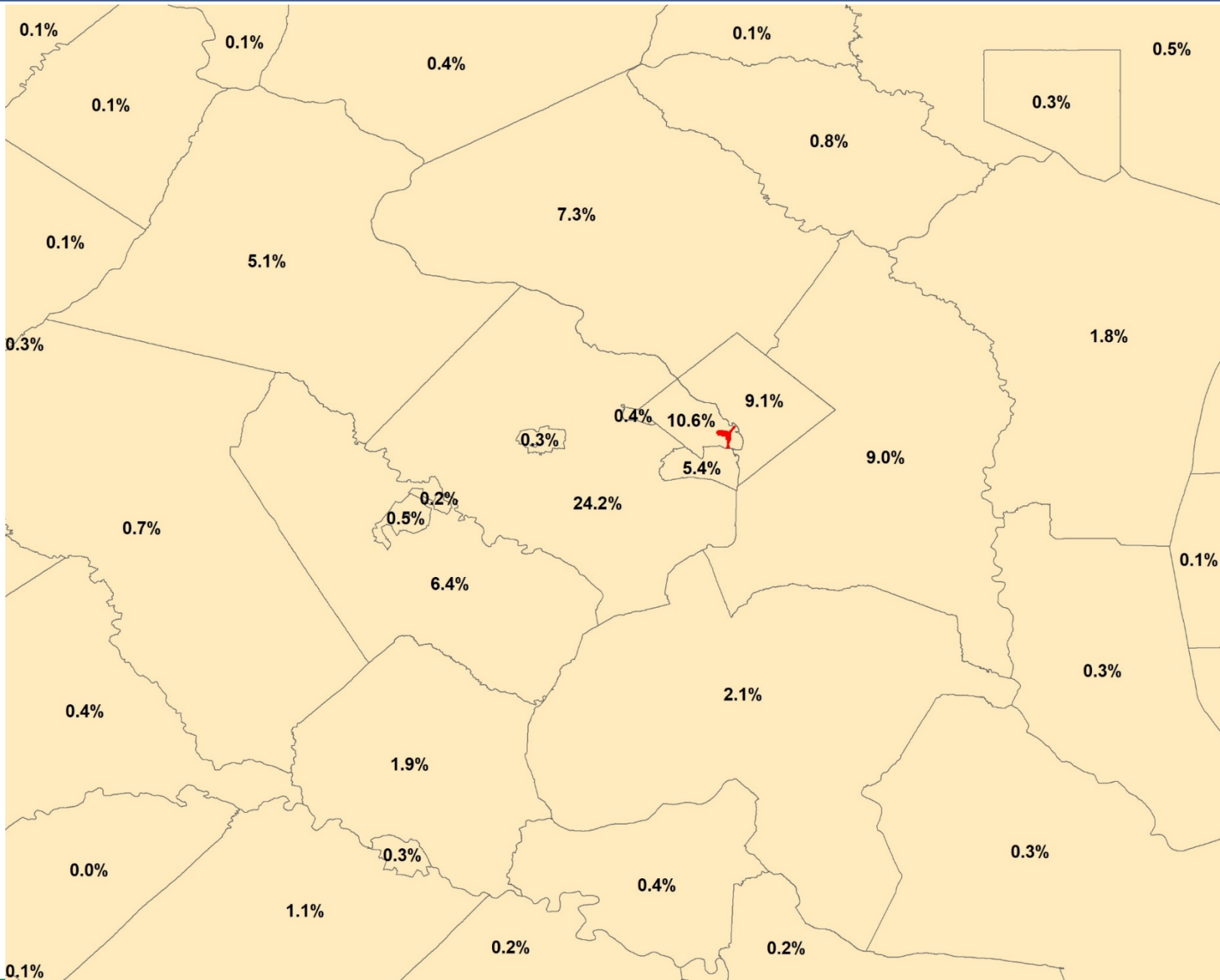


Sources: Texas A&M Transportation Institute; The Stephen S. Fuller Institute at the Schar School, GMU

Distribution of Distance Between Home and Job in National Landing



Source: LEHD; The Stephen S. Fuller Institute at the Schar School, GMU



Home Location of National Landing Workers in 2015

Workers Earning \$40k+/year

Amazon: Forecasts of Housing Demand

Amazon-Related Household at Full Build-Out

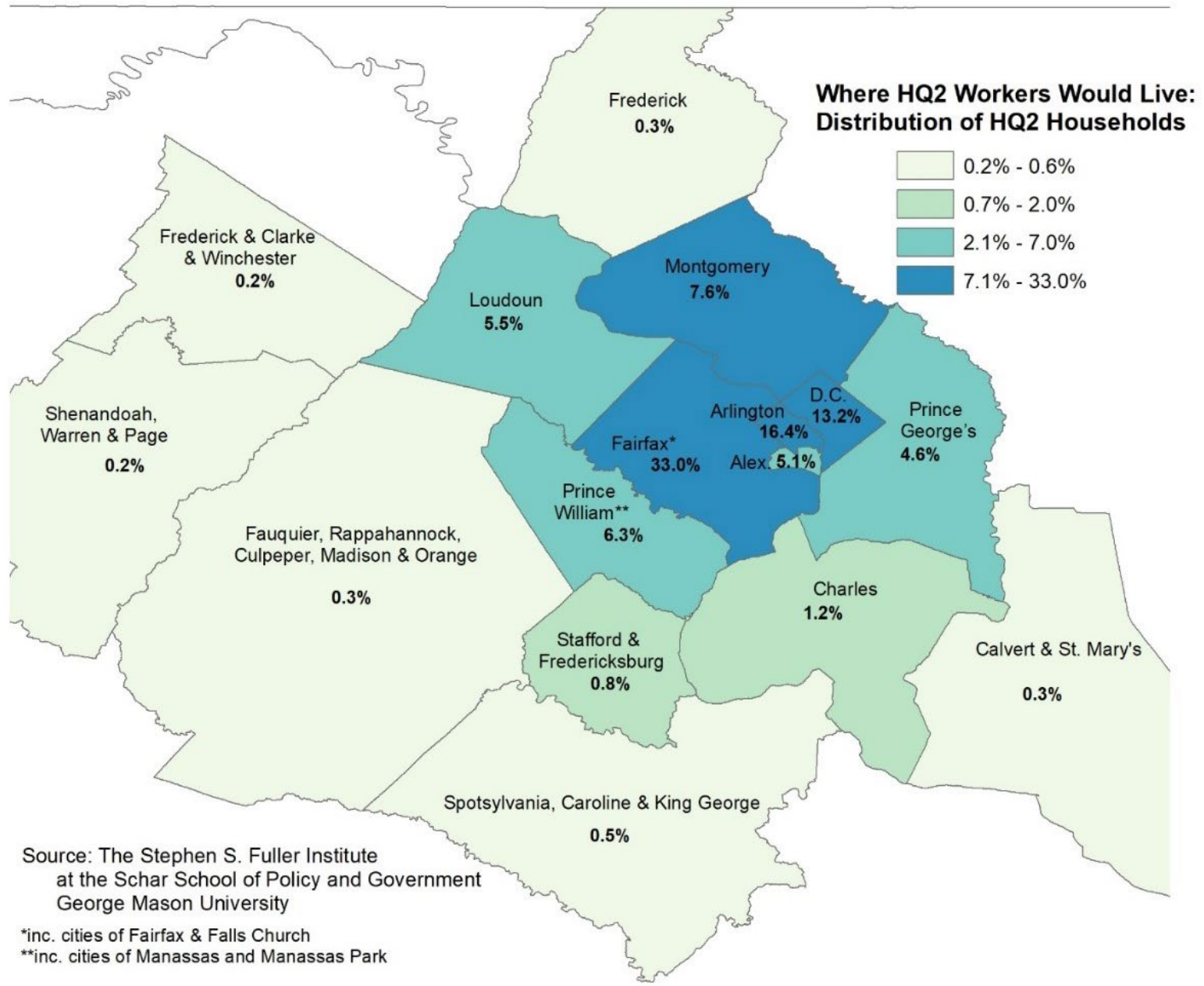
Assumes 37,850 HQ2 jobs

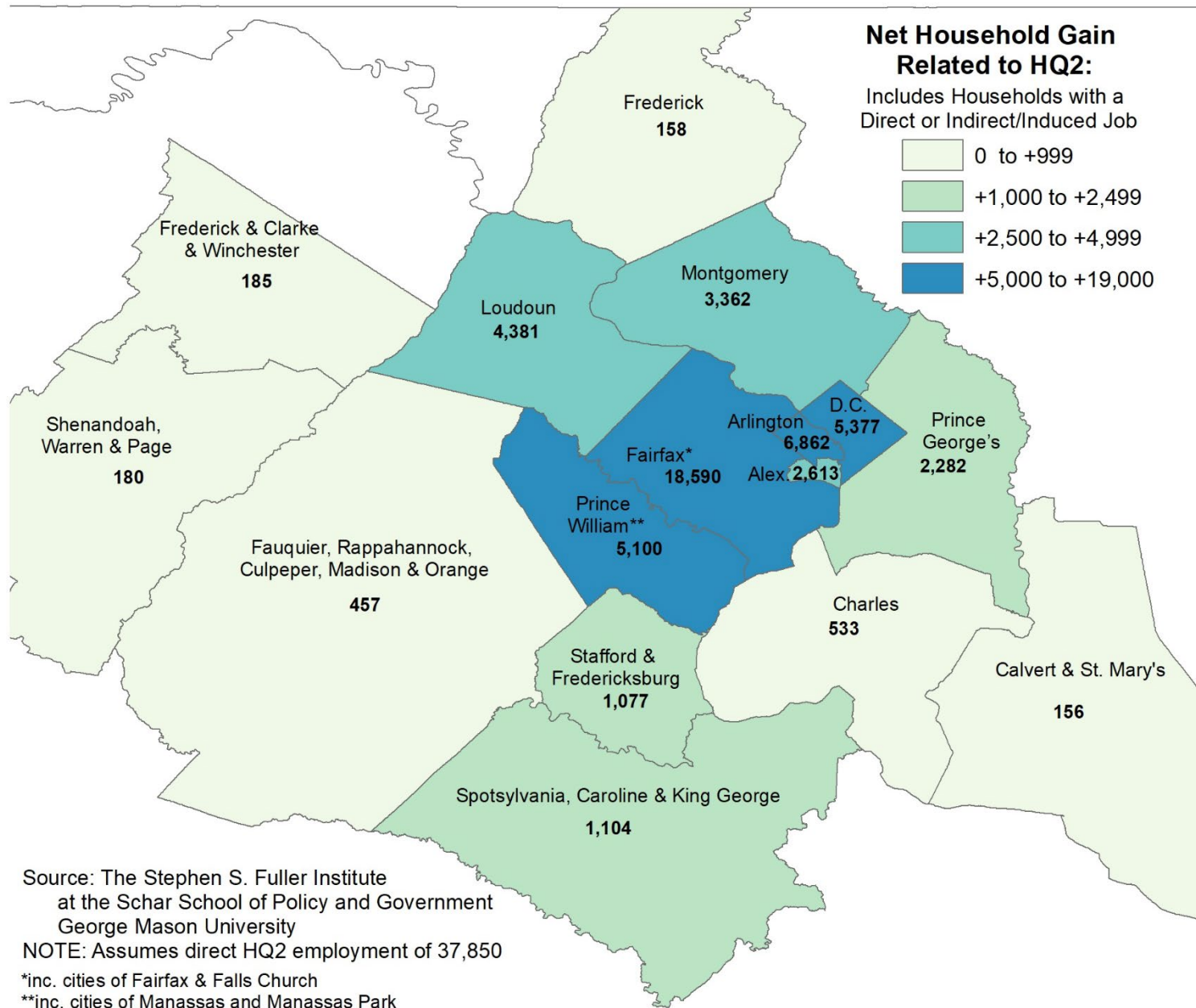
	Household w/ an HQ2 Job	Household w/ a Job Supported by HQ2 Spending (1)	Total
Arlington County, VA	6,097	766	6,862
Alexandria City, VA	1,890	723	2,613
Rest of Northern Virginia	17,329	13,381	30,709
Rest of Virginia	642	14,967	15,609
D.C.	4,909	469	5,377
Maryland	6,047	1,515	7,562
Elsewhere	363	508	871
Total (2)	37,276	32,328	69,604

Source: The Stephen S. Fuller Institute at the Schar School, GMU

(1) Includes payroll and operations expenditures

(2) A small share of the workers holding HQ2-related jobs are anticipated to cohabitate either with another HQ2-related worker or become part of an existing household. Therefore, the number of households is projected to be fewer than the number of jobs. Only the indirect and induced jobs located in the Commonwealth were analyzed.





Source: The Stephen S. Fuller Institute
at the Schar School of Policy and Government
George Mason University
NOTE: Assumes direct HQ2 employment of 37,850

*inc. cities of Fairfax & Falls Church
**inc. cities of Manassas and Manassas Park

Amazon-Related Owners in Select Jurisdictions

Assumes 37,850 HQ2 jobs, includes indirect & induced effects

	Owners at Full Build-Out	Closed Sales in 2017
Virginia		
Arlington County	2,071	3,030
Alexandria City	1,085	2,580
Fairfax County*	13,698	16,300
Prince William County**	4,013	8,330
Loudoun County	3,665	6,630
D.C.	2,410	8,900
Maryland		
Montgomery County	2,737	12,430
Prince George's County	1,886	10,230

Sources: RealEstate Business Intelligence, LLC; The Stephen S. Fuller Institute at the Schar School, GMU

*Includes the cities of Fairfax and Falls Church ** Includes the cities of Manassas and Manassas Park

Amazon-Related Renters in Select Jurisdictions

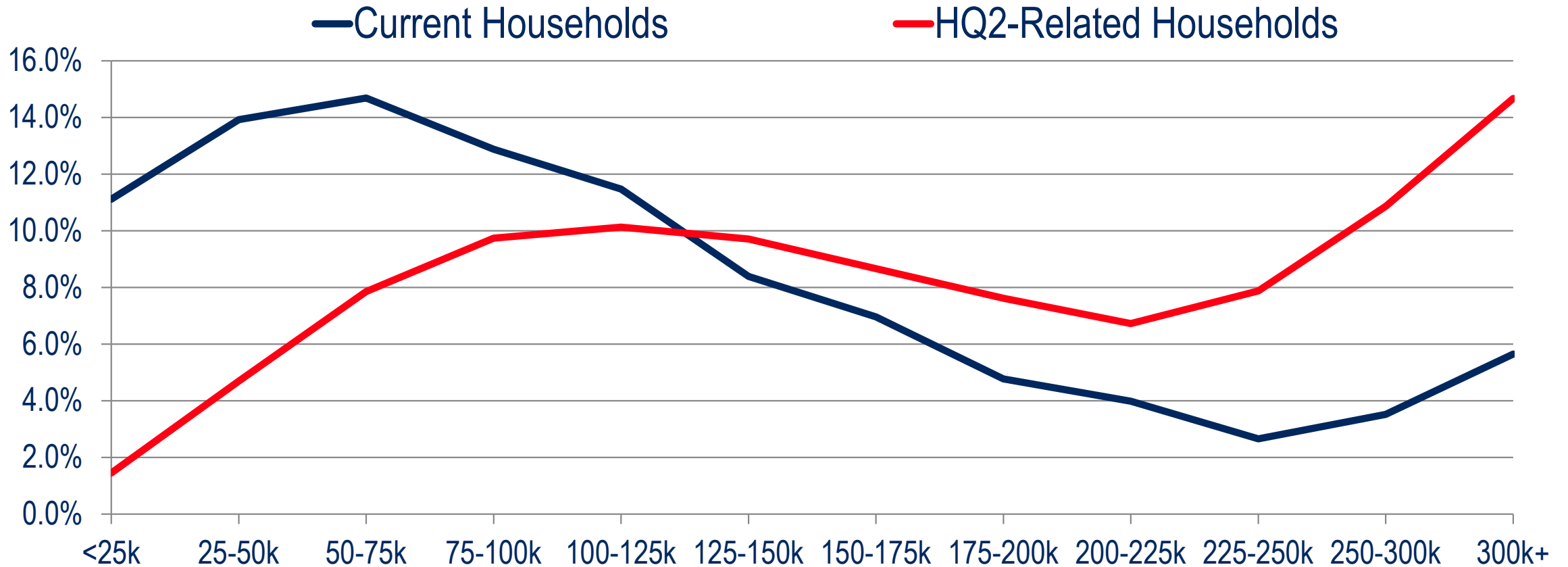
Assumes 37,850 HQ2 jobs, includes indirect & induced effects

	Renters at Full Build-Out	Renters in 2016	Total % Increase from 2016
Virginia			
Arlington County	4,792	57,133	8.4%
Alexandria City	1,528	41,808	3.7%
Fairfax County*	4,893	134,425	3.6%
Prince William County**	1,087	49,891	2.2%
Loudoun County	716	25,552	2.8%
D.C.	2,968	169,875	1.7%
Maryland			
Montgomery County	625	132,098	0.5%
Prince George's County	396	121,333	0.3%

Sources: U.S. Census Bureau (2016 ACS Microdata); The Stephen S. Fuller Institute at the Schar School, GMU

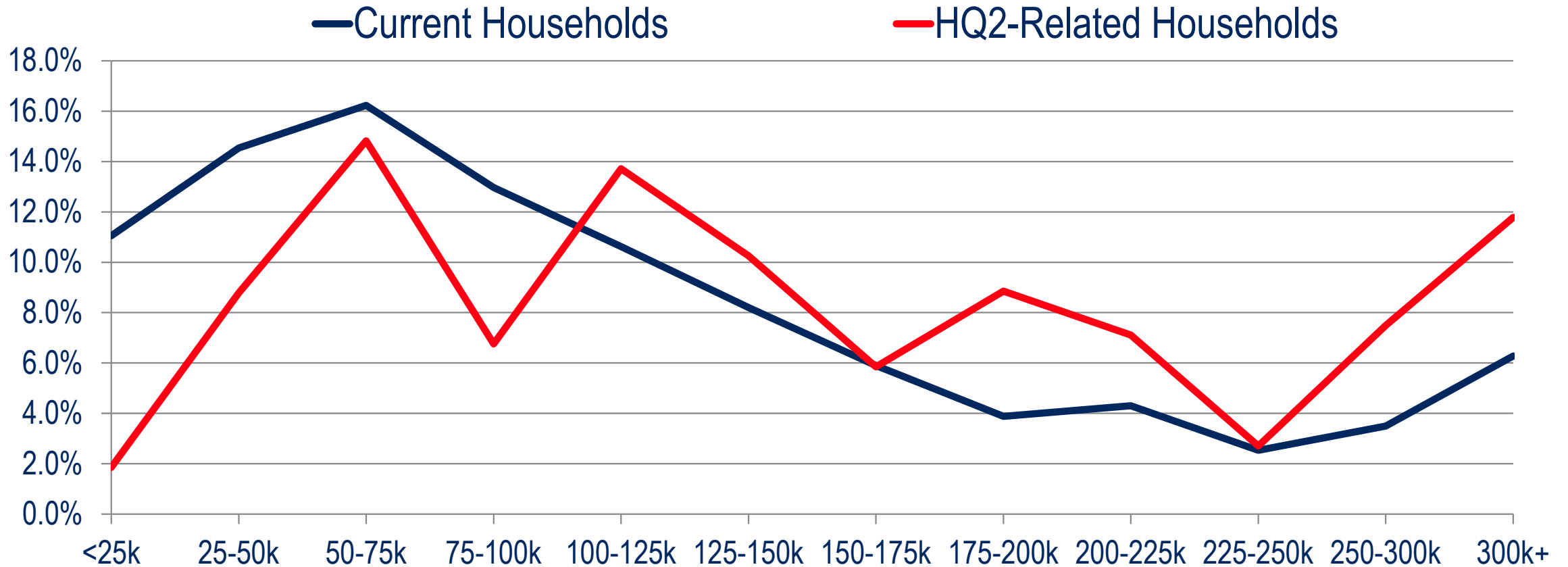
*Includes the cities of Fairfax and Falls Church ** Includes the cities of Manassas and Manassas Park

Distribution of Households by Household Income Washington Region



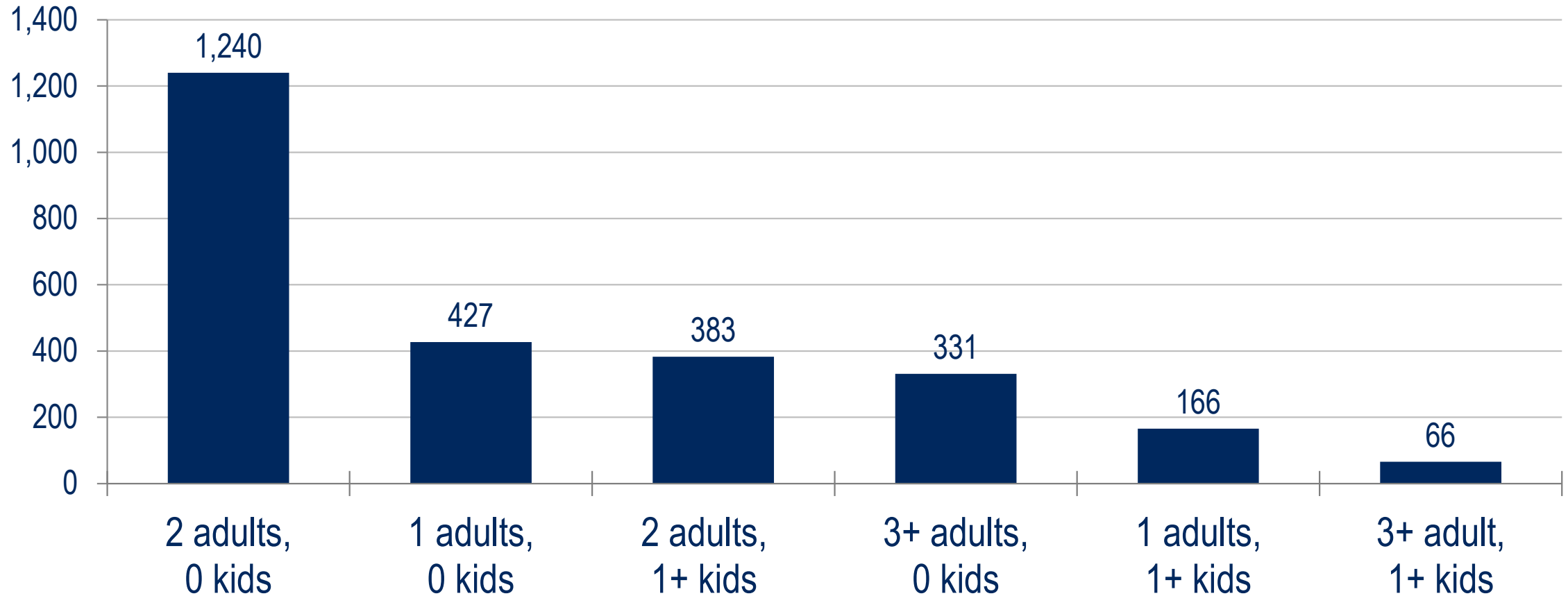
Sources: U.S. Census Bureau (2014-2016 ACS Microdata); The Stephen S. Fuller Institute at the Schar School, GMU
NOTE: in 2016 \$s

Distribution of Households by Household Income City of Alexandria



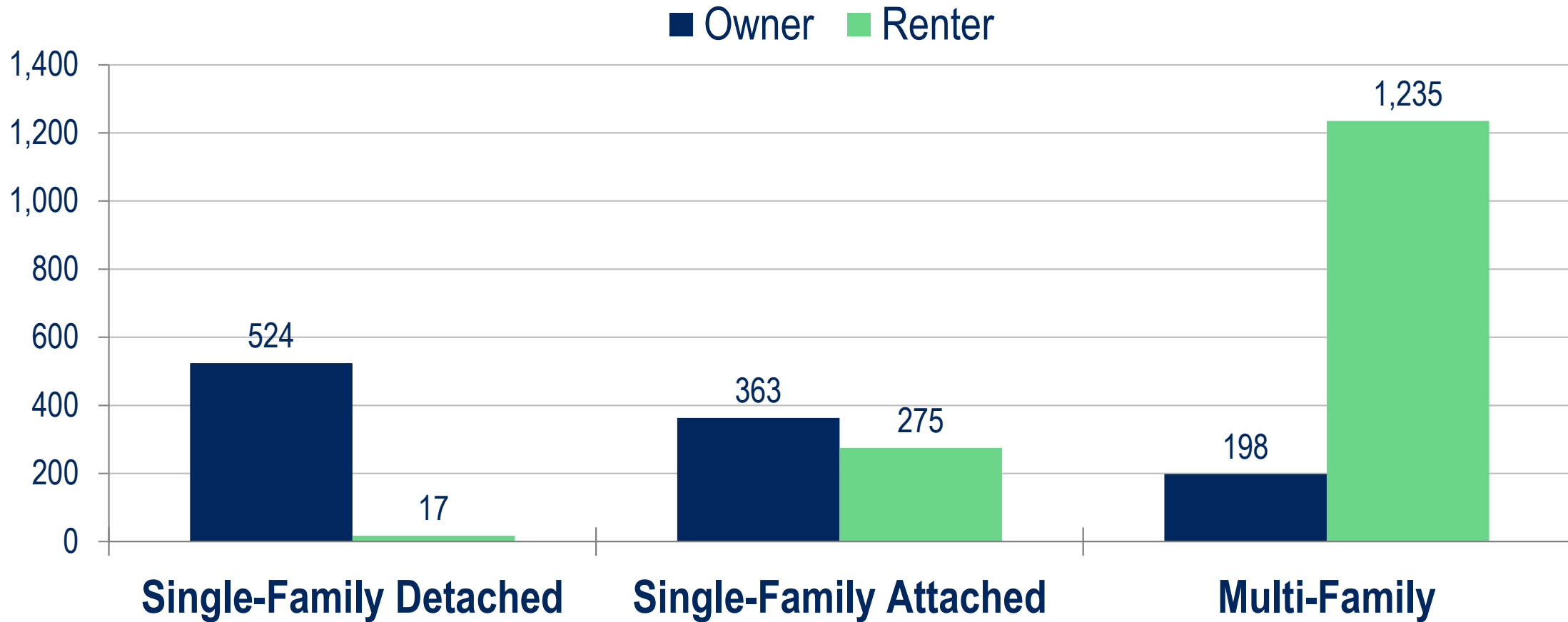
Sources: U.S. Census Bureau (2014-2016 ACS Microdata); The Stephen S. Fuller Institute at the Schar School, GMU
NOTE: in 2016 \$s

Amazon-Related Households in Alexandria by Household Type



Source: The Stephen S. Fuller Institute at the Schar School, GMU

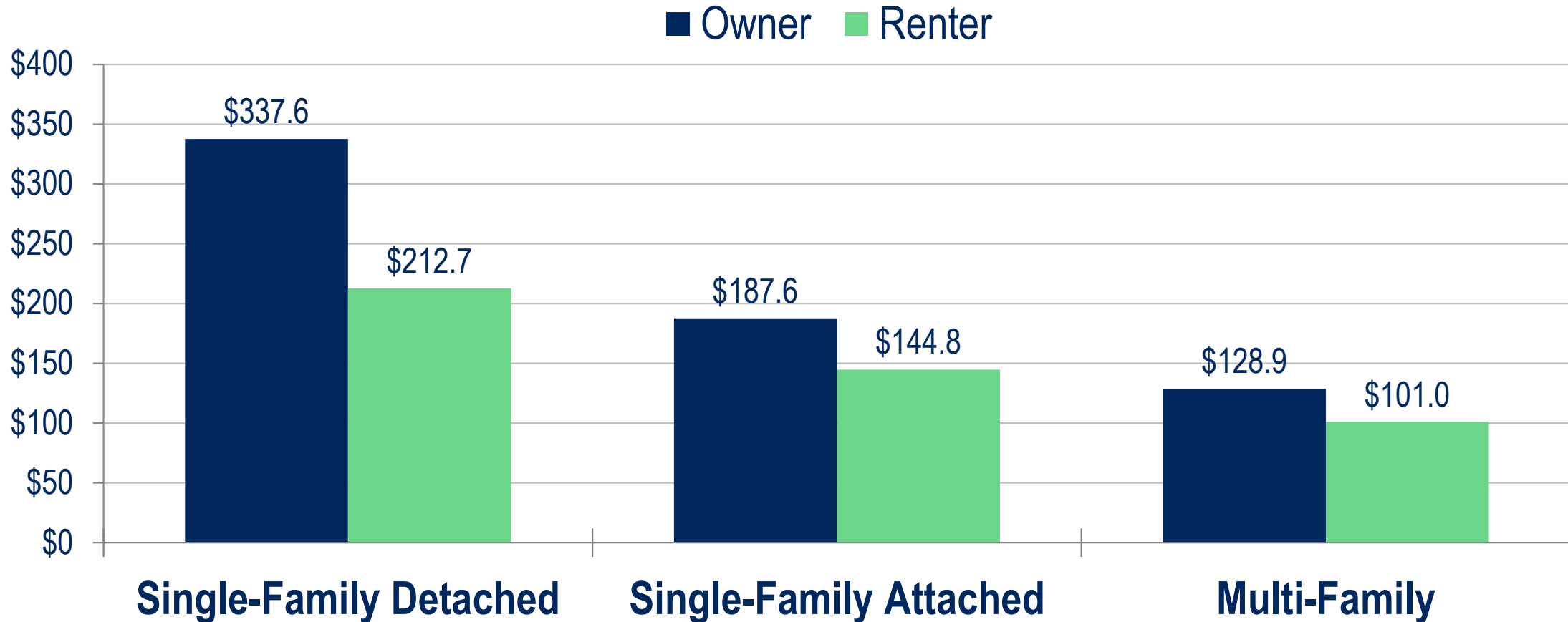
Amazon-Related Households by Unit Type City of Alexandria



Source: The Stephen S. Fuller Institute at the Schar School, GMU

Amazon-Related Households in Alexandria

Unit Type & Average Income (000s of 2016 \$s)



Source: The Stephen S. Fuller Institute at the Schar School, GMU

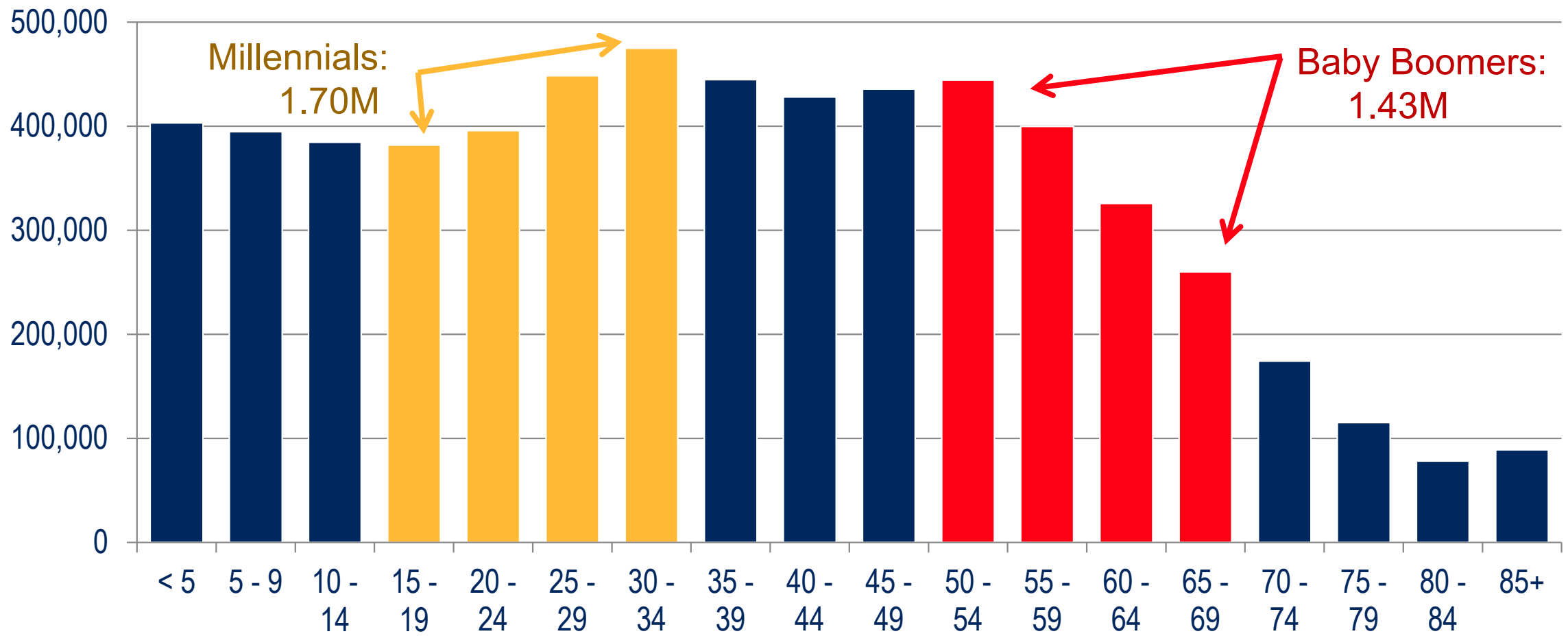
Other Factors Potentially Affecting Rental Demand in Alexandria

Virginia Tech

Very little information so far

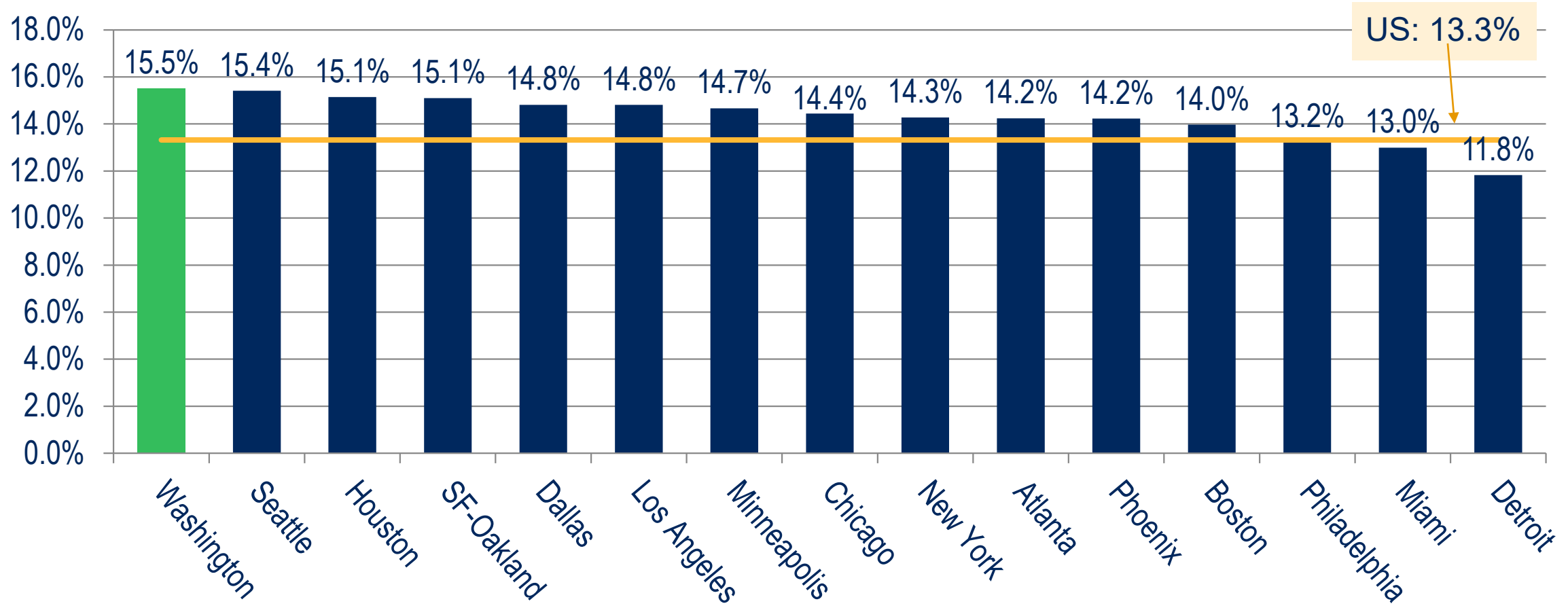
- 350,000 SF of residential on-site
- # Students?
- Full-time vs part-time?

Population by Age Group Washington Region, 2015



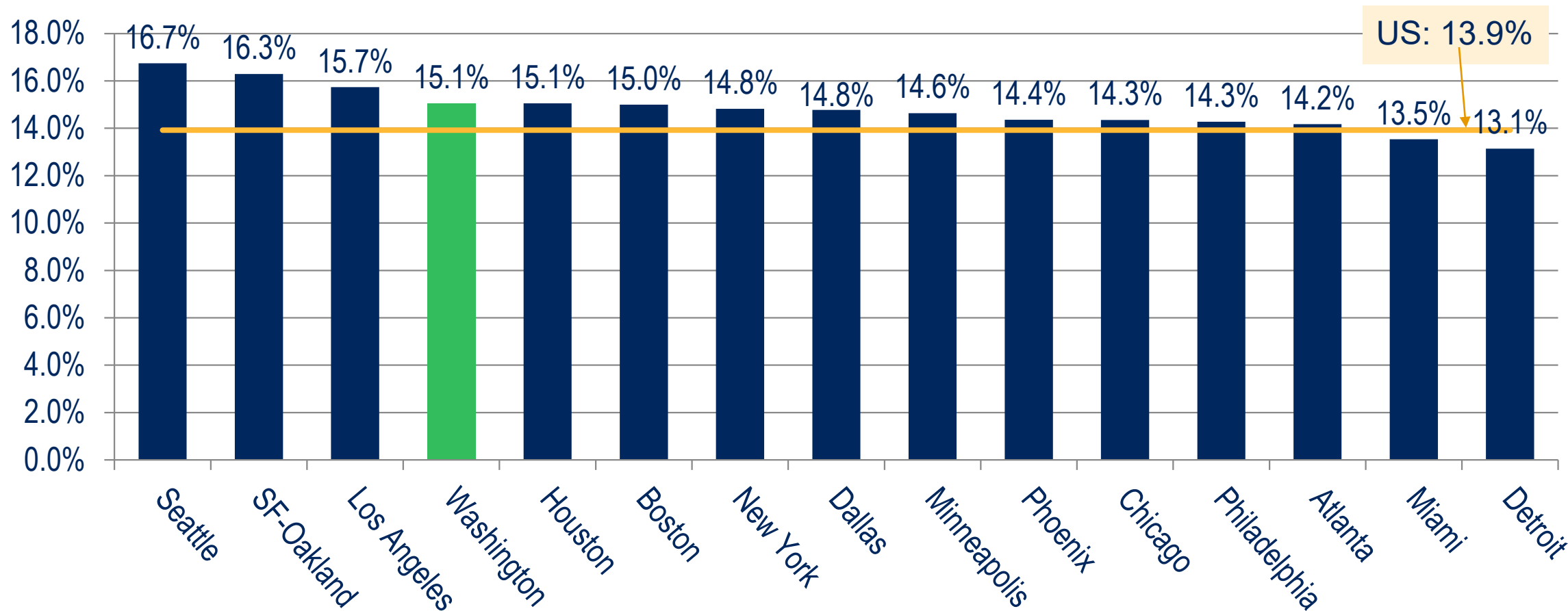
Sources: U.S. Census Bureau (v2016 Population Estimates); The Stephen S. Fuller Institute at the Schar School, GMU

Share of 25-34 Years Olds Largest 15 Metros, 2010



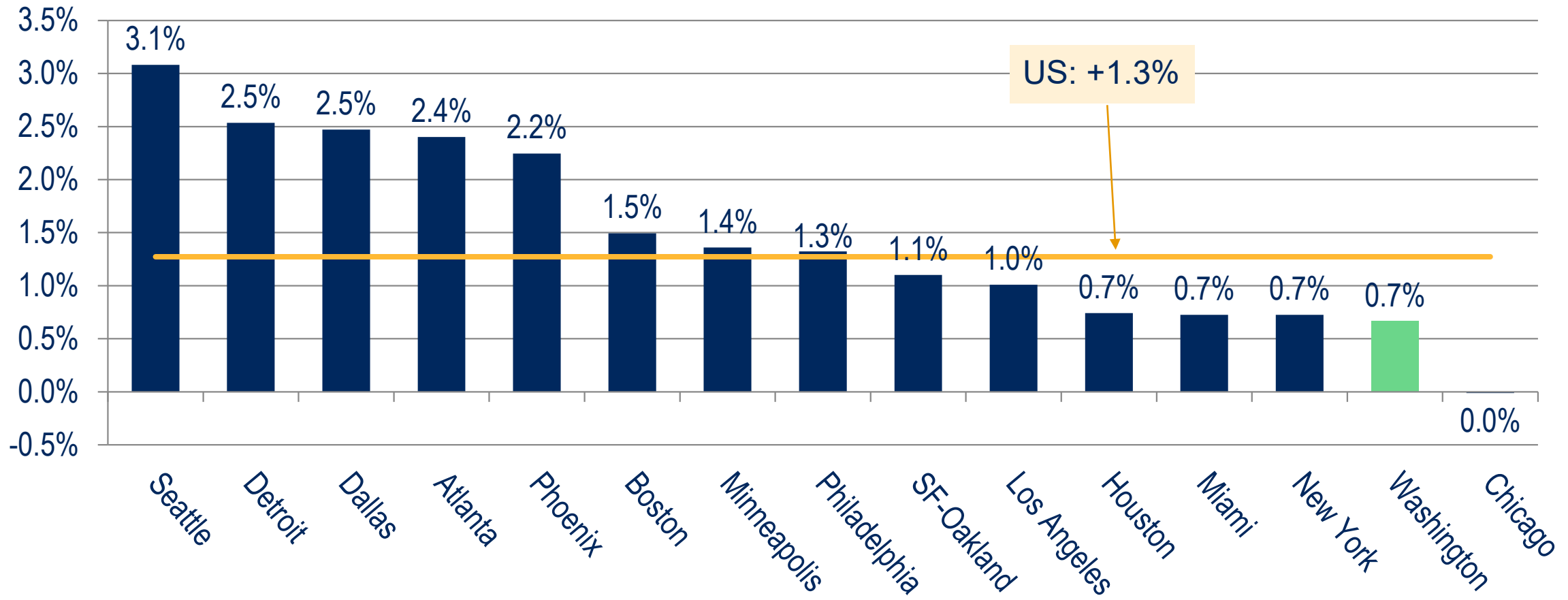
Sources: U.S. Census Bureau (Vintage 2017 & 2000-2010 Intercensal Population Estimates); The Stephen S. Fuller Institute at the Schar School, GMU

Share of 25-34 Years Olds Largest 15 Metros, 2017



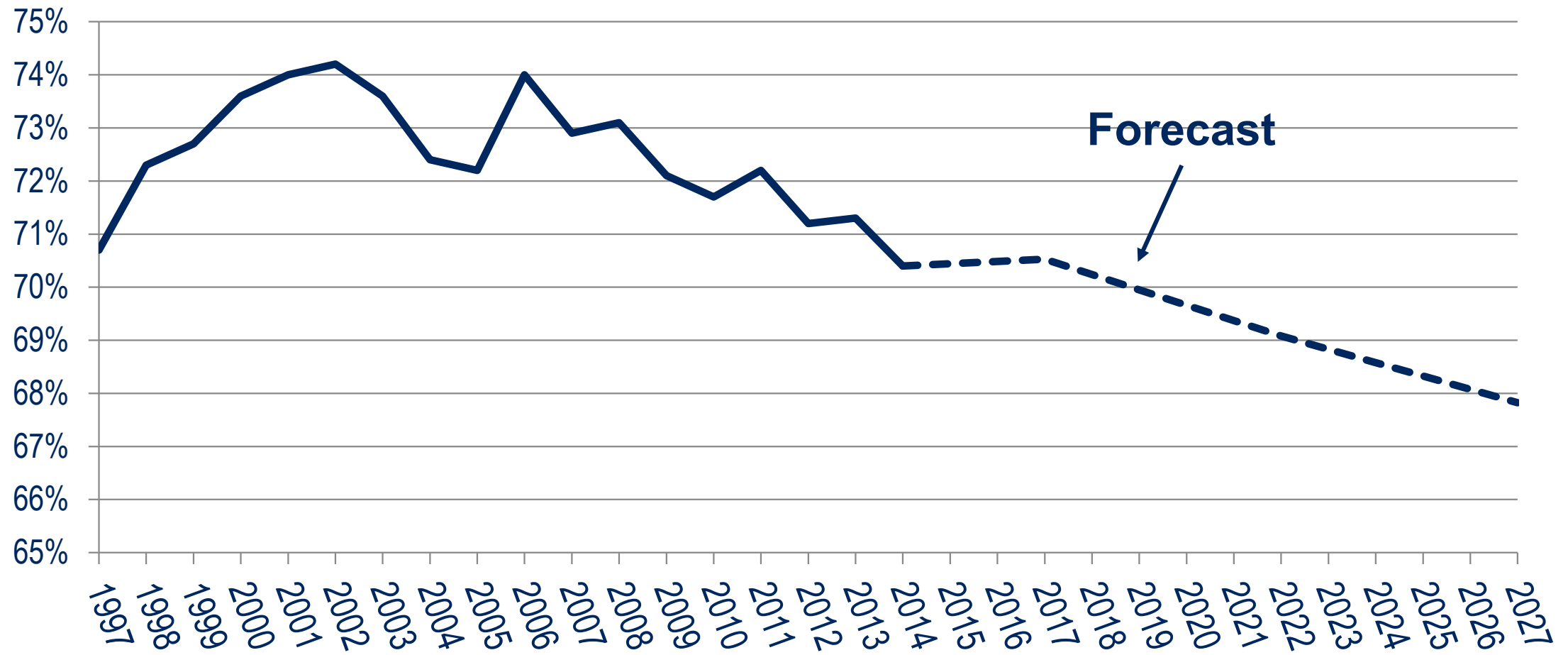
Sources: U.S. Census Bureau (Vintage 2017 & 2000-2010 Intercensal Population Estimates); The Stephen S. Fuller Institute at the Schar School, GMU

Percent Change in 25-34 Years Olds Largest 15 Metros, 2016 - 2017



Sources: U.S. Census Bureau (Vintage 2017 & 2000-2010 Intercensal Population Estimates); The Stephen S. Fuller Institute at the Schar School, GMU

Labor Force Participation Rate Washington Region, 1997-2027



Sources: U.S. Bureau of Labor Statistics; U.S. Census (2014-2016 ACS); The Stephen S. Fuller Institute at the Schar School, GMU

Thank You

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