Baltimore Metropolitan Council

Metropolitan Report 2017

The Baltimore Metropolitan Council (BMC) went through a rigorous process of acquiring the most reputable and accurate sources, with the most recent data available. A few notes to think about as you begin reading through the BMC's 2017 Metropolitan Report:

1. When you see an * as it pertains to regional data --- BMC defines the Baltimore region as Baltimore City, and Anne Arundel, Baltimore, Carroll, Harford and Howard counties. However, the U.S. Census Bureau also includes Queen Anne's County as a jurisdiction in the Baltimore region in its American Community Survey Estimates. To keep estimates as accurate as possible, BMC used as much data as it could from each individual jurisdiction. An * will indicate when Queen Anne's County is included in a regional total.

2. When you see an * in a caption --- BMC is providing further guidance or explanation to the chart, graph or table.

3. Margin of error --- Margin of error, in most of the data that BMC reviewed and used, was minor - plus or minus less than one percent of a population. However, those small percentages do add up, so some estimates in one set of data may not add up to another visual. Likewise, each figure is cited on the page, and will contain more information in the caption, such as where margin of error is significant. ■

Allan H. Kittleman
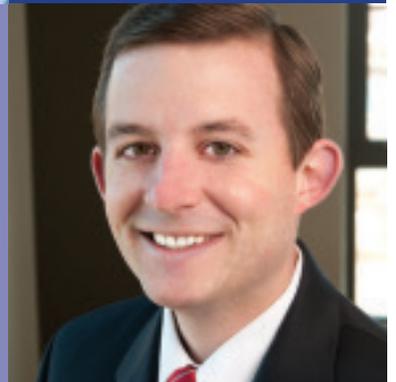Howard County Executive
BMC 2017 Chair

Doug Howard
Carroll County Board of
Commissioners

Steven R. Schuh
Anne Arundel County Executive
BMC 2017 Vice-Chair

Catherine Pugh
Baltimore City Mayor

William C. Ferguson
Maryland State Senator

Stephen W. Lafferty
Maryland State Delegate

Kevin Kamenetz
Baltimore County Executive

Barry Glassman
Harford County Executive

J. Thomas Sadowski
Gubernatorial Appointee
University System of Maryland

Working together through strength of community

Never before has regional coordination, and organizations such as BMC, been so important. As the Howard County Executive, I experienced first-hand the perseverance of our neighbors and our state in the days, weeks and months following a devastating storm that ripped through Ellicott City.

In our time of need, the state and our neighboring counties sent equipment and staff to assist. Gov. Larry Hogan acted swiftly to seek a federal disaster declaration. Regional businesses pitched in to help displaced workers find temporary employment, to feed emergency responders, and to raise money for recovery. Residents from miles around volunteered their time and talents to clean up and rebuild.

Even today, residents from across the Baltimore region continue to contribute to the recovery of downtown Ellicott City by choosing to shop and dine on Main Street. The Baltimore region is a strong and growing community. The area's response and recovery after our disaster in Ellicott City is a testament to the importance of cooperation.

As the incoming chair of the BMC Board of Directors, I am committed to keeping that spirit of regional cooperation and coordination. I would like to thank the past chair, County Executive Barry Glassman, for his hard work, and I greatly appreciate all he has done over the past year. In addition, I would also like to thank this year's vice-chair, my partner and neighbor to the east, Anne Arundel County Executive Steve Schuh. I look forward to working with him and the Baltimore region's other elected officials to continue to enhance our coordination.

In our age of globalization, where we find challenges are more often regional, BMC plays an invaluable role in bringing the Baltimore region together in the pursuit of common priorities, whether our challenges are delivering an interconnected transportation system, supporting training and resources to meet the demand of growing employment sectors, ensuring safe and affordable housing for our families, protecting our environment, or coordinating government purchasing to save taxpayer dollars.

Just last August, several counties joined to conduct an opioid summit to provide an opportunity for agencies working in different jurisdictions to share best practices and to strengthen working relationships in order to solidify a regional partnership that will work to address the growing problem of opioid addiction in our region. Like many of our issues, opioid addiction is not geographically constrained, and neither should be our approach in working to combat this problem.

As chair, I am proud to work with my elected and appointed colleagues from each of our member jurisdictions to build upon our strengths and continue our progress for all of the families and businesses that make this region their home.

Sincerely,

Allan H. Kittleman
Howard County Executive

Regional planning for a competitive future

The Baltimore Metropolitan Council (BMC) is proud to work with its Board of Directors to identify mutual interests and develop strategies that improve the quality of life and economic vitality in and across our member jurisdictions.

This publication is intended to provide policy makers, government leaders, nonprofits, businesses and residents a snapshot of the vast array of data that BMC collects and analyzes. Our work seeks to support the Baltimore region's economy and residents, whether it's through transportation, housing, workforce development, environmental protection, or BMC's other policy areas.

This report generally presents data for the Baltimore region broken down by our six member jurisdictions – the City of Baltimore and Anne Arundel, Baltimore, Carroll, Harford and Howard counties. We sought to provide visual representations of the most recent data available, some of which are estimates through sources such as the U.S. Census Bureau's American Community Survey. Other charts, graphs and tables are meant to provide historical context. We also present peer comparisons to regions around the United States to provide some context as to how the Baltimore region fits into our nation as a whole.

For example, in 2015, the Baltimore region was home to an estimated 2,797,407 residents, which is almost half of all Maryland residents. In the same year, 35.1 percent of the Baltimore region was ages 50 and over, with Carroll County's 42.3 percent leading the six jurisdictions as the largest percentage relative to its population. Perhaps unsurprising, Baltimore City had the largest relative share of residents between the ages of 20 and 34 with 26.6 percent of its total population. As our region's population ages, its needs evolve, including housing, transportation and workforce to care for the elderly. Similarly, national trends suggest millennials are increasingly choosing urban living, opting for smaller homes in walkable communities with transit connectivity over suburban neighborhoods with larger homes and two-car driveways. These trends influence the ways in which we plan effectively for our region's competitive future.

According to the 2010 census, the Baltimore region ranked 20th in population size nationally. This report regularly refers to the ten larger and small regions for purposes of peer comparison. For example, the Pittsburgh region ranked 22nd in population in 2010 and has experienced negligible (0.07 percent) estimated growth in the last five years. Similarly, the St. Louis region ranked 18th in total population in 2010 and has seen an estimated 0.15 percent growth as of 2015. Compare these figures to the Baltimore region's 4.88 percent estimated growth as of 2015. If the Baltimore region is to retain its spot at number 20, much less hope to rise relative to other regions, it needs to increase its growth rate during the next five years.

We hope you find this report a useful tool in shaping conversations about our shared opportunities and challenges as we work to support the greater Baltimore region. BMC is a resource to all that serve our region's communities. Please contact us if we can ever be of assistance.
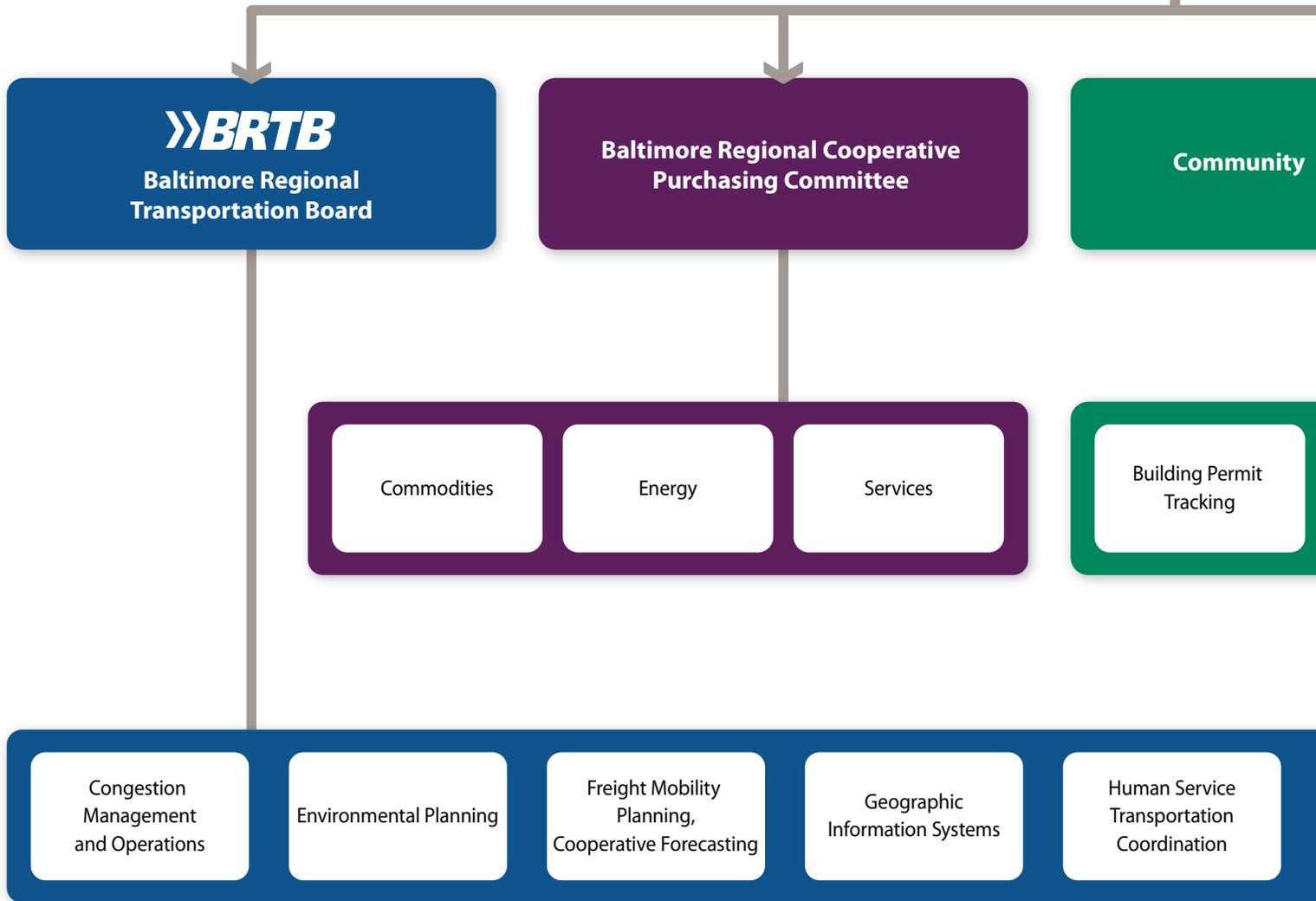
Sincerely,

Michael B. Kelly
Executive Director ■

The Baltimore Metropolitan Council (BMC) works collaboratively with the chief elected officials to create initiatives to improve the quality of life and economic vitality of the region. BMC, as the Baltimore region's council of governments (COG), hosts the Baltimore Regional Transportation Board (BRTB), the federal metropolitan planning organization (MPO), and supports local government by coordinating efforts in a range of policy areas including emergency preparedness, housing, cooperative purchasing, environmental planning and workforce development.
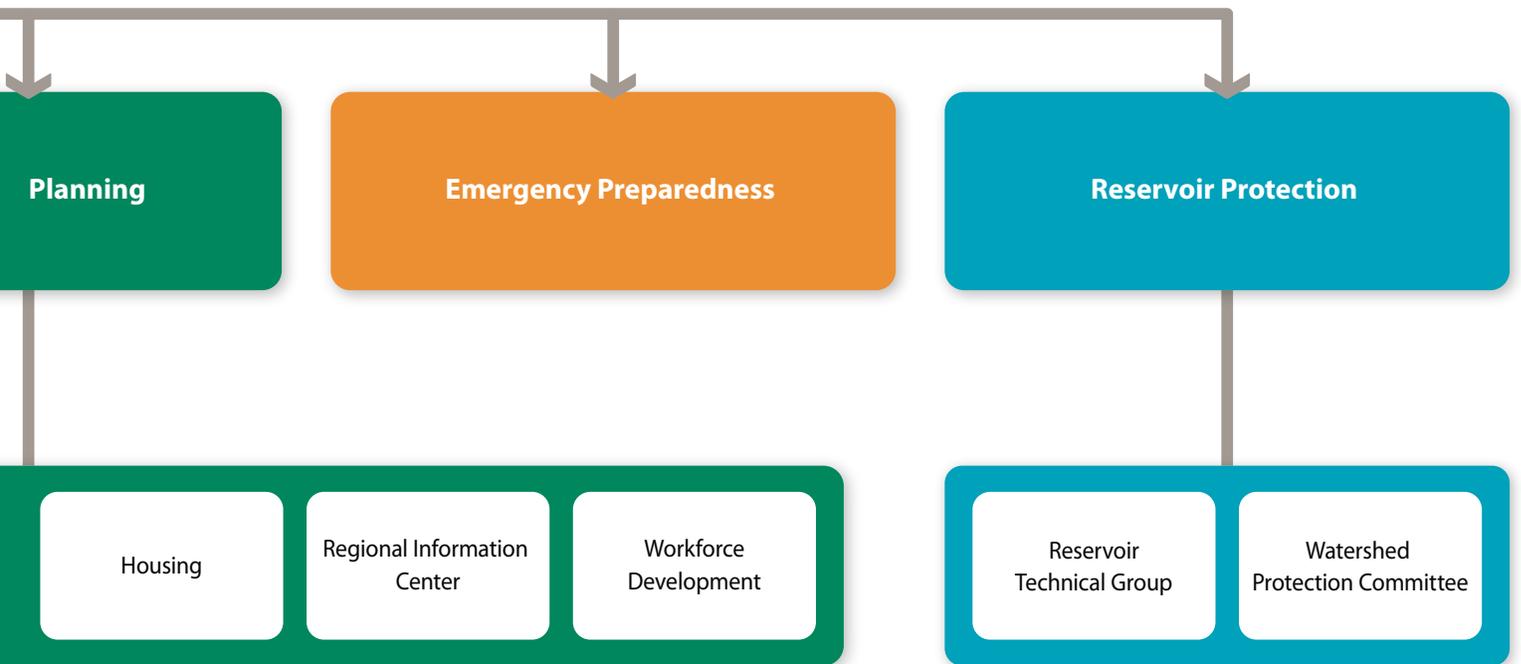
BMC's Board of Directors includes the executives of Anne Arundel, Baltimore, Harford and Howard counties, the mayor of the City of Baltimore, a member of the Carroll County Board of Commissioners, a member of the Maryland State Senate, a member of the Maryland House of Delegates, and a gubernatorial appointee from the private sector.

BMC promotes cooperation among local governments in the Baltimore metropolitan area by sharing information, collecting and analyzing data, and developing solutions to regional challenges. BMC also tracks demographic and economic trends and anticipates future needs in infrastructure, the environment, and economic development. ■

≫BRTB
Baltimore Regional Transportation Board

Baltimore Regional Cooperative Purchasing Committee

Community

| Commodities | Energy | Services |

| Building Permit Tracking |

| Congestion Management and Operations | Environmental Planning | Freight Mobility Planning, Cooperative Forecasting | Geographic Information Systems | Human Service Transportation Coordination |

Baltimore Metropolitan Council

Planning	Emergency Preparedness	Reservoir Protection

Housing	Regional Information Center	Workforce Development		Reservoir Technical Group	Watershed Protection Committee

| Long-Range Plan and Transportation Improvement Program	Public Involvement	Safety Planning and Analysis	Transit Coordination and Bicycle/Pedestrian Planning	Travel Demand Modeling

Who lives in the Baltimore region?

The population of the Baltimore region is large and diverse. It is home to more than 2.7 million people, or 46.5 percent of Maryland's total population, according to the 2015 American Community Survey (ACS). Baltimore County's population accounts for 29.7 percent of the total region, followed by: Baltimore City, 22.2 percent, Anne Arundel County, 20.2 percent; Howard County, 11.2 percent; Harford County, 8.9 percent; and Carroll County, 6 percent.

In the last 50 years, while the other counties in the region grew steadily, Baltimore City's population fell from more than 939,000 residents to around 620,000 residents, but has leveled off in recent years. In the last five years, Howard County experienced the greatest growth relative to its size, with a 9.17 percent estimated increase in population, followed next by Anne Arundel County at 4.93 percent.

Baby Boomer residents, those ages 50-69, make up the greatest share of the region's population at 25.6 percent, followed by Millennials, or those ages 20-34, at 21.1 percent.

The region's black, Hispanic and Asian populations saw significant growth relative to their size from 1980 to 2010, while the white population remained largely static. In the last five years, the region's Hispanic and Asian populations grew the fastest at 22.48 percent and 25.41 percent, respectively.

Nationally, the Baltimore region ranked 20th in population size, based on 2010 U.S. Census Bureau data. According to 2015 ACS population estimates, Baltimore grew by 4.88 percent in the last five years. However, the average estimated growth among the 10 larger and 10 smaller peer comparison regions in the nation is 7.28 percent. ■
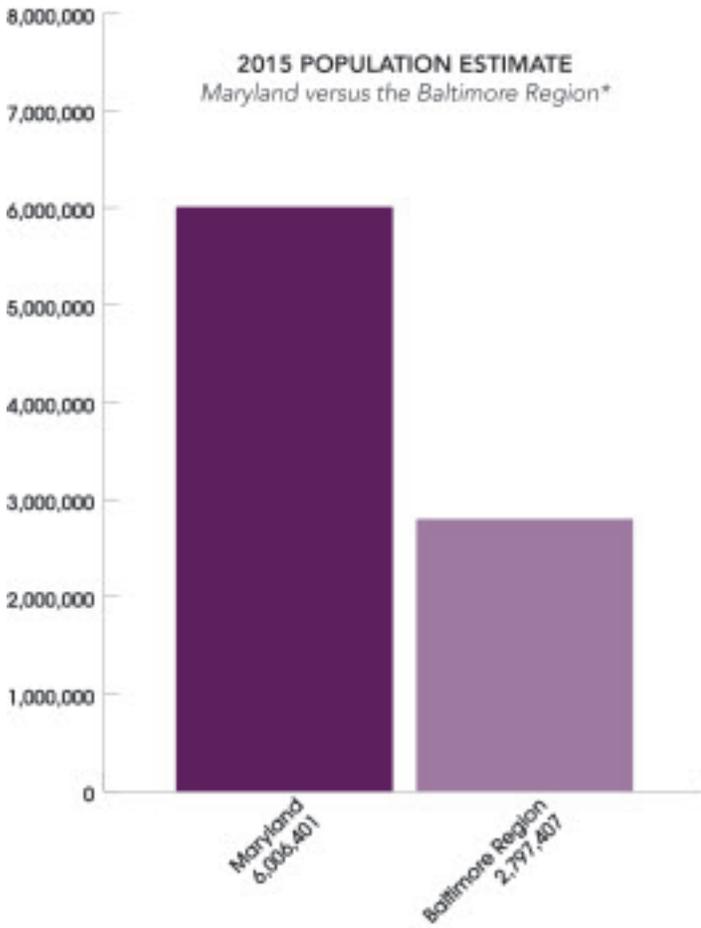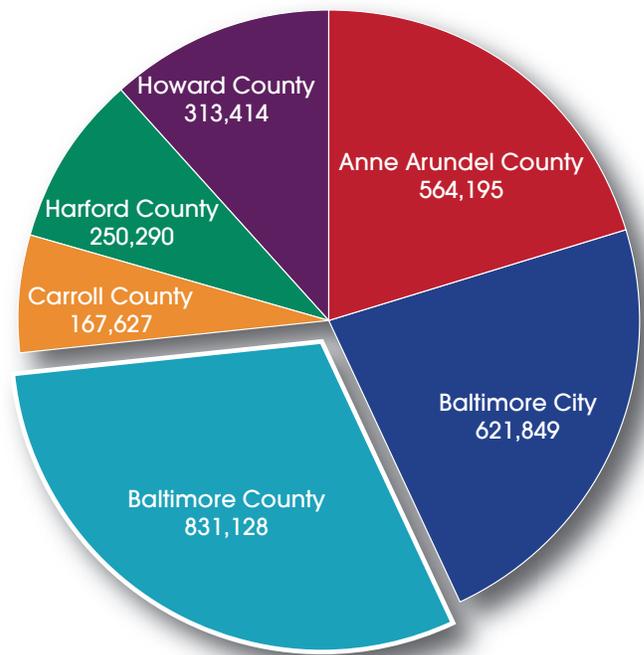

FIGURE A-1 sources: 2015 American Community Survey 1-Year Estimates, Total Population; U.S. Census Bureau, Population Estimates Program (PEP)

FIGURE A-2 sources: 2015 American Community Survey 1-Year Estimates; 2015 American Community Survey 5-Year Estimates

BALTIMORE REGION POPULATION
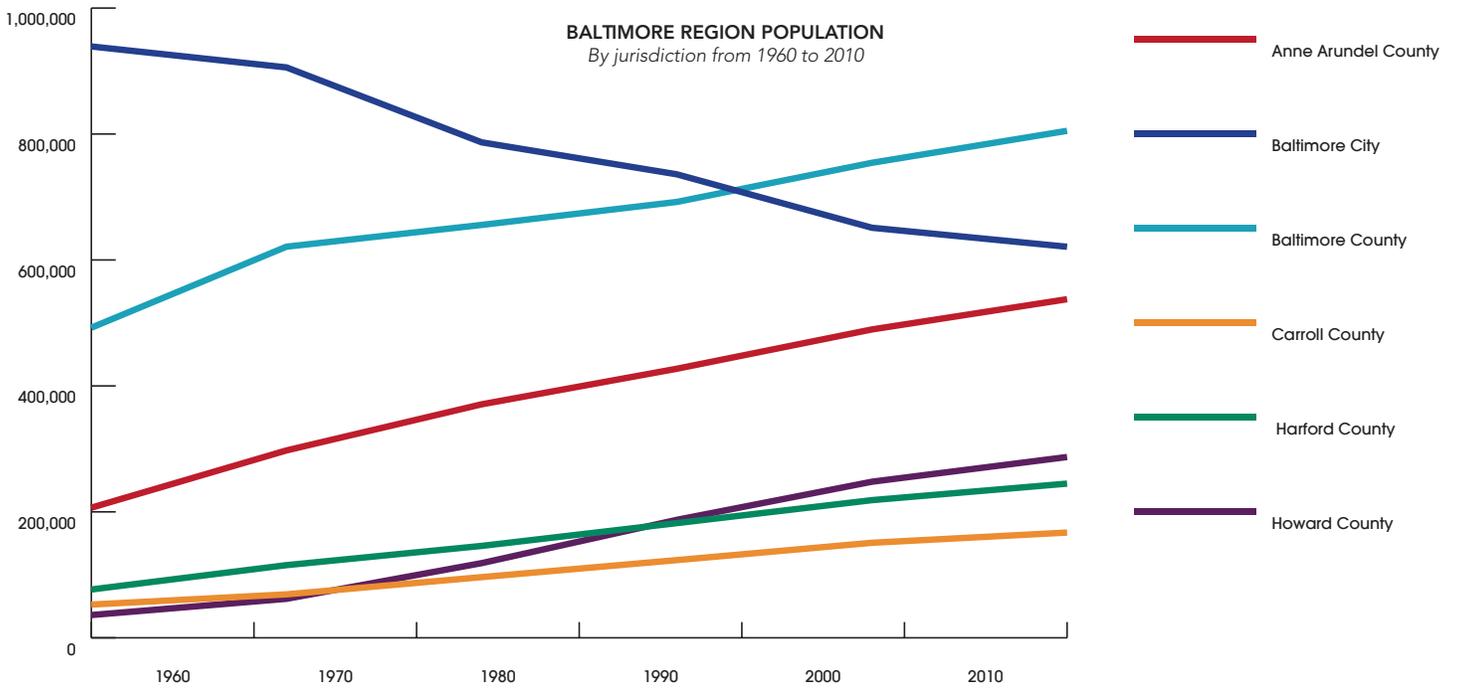*By jurisdiction from 1960 to 2010*

FIGURE A-3 sources: Maryland Office of Planning, Planning Data Services from decennial census data; U.S. Census Bureau, Census 2010 and 2000 Census, PL94-171 release

BALTIMORE REGION POPULATION
By jurisdiction from 2010 to 2015

	2010	2011	2012	2013	2014	2015	Percentage Change 2010-2015
Anne Arundel County	537,656	544,403	550,488	555,743	560,133	564,195	4.93%
Baltimore City	620,961	619,493	621,342	622,104	622,793	621,849	0.14%
Baltimore County	805,029	809,941	817,455	823,015	826,925	831,128	3.24%
Carroll County	167,134	167,288	167,217	167,564	167,830	167,627	0.29%
Harford County	244,826	246,489	248,622	249,215	250,105	250,290	2.23%
Howard County	287,085	293,142	299,430	304,580	309,284	313,414	9.17%

FIGURE A-4 source: 2015 American Community Survey 5-Year Estimates

2015 BALTIMORE REGION BY AGE

Agest 70+
9.4%

Ages 0-19
18.2%

Ages 50-69
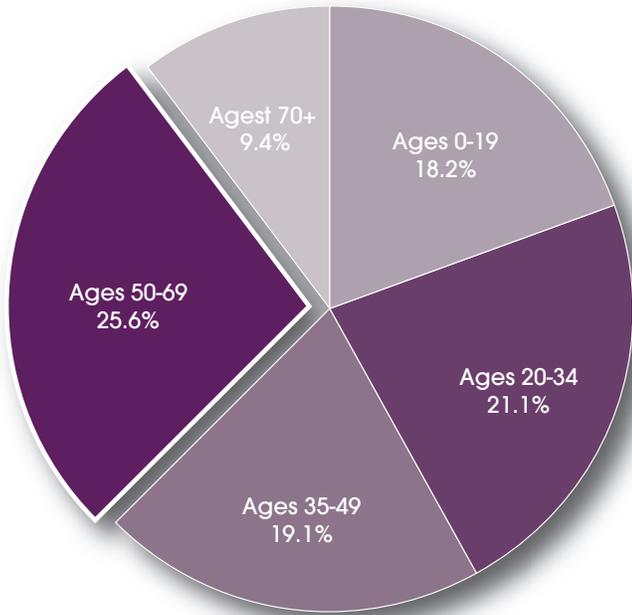25.6%

Ages 20-34
21.1%

Ages 35-49
19.1%

FIGURE A-5 source: 2015 American Community Survey 1-Year Estimates, Age and Sex

2015 BALTIMORE REGION BY JURISDICTION AND AGE

	Ages 0-19	20-34	35-49	50-69	70+
Anne Arundel County	139,359	119,045	112,839	144,998	48,520
Baltimore City	148,000	165,411	111,932	146,134	50,369
Baltimore County	201,133	170,381	153,758	214,431	89,761
Carroll County	41,571	28,664	32,184	47,606	27,600
Harford County	62,822	46,053	48,055	69,330	24,528
Howard County	84,621	56,414	67,384	79,920	25,386

FIGURE A-6 source: 2015 American Community Survey 1-Year Estimates, Age and Sex
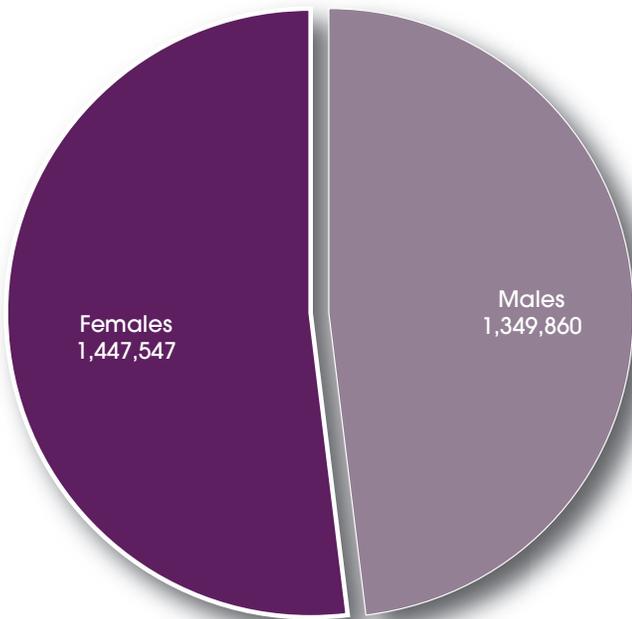
2015 BALTIMORE REGION* BY GENDER

Females
1,447,547

Males
1,349,860

(Page 9, bottom) FIGURE A-9 sources: U.S. Bureau of the Census, 1980 Census of Population, General Population Characteristics (1980 PC80-1-B22), and 1980 Census of Housing General Housing Characteristics (1980 HC80-1-A22), report series published 1982. Prepared by the Maryland Department of Planning, Planning Data Services, April 2003; U.S. Bureau of the Census, 1990 Census of Population, General Population Characteristics (1990 CP-1), and 1990 Census of Housing, General Housing Characteristics (1990 CH-1), report series published 1992-1993; and Summary Tape File (STF) 1A, series released 1991. Prepared by the Maryland Department of Planning, Planning Data Services, May 2001; U.S. Census Bureau, Census 2000; 2010 American Community Survey 1-Year Estimates, DP05 DEMOGRAPHICS AND HOUSING; 2015 American Community Survey 1-Year Estimates, Demographics and Housing

Photo: Baltimore Metropolitan Council

FIGURE A-7 source: 2015 American Community Survey 1-Year Estimates, Age and Sex

2015 BALTIMORE REGION BY JURISDICTION AND AGE

Legend:
- 70+
- 50-69
- 35-49
- 20-34
- 0-19

Jurisdictions:
- Males in Anne Arundel County
- Females in Anne Arundel County
- Males in Baltimore County
- Females in Baltimore County
- Males in Carroll County
- Females in Carroll County
- Males in Harford County
- Females in Harford County
- Males in Howard County
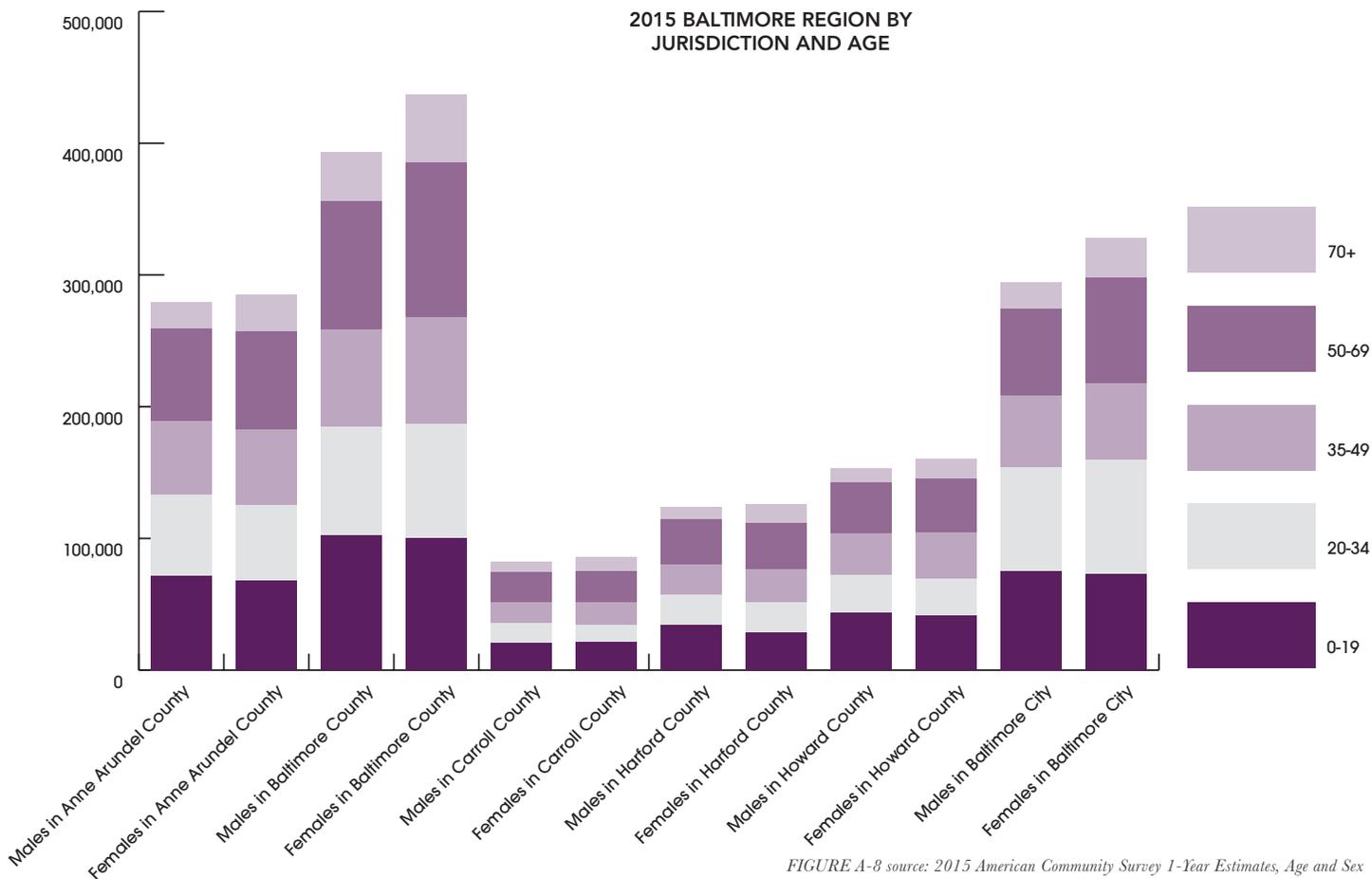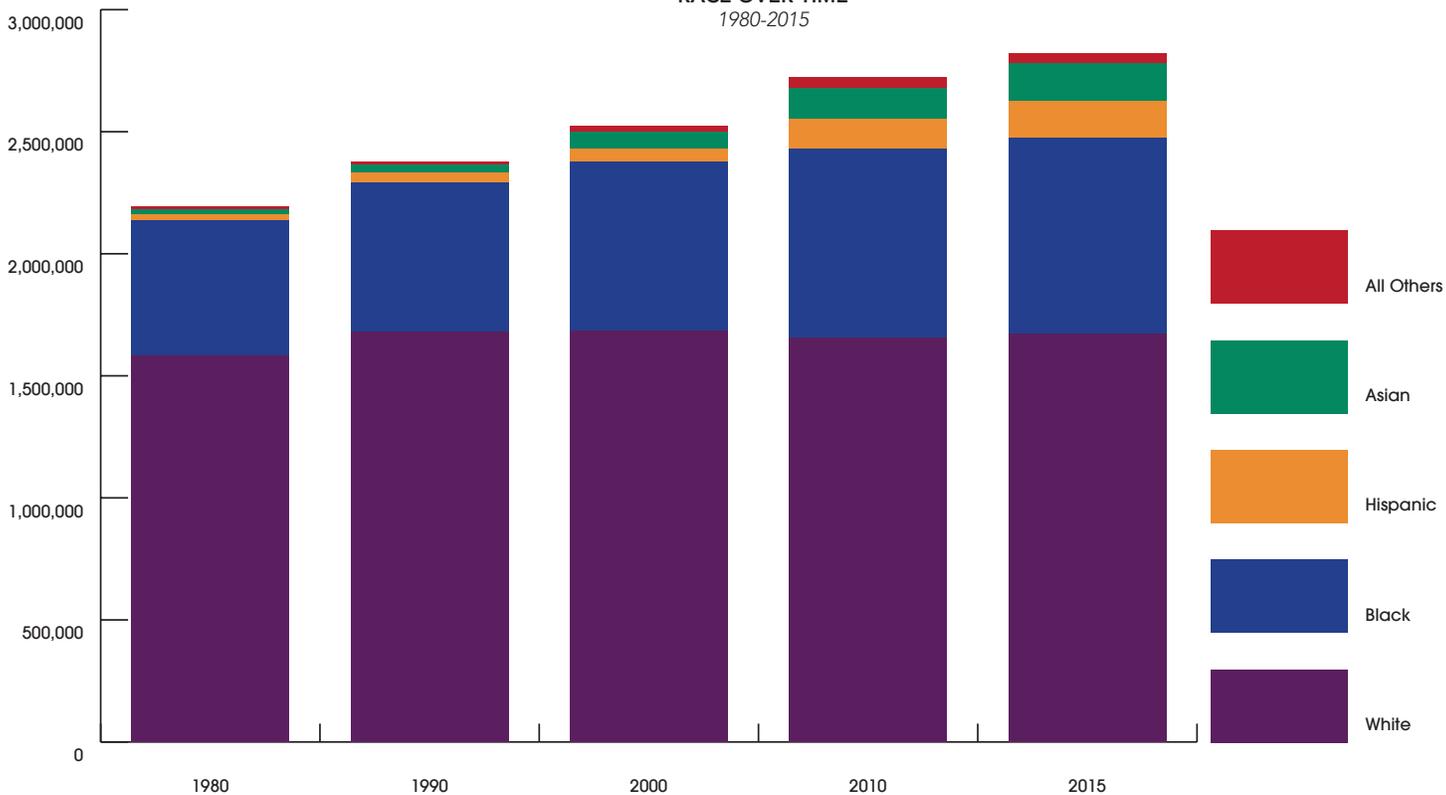- Females in Howard County
- Males in Baltimore City
- Females in Baltimore City

FIGURE A-8 source: 2015 American Community Survey 1-Year Estimates, Age and Sex

BALTIMORE REGION BY RACE OVER TIME
1980-2015

Legend:
- All Others
- Asian
- Hispanic
- Black
- White

Years: 1980, 1990, 2000, 2010, 2015

RACE IN THE BALTIMORE REGION
By jurisdiction from 2010 to 2015

	2010	2011	2012	2013	2014	2015	Percentage Change 2010-2015
White	1,655,940	1,654,518	1,662,406	1,660,859	1,663,690	1,671,064	0.91%
Black	773,303	780,792	788,146	800,859	811,057	803,640	3.92%
Hispanic	123,207	128,391	133,834	140,018	146,257	150,905	22.48%
Asian	124,408	126,276	133,019	138,105	147,707	156,027	25.41%
All Other	45,527	49,596	49,990	51,012	44,388	39,900	-12.35%

FIGURE A-10 sources: 2010-2015 American Community Survey 1-Year Estimates, Demographics and Housing
*Data represents those persons reporting that they identify as one race.

BALTIMORE REGION BY RACE IN EACH JURISDICTION, 2015

	Anne Arundel County	Baltimore County	Carroll County	Harford County	Howard County	Baltimore City
White	421,578	519,527	154,496	199,018	183,413	193,032
Black	92,880	230,467	5,898	35,009	56,464	382,922
Hispanic	41,245	43,258	5,289	10,740	20,420	29,953
Asian	22,534	50,936	3,071	7,398	55,194	16,894
All Others	9,548	10,455	1,505	2,546	4,884	10,962

FIGURE A-11 source: 2015 American Community Survey 1-Year Estimates, Demographics and Housing

BALTIMORE REGION BY LANGUAGES SPOKEN AT HOME IN EACH JURISDICTION, 2015

	Anne Arundel County	Baltimore County	Carroll County	Harford County	Howard County	Baltimore City
English	472,662	664,662	150,789	218,722	221,908	525,961
Spanish	26,014	34,287	3,282	6,489	14,738	21,484
Other Indo-European Languages	14,054	41,370	Sample too small	7,454	23,350	16,766
Asian and Pacific Island Languages	10,680	24,520	Sample too small	2,942	28,794	8,227
Other Languages	5,171	16,261	Sample too small	749	5,991	8,042

FIGURE A-12 source: 2015 American Community Survey 1-Year Estimates, Language Spoken at Home

PEER COMPARISON: TOTAL 2015 POPULATION*

2010 Rank	Region	2010 Population	2015 Estimate	Growth
10.	Boston	4,522,858	4,774,321	5.55%
11.	Detroit	4,425,110	4,302,043	-2.78%
12.	Phoenix	4,281,899	4,574,531	6.83%
13.	San Francisco	4,274,531	4,656,132	8.92%
14.	San Bernardino	4,115,871	4,489,159	9.06%
15.	Seattle	3,344,813	3,733,580	11.62%
16.	Minneapolis-St. Paul	3,229,878	3,524,583	9.12%
17.	San Diego	3,001,072	3,299,521	9.94%
18.	St. Louis	2,816,710	2,812,313	0.15%
19.	Tampa	2,733,761	2,975,225	8.83%
20.	Baltimore*	2,667,117	2,797,407	4.88%
21.	Denver	2,506,626	2,814,330	12.27%
22.	Pittsburgh	2,351,192	2,353,045	0.07%
23.	Portland	2,207,462	2,390,244	8.28%
24.	Cincinnati	2,155,137	2,159,329	0.19%
25.	Sacramento	2,109,832	2,274,194	7.79%
26.	Cleveland	2,088,291	2,060,810	-1.31%.
27.	Orlando	2,054,574	2,387,138	16.18%
28.	San Antonio	2,031,445	2,381,828	17.24%
29.	Kansas City	2,002,047	2,088,269	4.30%
30.	Las Vegas	1,865,746	2,114,801	13.34%

FIGURE A-13 source: 2015 American Community Survey 1-Year Estimates, Total Population

Photo by Baltimore Metropolitan Council

What drives the Baltimore region's economy?

The Baltimore region's economy is diverse with a strong and growing export sector. In the last decade, the region's exports grew around 20 percent from $4.97 billion to $6.04 billion, according to the International Trade Administration.

Compared to the U.S. as a whole, the Baltimore region experiences high rates of employment. In 2015, 96.18 percent of the Baltimore region's civilian labor force, which includes those ages 16 and older, was employed, while 94.73 percent of the nation's labor force were working. Similarly, the Baltimore region remained relatively insulated at the height of the Great Recession with a 5.97 percent unemployment rate, while unemployment in the U.S. spiked to 9.63 percent in 2010. Many attribute this to the large segment of the region's jobs in or associated with government.

The strength of the economy and volume of high-skilled jobs result in high median household incomes. The average household in Howard County earned $110,892, while the average household in Anne Arundel County earned $91,230, according to the 2015 American Community Survey 1-Year Estimates. By comparison, Baltimore City households earned an average of $44,165 last year.

Despite its relative wealth, the Baltimore region continues to struggle with poverty. Since the Great Recession, the number of people living in poverty increased, particularly among the unemployed and those not in the labor force. Likewise, 55,102 residents around the region in 2015 were working poor – those who are employed but live below the poverty line.

In addition to its abundance of government employment, the region's economy is anchored by the finance, insurance and real estate sectors as well as education and healthcare.

Relative to its peer regions around the U.S., Baltimore's gross domestic product (GDP) in 2015, $181,419,000, outpaced the next two larger regions, St. Louis ($155,077,000 GDP), and Tampa ($133,838,000 GDP), as well as its much larger peer, San Bernardino ($140,637,000 GDP). ■
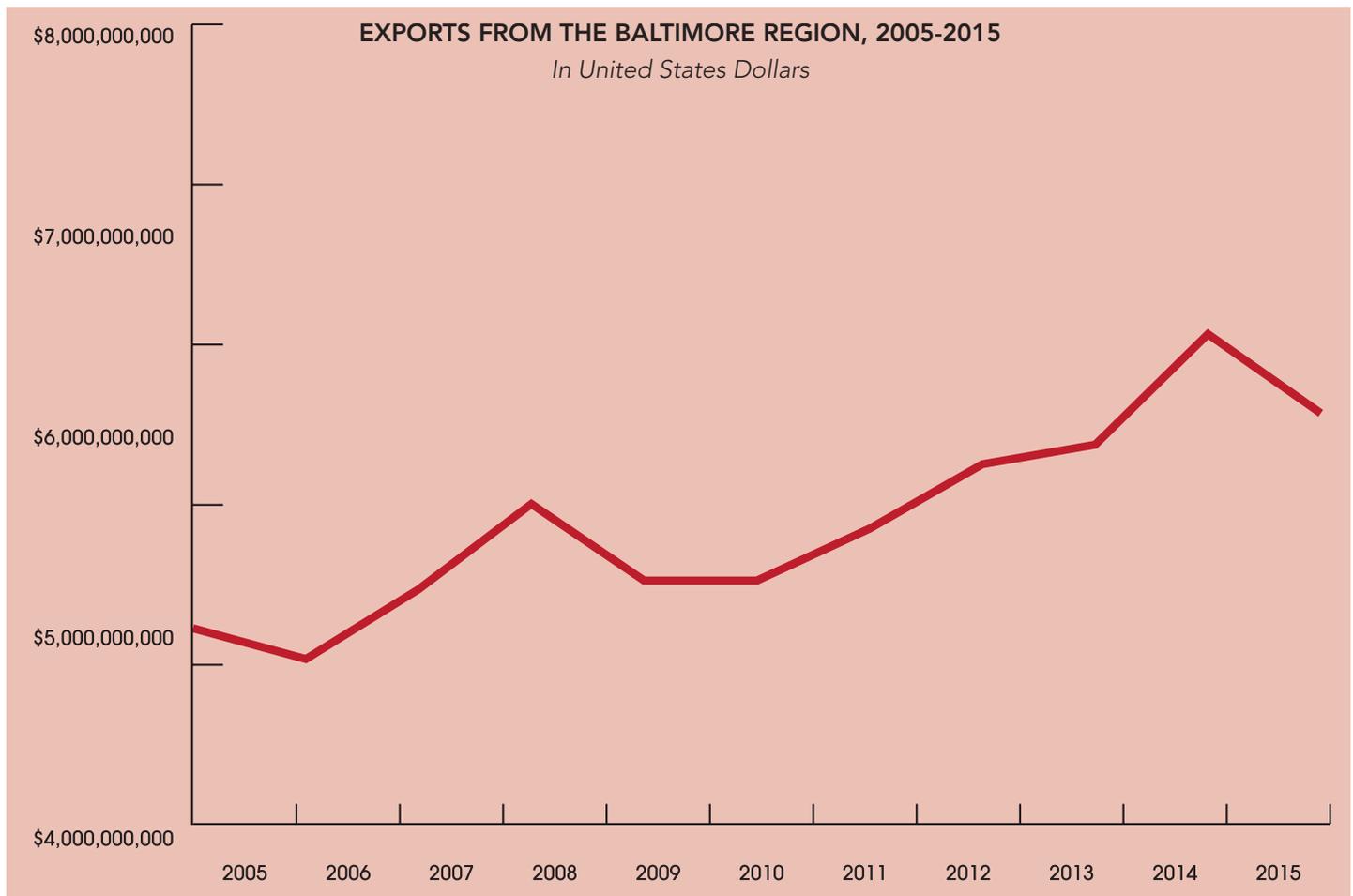

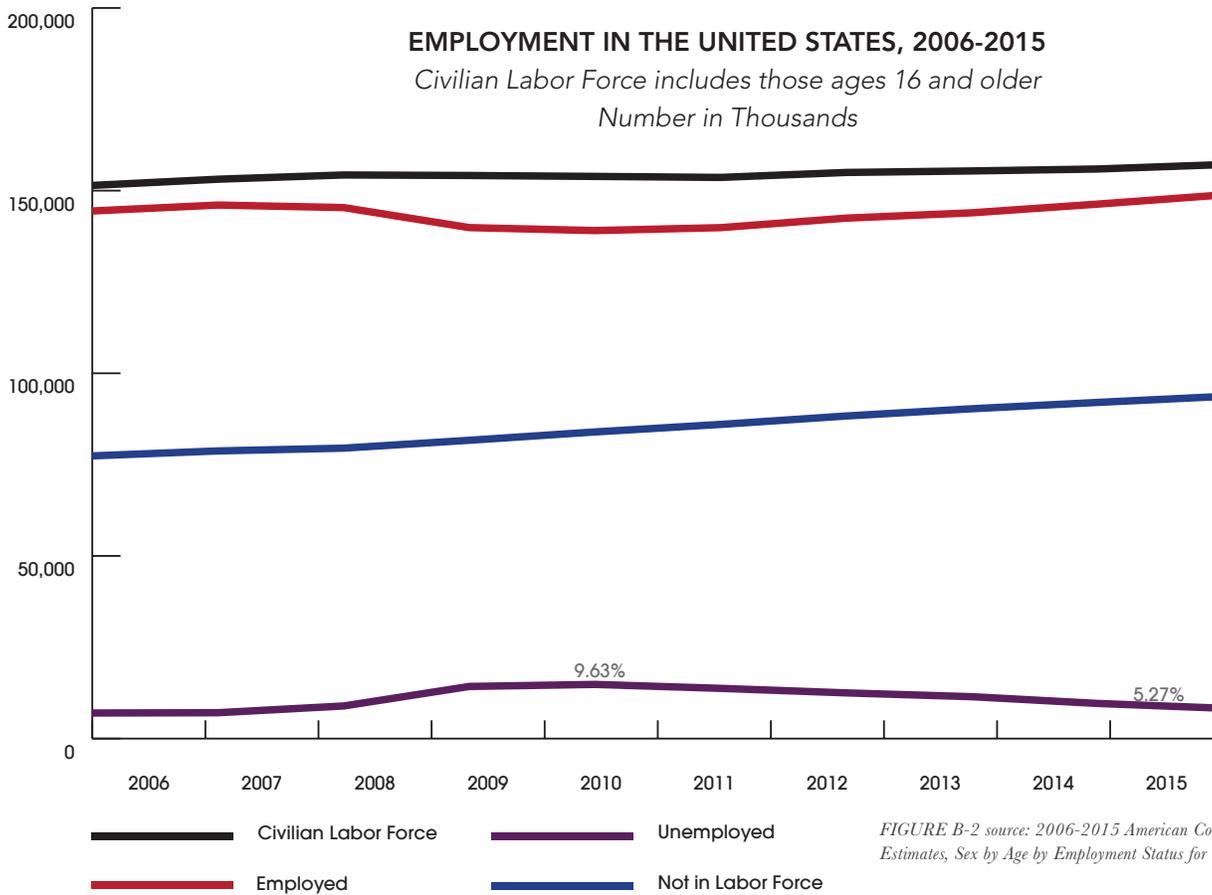*FIGURE B-1 source: International Trade Administration. 2015 Major Stock Acquisitions Exports.*

EMPLOYMENT IN THE UNITED STATES, 2006-2015
Civilian Labor Force includes those ages 16 and older
Number in Thousands

9.63%

5.27%

	Civilian Labor Force	Unemployed
	Employed	Not in Labor Force

EMPLOYMENT IN THE BALTIMORE REGION, 2006-2015
Civilian Labor Force includes those ages 16 and older

5.97%

3.82%

	Civilian Labor Force	Unemployed
	Employed	Not in Labor Force
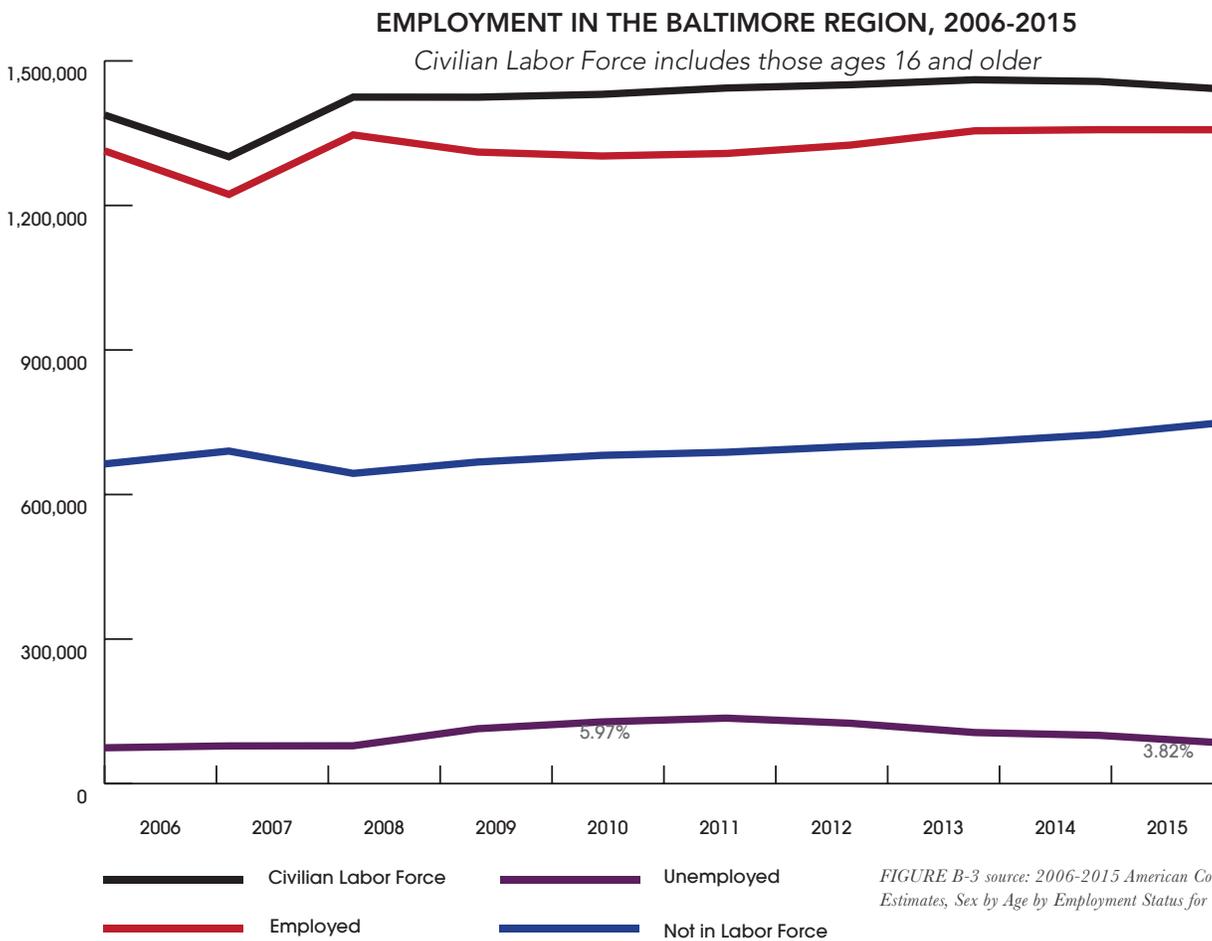
2015 BALTIMORE REGION MEDIAN HOUSEHOLD INCOME BY JURISDICTION

Total Households: 1,019,427

Legend:
- Baltimore City
- Howard County
- Harford County
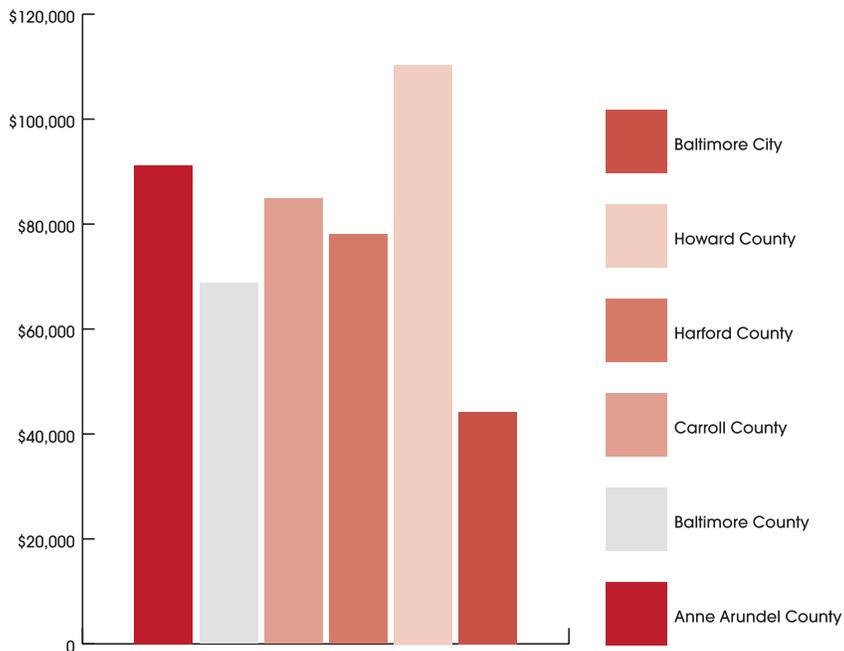- Carroll County
- Baltimore County
- Anne Arundel County

FIGURE B-4 source: 2015 American Community Survey 1-Year Estimates, Median Income in the Past 12 Months (in 2015 inflation adjusted dollars)

2015 NET JOB CREATION BY INDUSTRY IN THE BALTIMORE REGION

Employment in Thousands

Selected Industry Sectors	Net Job Creation March 2015 to March 2016	
Total Non-farm Employment	35.50	2.64%
Professional and Business Services	12.00	5.48%
Leisure and Hospitality	5.90	4.62%
Education and Health Services	5.40	2.08%
Trade, Transportation, and Utilities	5.10	2.16%
Mining and Logging, and Construction	4.40	6.26%
Manufacturing	1.80	3.36%
Other Services	1.20	2.26%
Financial Activities	0.50	0.65%
Information	0.40	2.47%
Government	-1.20	-0.52%

FIGURE B-5 source: Bureau of Labor Statistics.

PEOPLE LIVING IN POVERTY IN THE BALTIMORE REGION

2005-2015
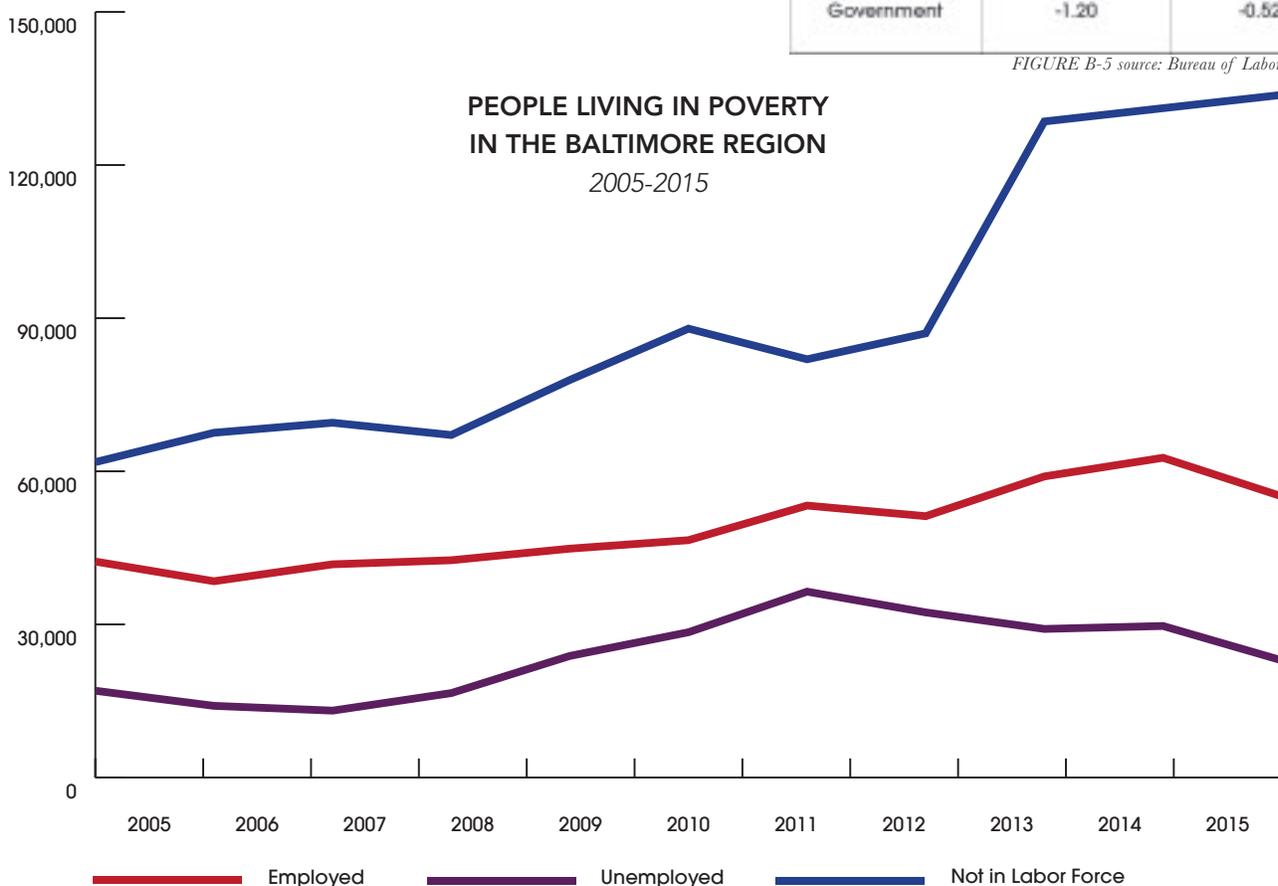

- Employed
- Unemployed
- Not in Labor Force

FIGURE B-6 source: 2005-2015 American Community Survey 1-Year Estimates, Poverty Status in the Past 12 Months of Individuals by Sex, by Employment Status

PEER COMPARISON: 2015 GROSS DOMESTIC PRODUCT (GDP)

GDP in Millions of United States Dollars

Legend:
- Information
- Transportation and Warehousing/Utilities
- Retail Trade
- Wholesale Trade
- Manufacturing
- Construction
- Agriculture/Forestry/Fishing
- Public Administration
- Other Services
- Arts/Entertainment/Recreation/Accommodation and Food Services
- Educational Services/Health Care and Social Assistance
- Professional/Scientific/Management/Administrative and Waste Management Services
- Finance and Insurance/Real Estate/Rental and Leasing

FIGURE B-7 source: Bureau of Economic Analysis

BALTIMORE REGION 2015 GROSS DOMESTIC PRODUCT (GDP)
GDP in Millions of Current Dollars

Legend:
- Other Services
- Information
- Arts/Entertainment/Recreation/Accommodations/Food Services
- Construction
- Transportation and Warehousing/Utilities
- Wholesale Trade
- Manufacturing
- Professional/Scientific/Management/Administrative/ Waste Management Services
- Educational Services/Healthcare and Social Assistance
- Government
- Finance/Insurance/Real Estate/Rental and Leasing

FIGURE B-8 source: Bureau of Economic Analysis

Photo: Baltimore Metropolitan Council

How does the Baltimore region make a living?

The workforce in the Baltimore region extends across a wide range of employment sectors, requiring workers with varied degrees, skills and training.

In 2015, the region's total labor force – all those employed and unemployed – was estimated to exceed 1.46 million. Carroll County had the highest estimated employment among its labor force at 95.49 percent, followed by Howard County at 95.37 percent. Baltimore City experienced the lowest employment among its labor force at 89.68 percent.

The education and health services sector – sometimes referred to as "Eds" and "Meds" – supported the largest number of jobs (260,000) in the region in 2015, according to the Bureau of Labor Statistics. The trade, transportation and utilities sector accounted for approximately 240,000 jobs. Jobs in government, and professional and business services both employed around 225,000 each.

Midskill jobs are those that require an associate's degree or certificate but less than a bachelor's degree, and which pay an average hourly wage of $22 or greater. The Baltimore region supported almost 223,000 of these jobs in 2015, according to labor market estimates. These employment opportunities accounted for one in five jobs in the region, with the largest share among healthcare professions.

Baltimore's highly educated workforce contributes to its economic competitiveness and high median household incomes. Almost 37 percent of the region's residents hold a bachelor's degree or higher. Among its peers, Baltimore ranks sixth in its share of population that attained a bachelor's or advanced degree (36.66 percent) following San Francisco (47.09 percent), Boston (44.35 percent), Denver (40.28 percent), Seattle (39.28 percent) and Minneapolis-St. Paul (38.66 percent). ■
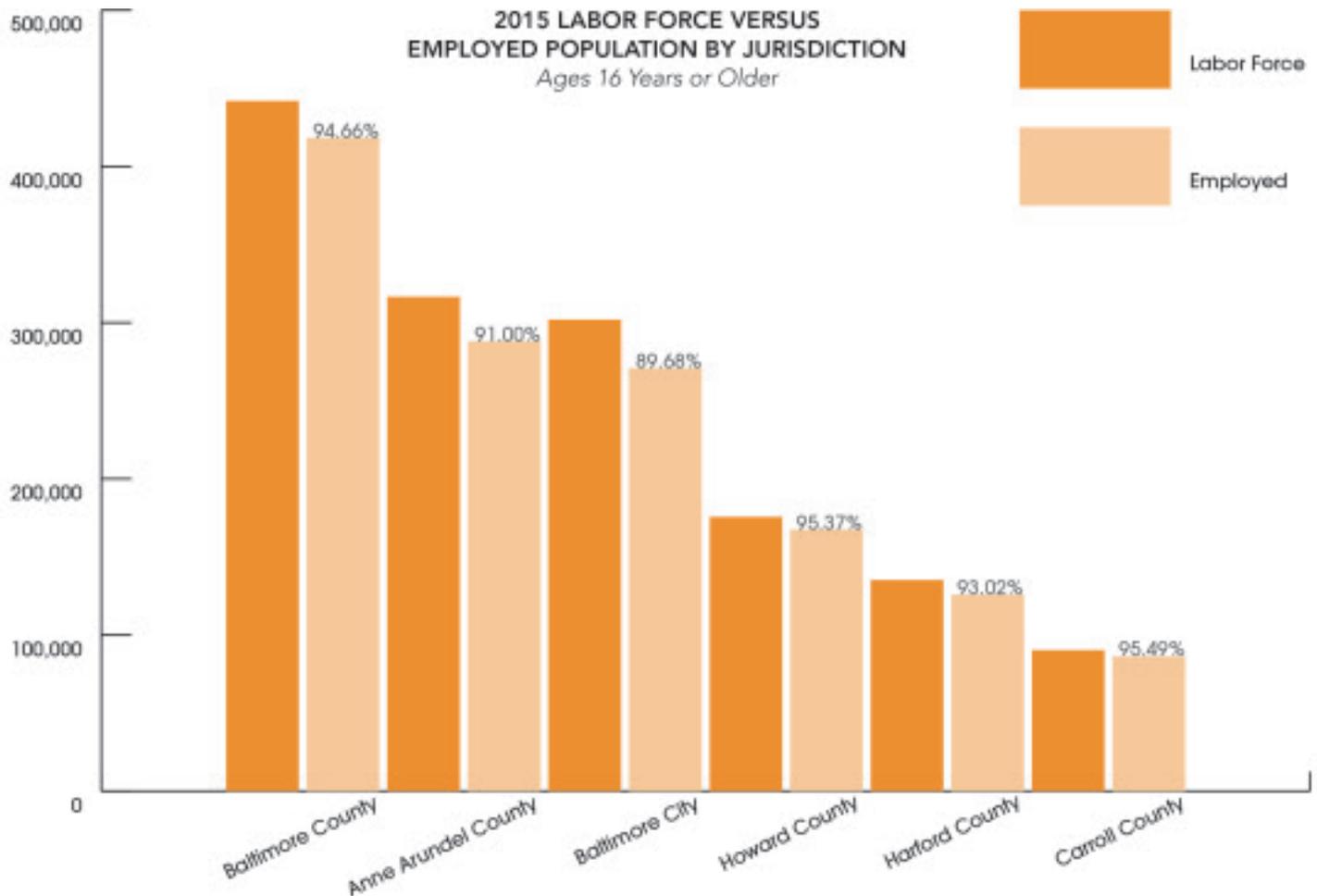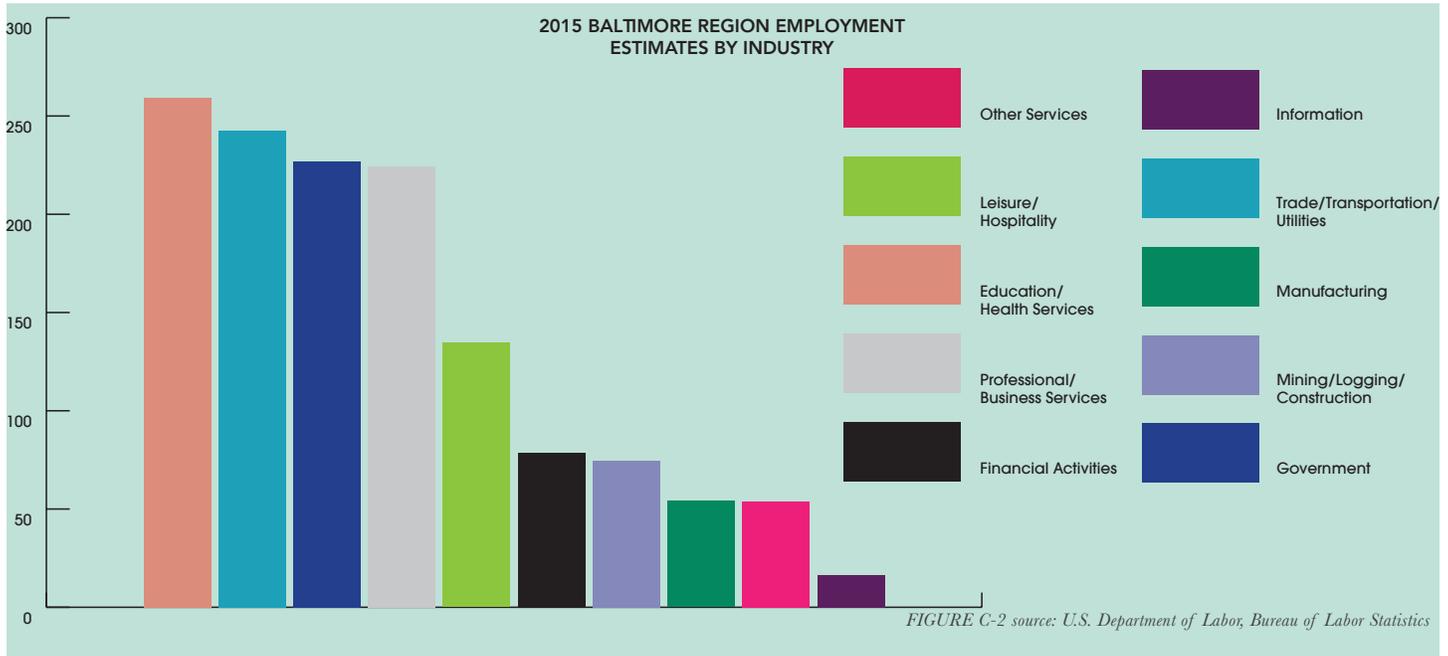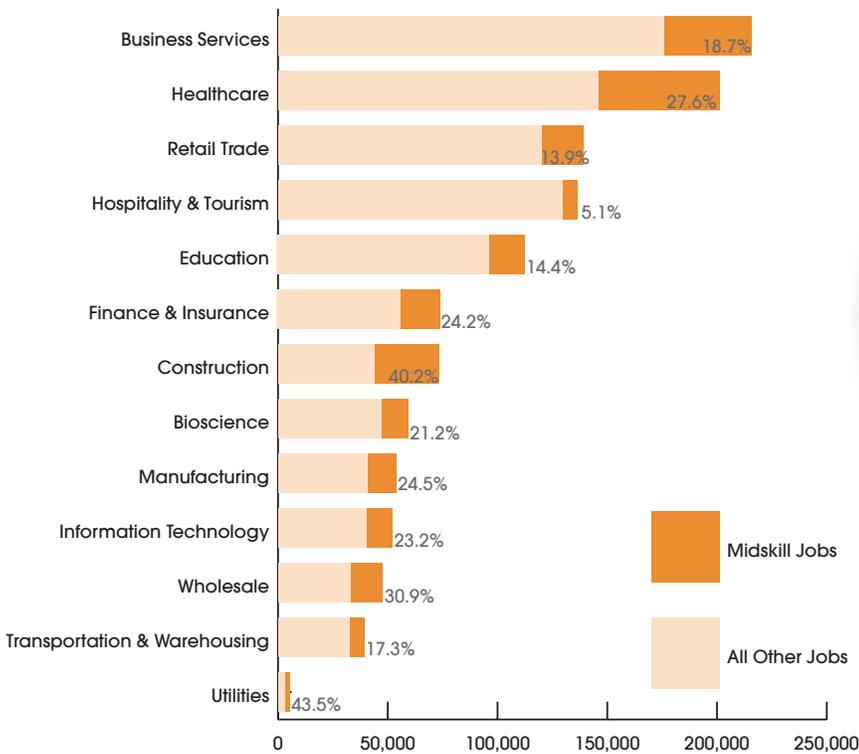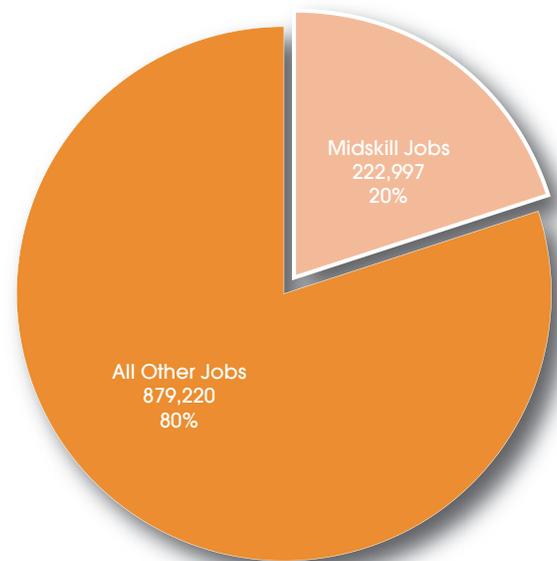

FIGURE C-1 source: 2015 American Community Survey 1-Year Estimates, Employment Status

2015 BALTIMORE REGION EMPLOYMENT ESTIMATES BY INDUSTRY

FIGURE C-2 source: U.S. Department of Labor, Bureau of Labor Statistics

2015 BALTIMORE REGION EMPLOYMENT ESTIMATES IN MIDSKILL JOBS BY SECTOR

Business Services — 18.7%
Healthcare — 27.6%
Retail Trade — 13.9%
Hospitality & Tourism — 5.1%
Education — 14.4%
Finance & Insurance — 24.2%
Construction — 40.2%
Bioscience — 21.2%
Manufacturing — 24.5%
Information Technology — 23.2%
Wholesale — 30.9%
Transportation & Warehousing — 17.3%
Utilities — 43.5%

Midskill Jobs

All Other Jobs

2015 BALTIMORE REGION EMPLOYMENT ESTIMATES BY MIDSKILL JOBS

Midskill Jobs
222,997
20%

All Other Jobs
879,220
80%

FIGURE C-3 AND FIGURE C-4 sources: Field Guide Consulting, Quarterly Census of Employment and Wages, Bureau of Labor Statistics (BLS)

Total 2015 employment in these 13 sectors was 1,102,217. Annual average employment in 2015 according to the QCEW was 1,277,115. Thus, 2015 employment figures in the 13 sectors account for approximately 86% of annual average employment in the Baltimore region. In addition, there is some overlap among sectors among both total jobs in the 13 sectors in 2015 and mid-skill jobs in those sectors. For example, some bioscience jobs are related to manufacturing, so those jobs are included in both the biosciences and manufacturing sectors. Approximately 10% of jobs overlap sectors while 11% of mid-skill jobs fall into multiple sectors.

2015 BALTIMORE REGION INCOME ESTIMATES BY EDUCATIONAL ATTAINMENT BY JURISDICTION
In United States Dollars

	Less than High School Diploma	High School Diploma	Some College/ Associate's Degree	Bachelor's Degree	Graduate/ Professional Degree
Anne Arundel County	$27,268	$39,007	$45,630	$64,602	$86,282
Baltimore County	$21,863	$36,576	$40,816	$57,725	$70,057
Baltimore City	$23,890	$28,623	$31,800	$52,287	$61,537
Carroll County	$25,301	$41,437	$41,445	$62,231	$75,036
Harford County	$27,943	$35,704	$42,542	$57,764	$75,839
Howard County	$28,372	$40,007	$45,103	$68,546	$91,338

FIGURE C-5 source: 2015 American Community Survey 1-Year Estimates, Median Earnings in the Past 12 Months

2015 BALTIMORE REGION INCOME ESTIMATES BY EDUCATIONAL ATTAINMENT
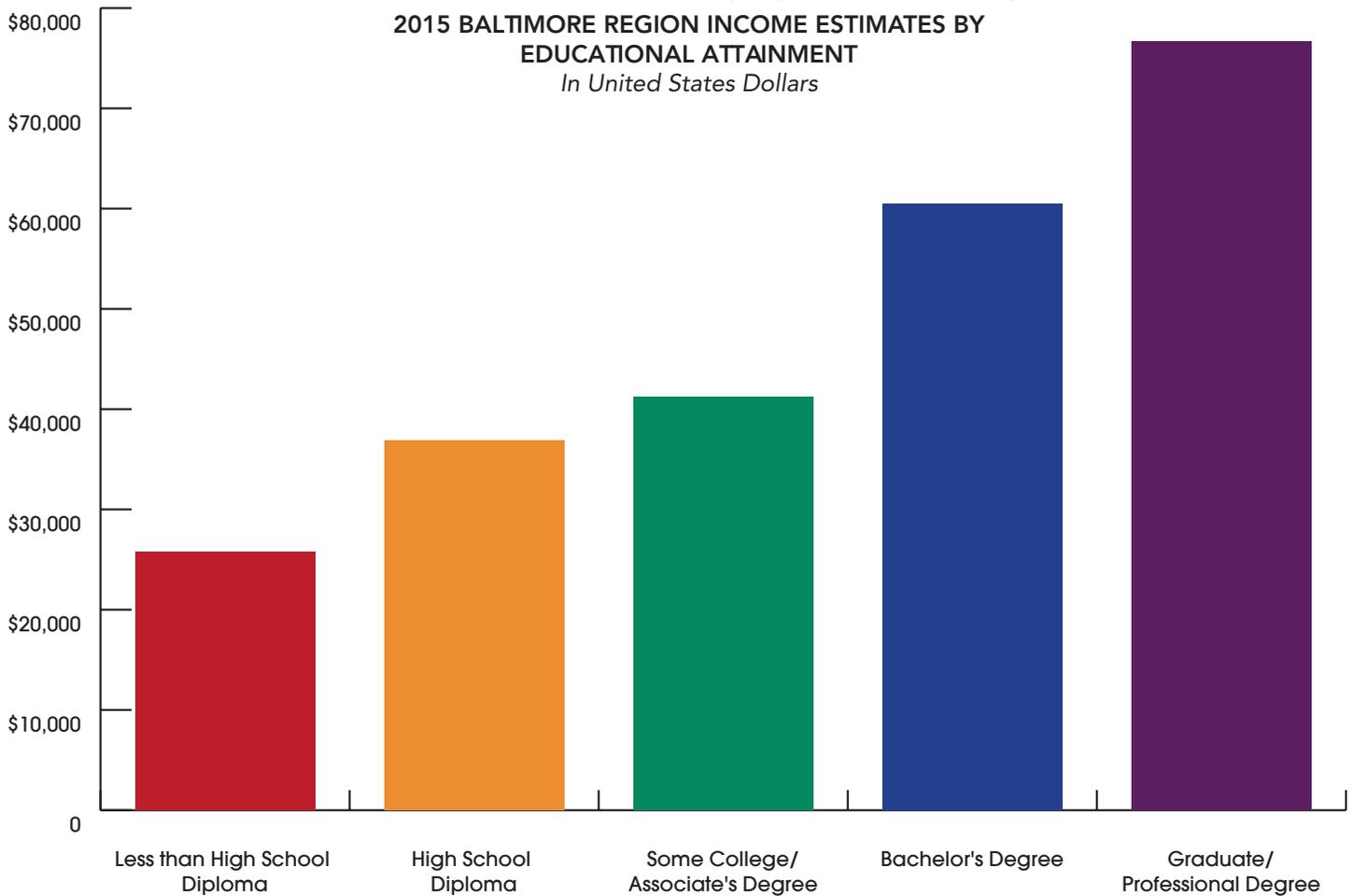### In United States Dollars

FIGURE C-6 source: 2015 American Community Survey 1-Year Estimates, B20004: Median Earnings in the Past 12 Months

PEER COMPARISON: 2015 EDUCATIONAL ATTAINMENT ESTIMATES
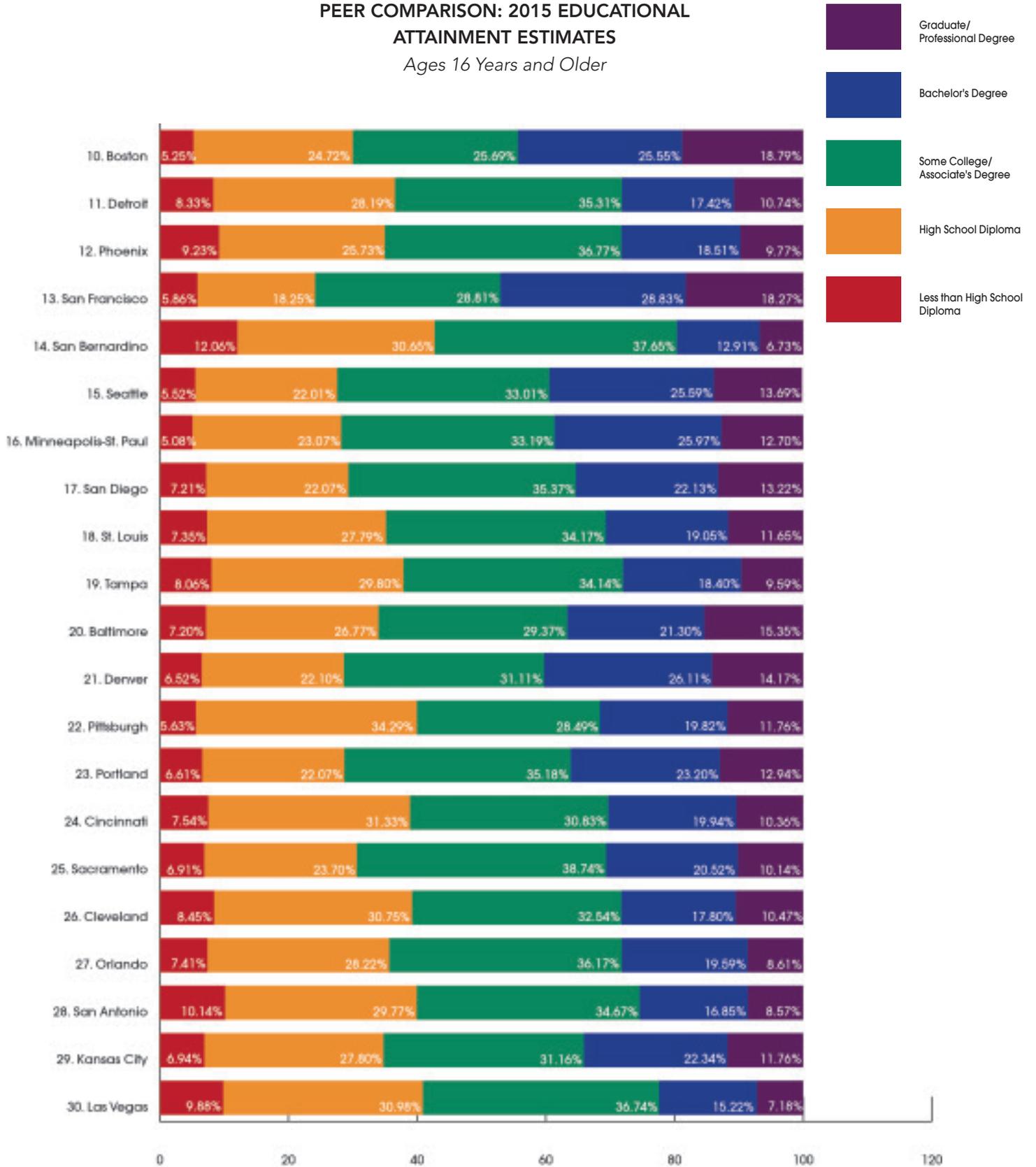*Ages 16 Years and Older*

Legend:
- Graduate/ Professional Degree
- Bachelor's Degree
- Some College/ Associate's Degree
- High School Diploma
- Less than High School Diploma

City	Less than HS	HS Diploma	Some College	Bachelor's	Graduate
10. Boston	5.25%	24.72%	25.69%	25.55%	18.79%
11. Detroit	8.33%	28.19%	35.31%	17.42%	10.74%
12. Phoenix	9.23%	25.73%	36.77%	18.51%	9.77%
13. San Francisco	5.86%	18.25%	28.81%	28.83%	18.27%
14. San Bernardino	12.06%	30.65%	37.65%	12.91%	6.73%
15. Seattle	5.52%	22.01%	33.01%	25.59%	13.69%
16. Minneapolis-St. Paul	5.08%	23.07%	33.19%	25.97%	12.70%
17. San Diego	7.21%	22.07%	35.37%	22.13%	13.22%
18. St. Louis	7.35%	27.79%	34.17%	19.05%	11.65%
19. Tampa	8.06%	29.80%	34.14%	18.40%	9.59%
20. Baltimore	7.20%	26.77%	29.37%	21.30%	15.35%
21. Denver	6.52%	22.10%	31.11%	26.11%	14.17%
22. Pittsburgh	5.63%	34.29%	28.49%	19.82%	11.76%
23. Portland	6.61%	22.07%	35.18%	23.20%	12.94%
24. Cincinnati	7.54%	31.33%	30.83%	19.94%	10.36%
25. Sacramento	6.91%	23.70%	38.74%	20.52%	10.14%
26. Cleveland	8.45%	30.75%	32.54%	17.80%	10.47%
27. Orlando	7.41%	28.22%	36.17%	19.59%	8.61%
28. San Antonio	10.14%	29.77%	34.67%	16.85%	8.57%
29. Kansas City	6.94%	27.80%	31.16%	22.34%	11.76%
30. Las Vegas	9.88%	30.98%	36.74%	15.22%	7.18%

FIGURE C-7 source: 2015 American Community Survey 1-Year Estimates, S1501: Educational Attainment

2015 BALTIMORE REGION LABOR FORCE VERSUS EMPLOYED POPULATION BY AGE
Ages 16 Years or Older
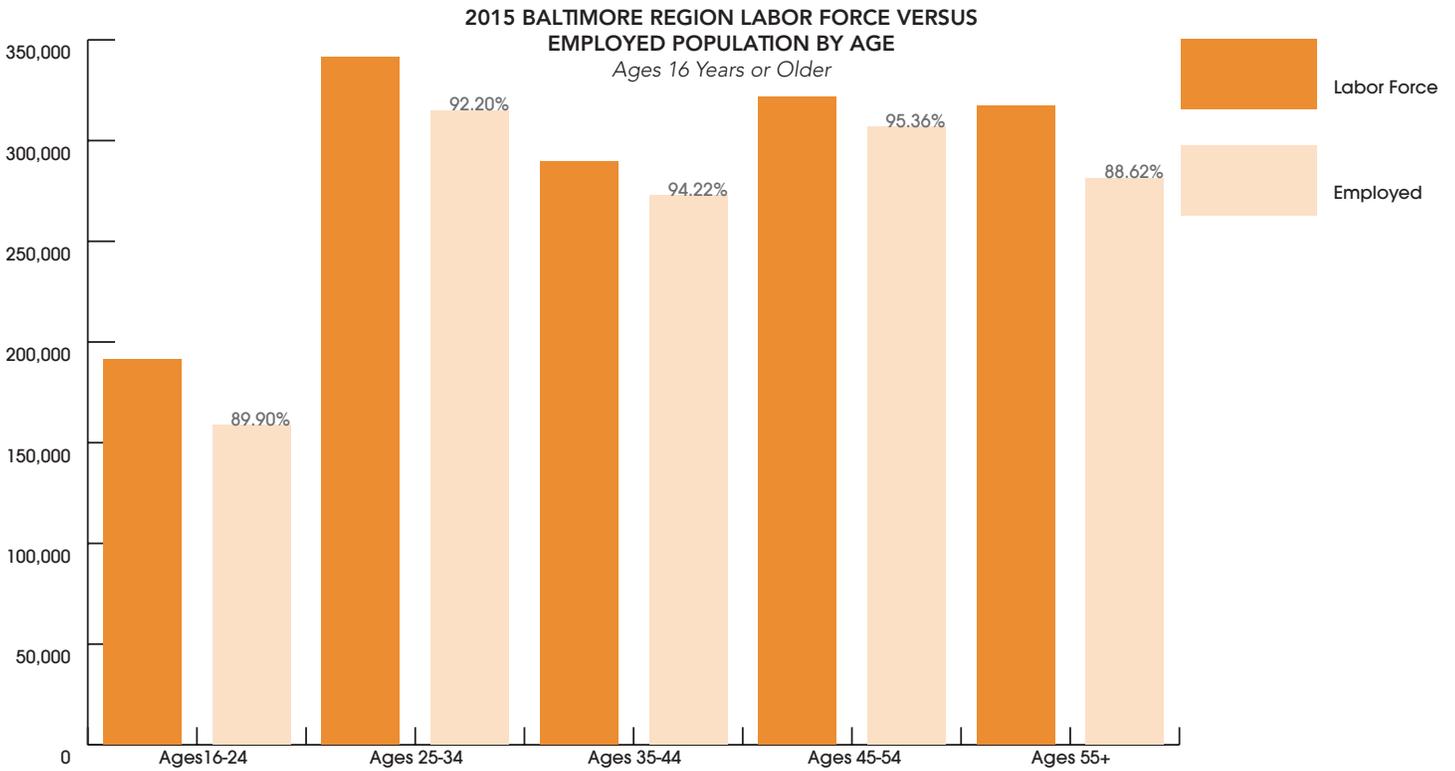
FIGURE C-8 source: 2015 American Community Survey 1-Year Estimates, Sex and Age by Employment Status for the Population 16 Years and Over
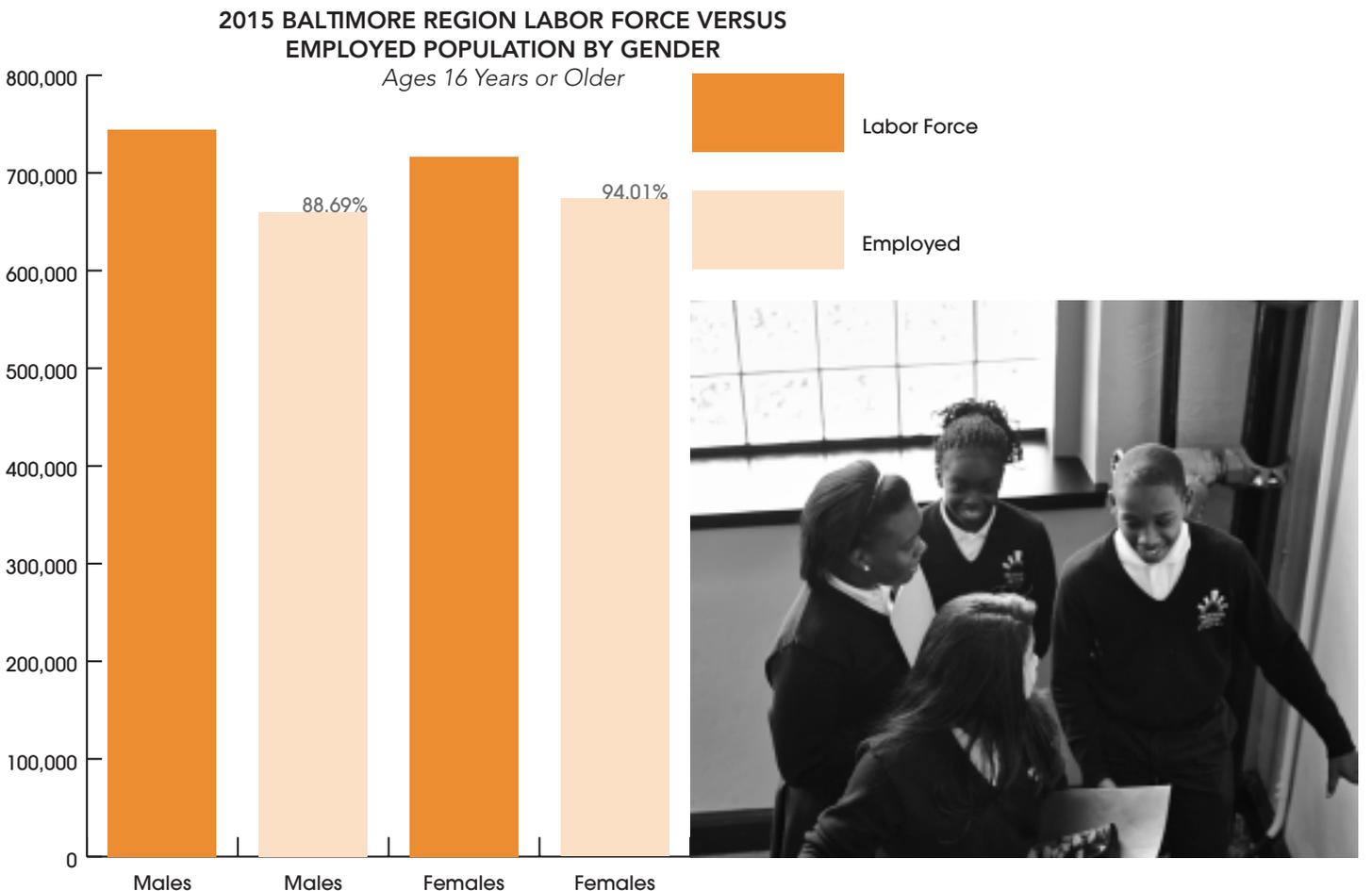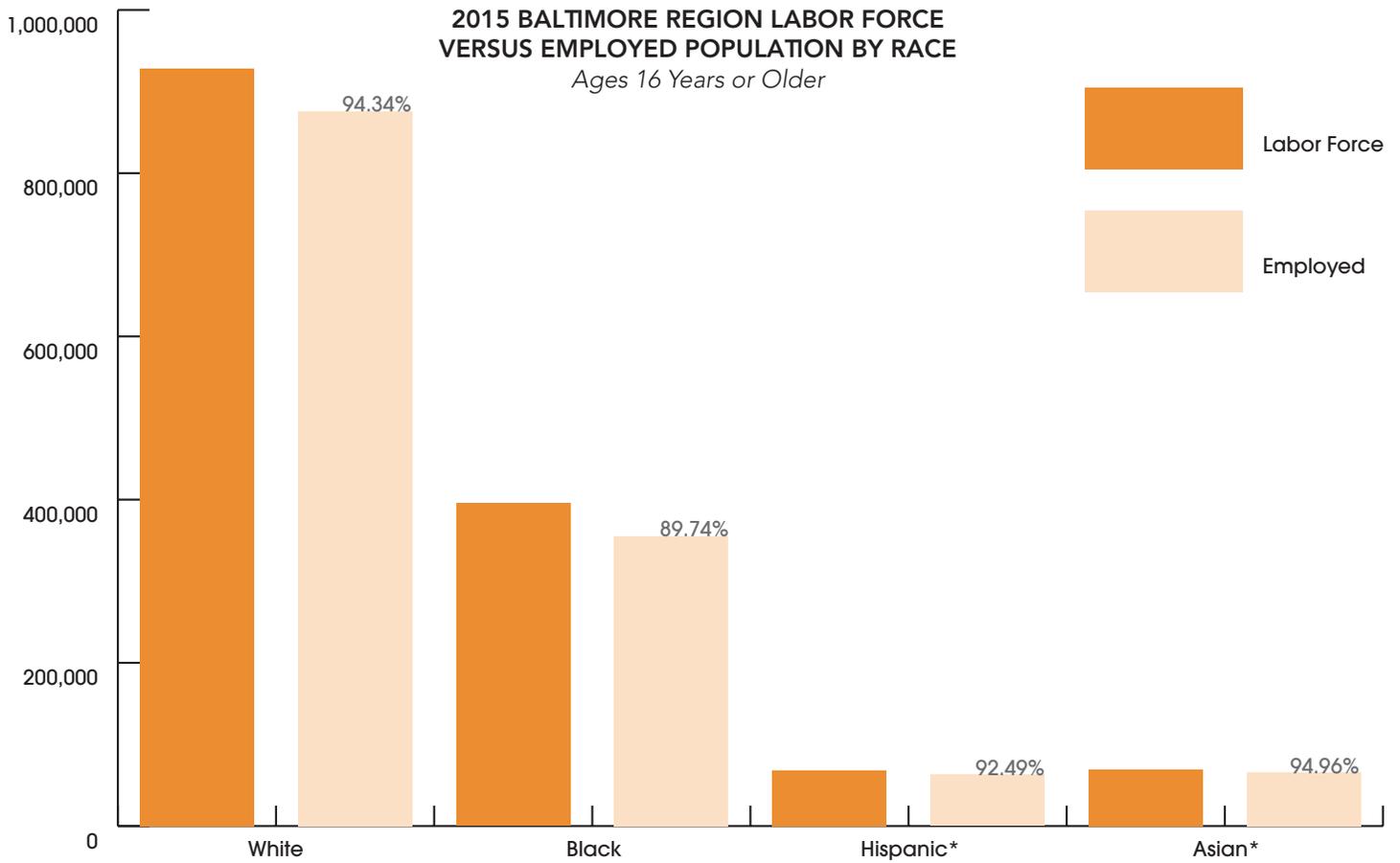
2015 BALTIMORE REGION LABOR FORCE VERSUS EMPLOYED POPULATION BY GENDER
Ages 16 Years or Older

FIGURE C-9 source: 2015 American Community Survey 1-Year Estimates, Sex and Age by Employment Status for the Population 16 Years and Over; Photo: Baltimore Meetropolitan Council

2015 BALTIMORE REGION LABOR FORCE VERSUS EMPLOYED POPULATION BY RACE
Ages 16 Years or Older

Legend:
- Labor Force
- Employed

Chart data labels: White 94.34%, Black 89.74%, Hispanic* 92.49%, Asian* 94.96%

FIGURE C-10 source: 2015 American Community Survey 1-Year Estimates, Selected Population Profile in the United States
*Sample sizes for Hispanic and Asian populations were not large enough in some jurisdictions to be counted.

Photo: Baltimore Metropolitan Council

How does the Baltimore region travel?

Maintaining a strong transportation network is imperative for the Baltimore region to support its large population and growing economy.

Residents lead regional lives – making their home in one jurisdiction and working in another. For example, 59.2 percent of those working in Howard County reside elsewhere, while 56.6 percent of the people employed in Baltimore City commute into the metropolis. By comparison, 71.7 percent of those employed in Harford County and 70.7 percent of those employed in Carroll County also are residents. These commuting patterns give rise to infrastructure needs and, consequently, traffic congestion.

Many of our region's residents rely upon public transit to connect to work and services. In Fiscal Year 2016, around 6.32 million residents utilized Maryland Transit Authority (MTA) bus services on a monthly basis. This is about twice as many as all other MTA transit options combined.

Still, the Baltimore region travels overwhelmingly by personal vehicles. Excluding MTA modes, residents in Carroll and Harford counties, by share of population, choose single-occupancy vehicles (SOVs) at the greatest frequency - 83.9 and 83.6 percent, respectively. Twenty-four percent of Baltimore City residents and 26.6 percent of Baltimore County residents choose to carpool, or travel by high-occupancy vehicles (HOVs), as the preferred mode of transportation.

Maintaining the region's network of roadways is an important responsibility shared by state and local government. Baltimore Anne Arundel counties top the region in total miles of locally maintained roads with 2,687.88 and 1,869.30, respectively. However, Baltimore City and Baltimore County maintain the largest share of total road miles in their jurisdictions at 98.25 percent and 86.97 percent, respectively.

Finally, the average commute time for residents of the Baltimore region is 30.6 minutes, which is the fourth lengthiest commute when compared to its peers across the U.S. This commute time puts the Baltimore region on par with the much more populous regions of San Francisco (33.2 minutes), San Bernardino (31.9 minutes), Boston (31.6 minutes) and Seattle (30.2 minutes). ■
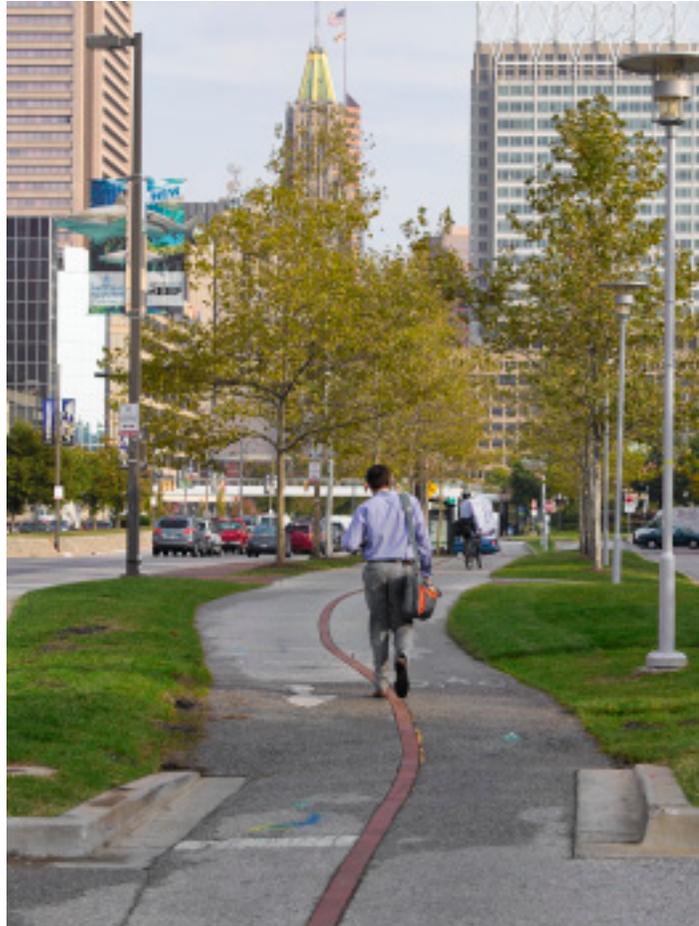
HOME VERSUS WORK DESTINATIONS BY JURISDICTION, 2009-2013

	Commuting into the jurisdiction	Commuting out of the jurisdiction	Residents who work in own jurisdiction	Percent of jurisdiction jobs held by residents	Percent of jurisdiction jobs held by non-residents
Anne Arundel County	111,118	119,729	159,848	59.0%	41.0%
Baltimore City	207,012	104,190	158,909	43.4%	56.6%
Baltimore County	149,230	199,989	201,173	57.4%	42.6%
Carroll County	16,325	46,926	39,440	70.7%	29.3%
Harford County	26,820	57,305	67,827	71.7%	28.3%
Howard County	91,456	93,472	63,149	40.8%	59.2%

FIGURE D-1 source: Prepared by the Maryland Department of Planning, from 2009 to 2013 American Community Survey, September, 2015
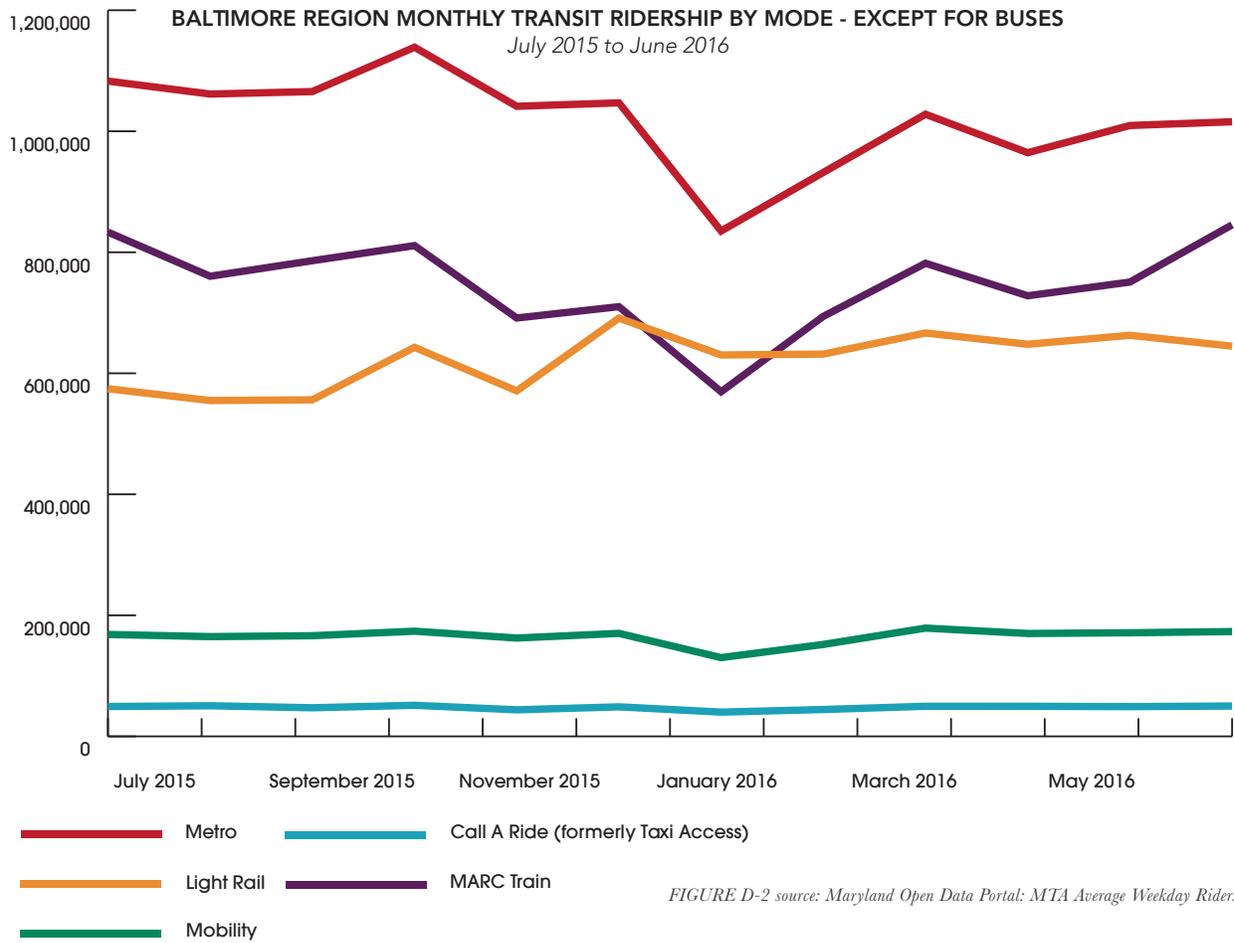
BALTIMORE REGION MONTHLY TRANSIT RIDERSHIP BY MODE - EXCEPT FOR BUSES
July 2015 to June 2016

Metro
Light Rail
Mobility
Call A Ride (formerly Taxi Access)
MARC Train

FIGURE D-2 source: Maryland Open Data Portal: MTA Average Weekday Ridership by Month

BALTIMORE REGION MONTHLY TRANSIT RIDERSHIP BY MODE - BUS
July 2015 to June 2016

Bus
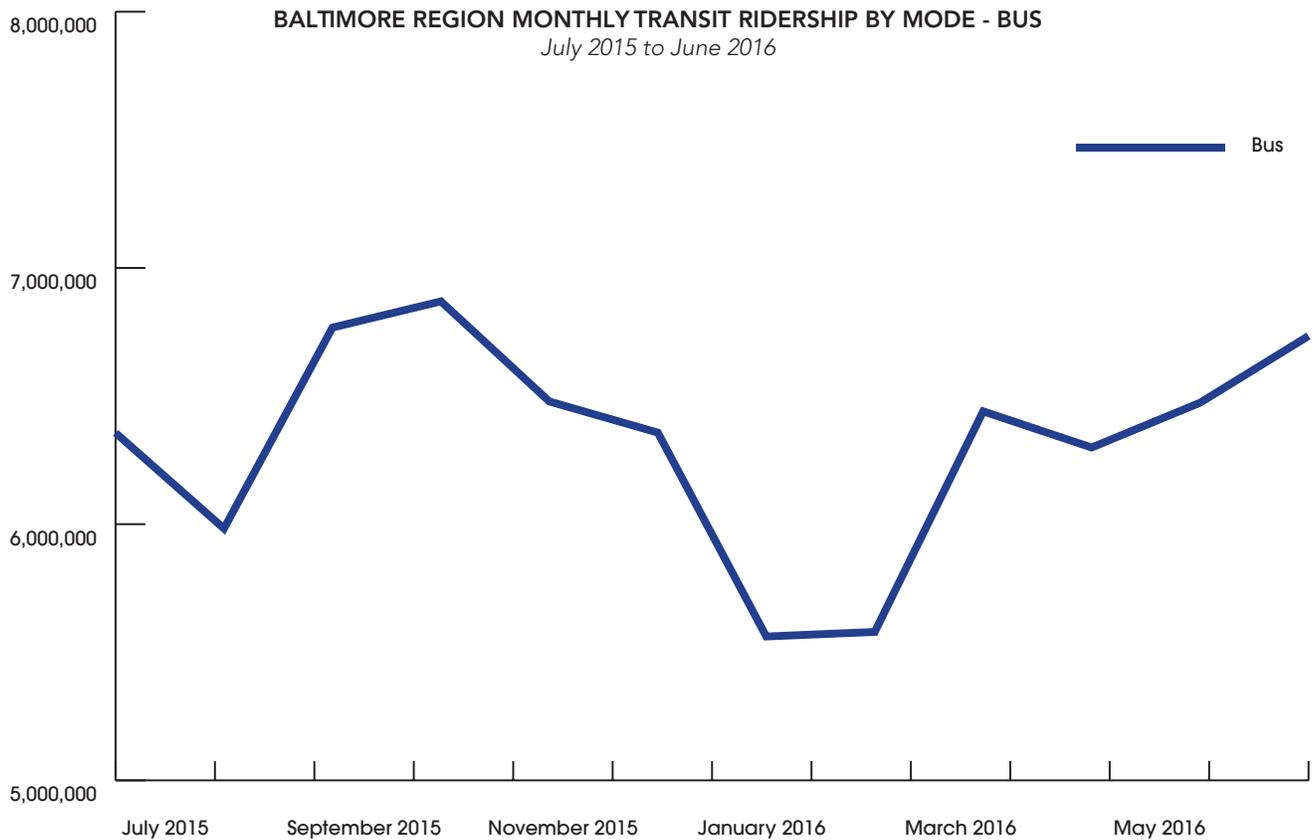
FIGURE D-3 source: Maryland Transit Administration

2015 TRANSPORTATION MODE CHOICE BY JURISDICTION
Excluding MTA

	Single Occupancy Vehicle	High Occupancy Vehicle	Locally Operated Transit	Amtrak	Non-Motorized	Work from Home	Other
Anne Arundel County	226,535	23,849	6,747	3,142	5,129	13,082	2,214
Baltimore City	158,963	26,825	44,003	2,993	19,961	7,182	2,056
Baltimore County	316,022	39,669	16,299	2,868	8,694	13,207	3,386
Carroll County	73,122	7,631	787	61	1,147	4,113	295
Harford County	105,160	12,048	999	631	1,619	4,471	802
Howard County	127,218	11,507	3,926	1,996	1,785	9,566	1,031

(Above) FIGURE D-4 source: 2009-2013 American Community Survey 1-Year Estimates

(Right) FIGURE D-5 source: Maryland Department of Transportation - State Highway Administration Office of Preliminary Engineering, Data Services Engineering Division
*Local roads include both county and municipal.
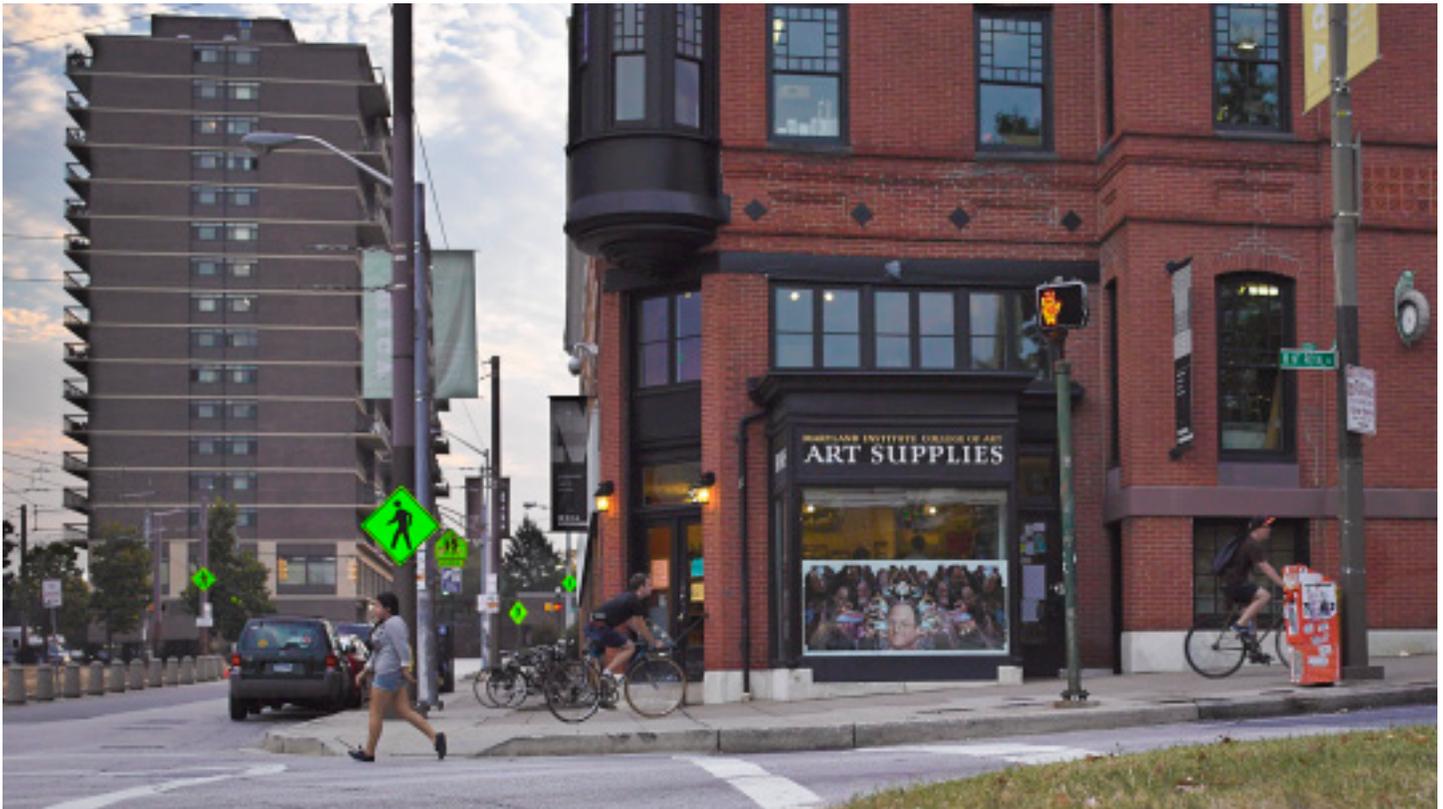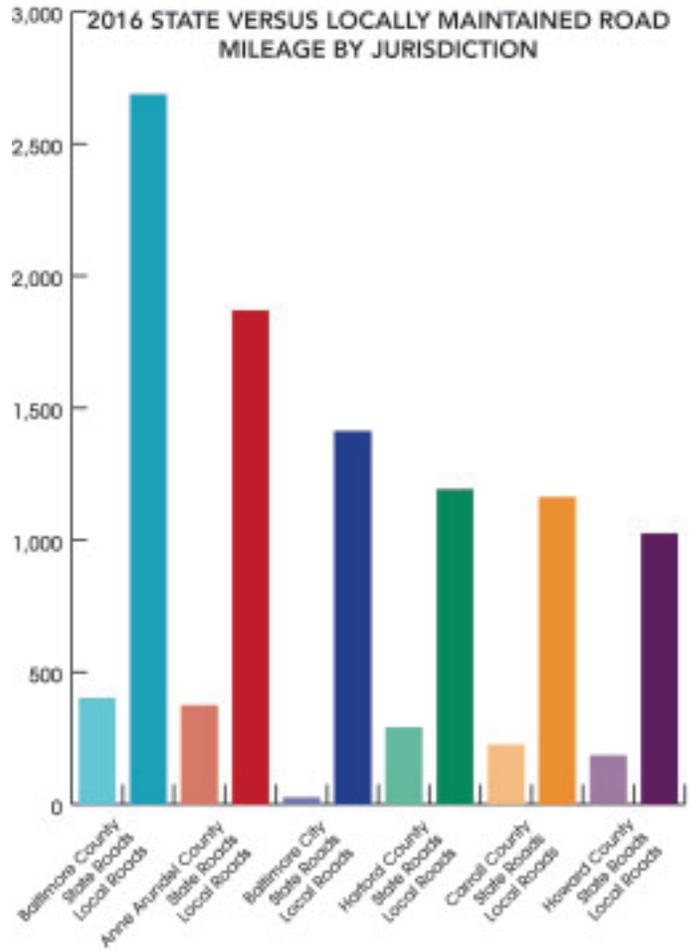
PEER COMPARISON: 2015 AVERAGE COMMUTE TIME*

2010 Population Rank	Region	Average Travel Time to Work
13.	San Francisco	33.2 minutes
14.	San Bernardino	31.9 minutes
10.	Boston	31.6 minutes
20.	Baltimore*	30.6 minutes
15.	Seattle	30.2 minutes
27.	Orlando	27.9 minutes
21.	Denver	27.7 minutes
25.	Sacramento	26.9 minutes
11.	Detroit	26.6 minutes
22.	Pittsburgh	26.6 minutes
23.	Portland	26.6 minutes
19.	Tampa	26.4 minutes
28.	San Antonio	26.4 minutes
12.	Phoenix	26.2 minutes
17.	San Diego	26.1 minutes
18.	St. Louis	25.6 minutes
16.	Minneapolis-St. Paul	25.4 minutes
30.	Las Vegas	25.0 minutes
24.	Cincinnati	24.9 minutes
26.	Cleveland	24.7 minutes
29.	Kansas City	22.8 minutes

FIGURE D-6 source: 2015 American Community Survey 1-Year Estimates

How does the Baltimore region ensure a healthy environment?

A clean and healthy environment is of the utmost importance to the Baltimore region's quality of life, particularly when it comes to air quality and access to a safe water supply.

Since 1980, the region has made marked gains in reducing the number of bad ozone days, measured as days in which air pollutants exceed 70 parts per billion. In the last five years alone, the region reduced its recorded bad ozone days from 35 in 2011 to 15 in 2015. The Baltimore region ranked seventh for bad ozone days when compared to its peers throughout the U.S. in 2015. So while it pales in comparison to San Bernardino's 123 bad ozone days last year, the Baltimore region experienced 14 more recorded days than Minneapolis-St. Paul, Tampa and Orlando.

High ozone levels can trigger asthmatic episodes and affect people with decreased breathing capacity. In 2014, the number of residents in the Baltimore region experiencing asthma dropped

below 400,000 after an increase from approximately 375,000 in 2011 to approximately 425,000 in 2013.

Ensuring clean drinking water for households requires close monitoring of our regional reservoir watersheds. The largest of these watersheds is the Loch Raven Reservoir, which exceeds 130,000 acres in Baltimore County and small parts of Harford and Carroll counties, as well as York County, Pennsylvania. The Liberty Reservoir is the second largest watershed for public drinking water in the region at more than 100,000 acres, and spans large parts of Carroll and Baltimore counties.

Maintaining the health of the Chesapeake Bay also is vital to the quality of the region's environment. Suspended sediment in the Bay decreased from around 2.1 million tons in 1990 to approximately 1.5 million in 2015. In 2011, the Bay experienced a spike in sediment, reaching almost 27.5 million tons as a result of heavy rainfall in the Susquehanna River Basin. ■
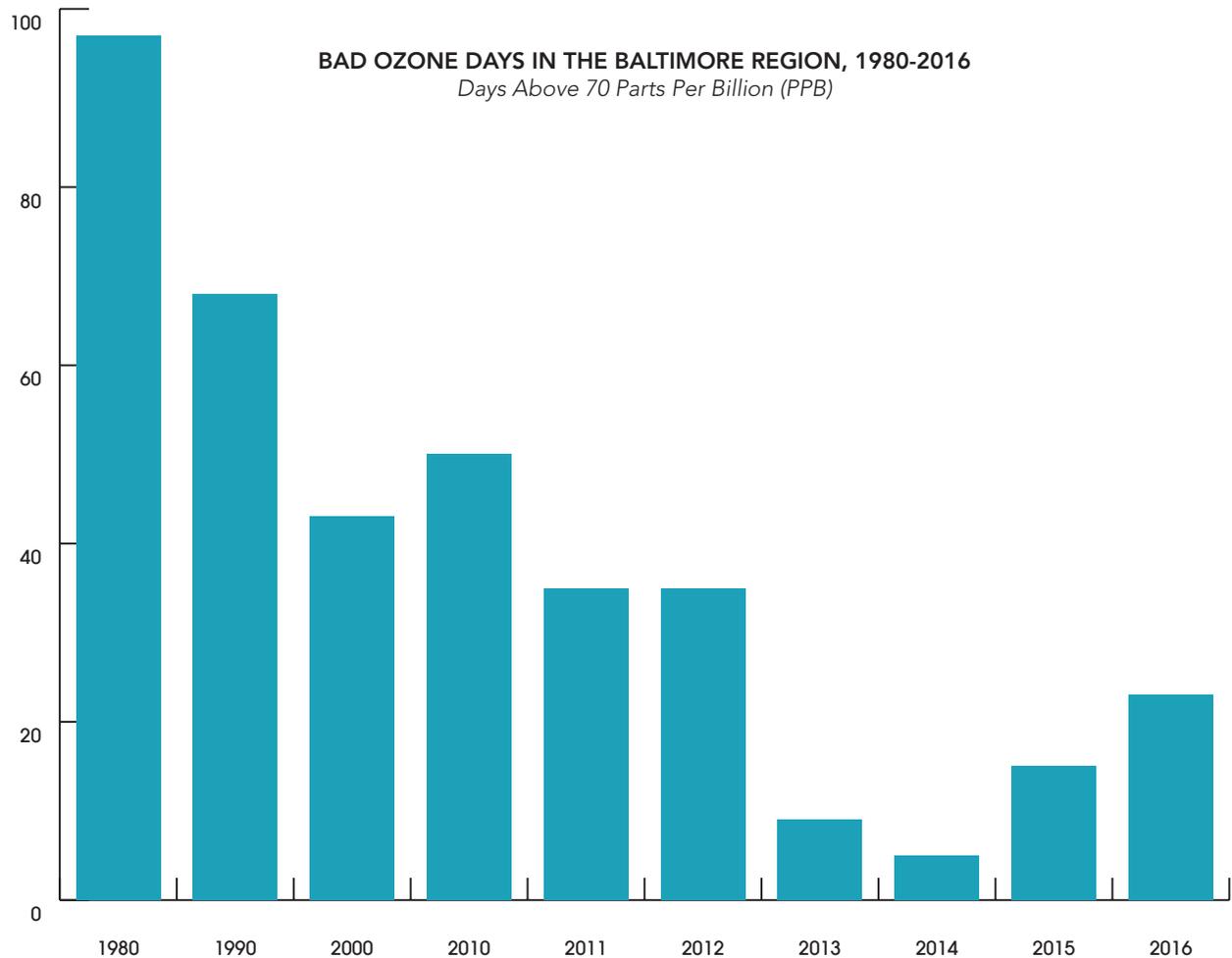

BAD OZONE DAYS IN THE BALTIMORE REGION, 1980-2016
Days Above 70 Parts Per Billion (PPB)

FIGURE E-1 source: U.S. Environmental Protection Agency. Air Quality System Data Mart (Internet database) available at https://www.epa.gov/airdata. Accessed December 2016.
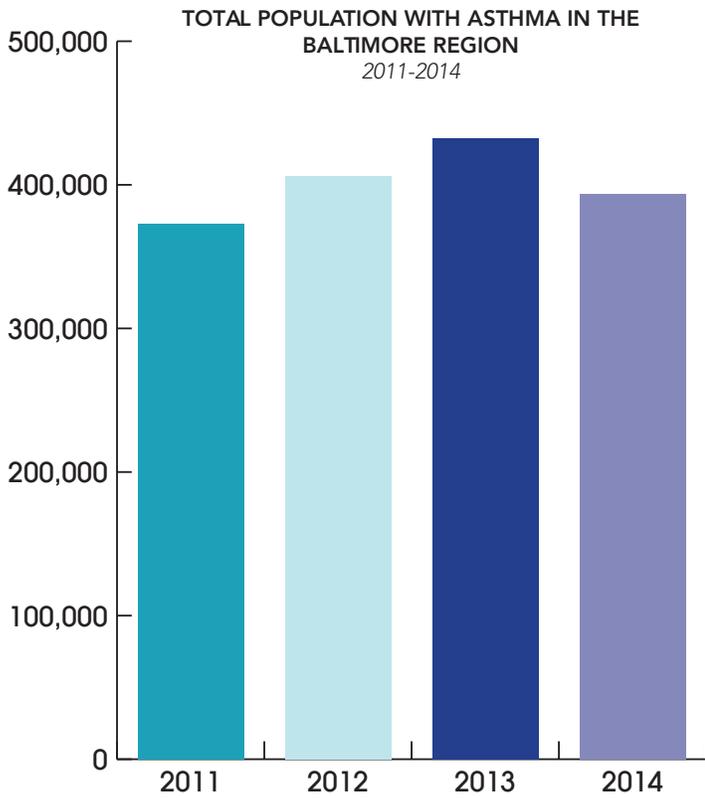
TOTAL POPULATION WITH ASTHMA IN THE BALTIMORE REGION
2011-2014

TOTAL ACREAGE IN RESERVOIR WATERSHED IN THE BALTIMORE REGION

ANNUAL SUSPENDED SEDIMENT IN THE CHESAPEAKE BAY, 1990-2015
Tons of Sediment per Year
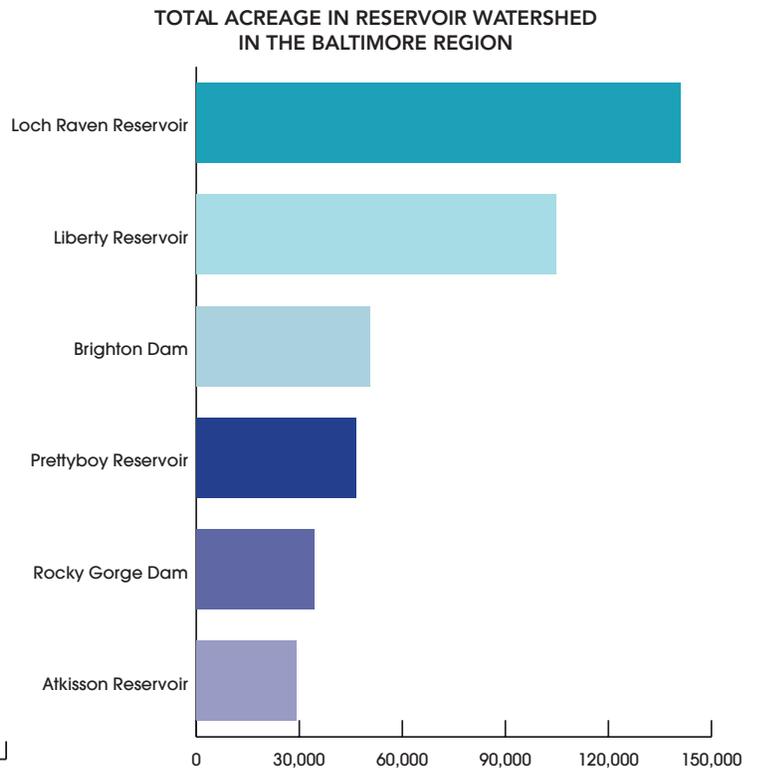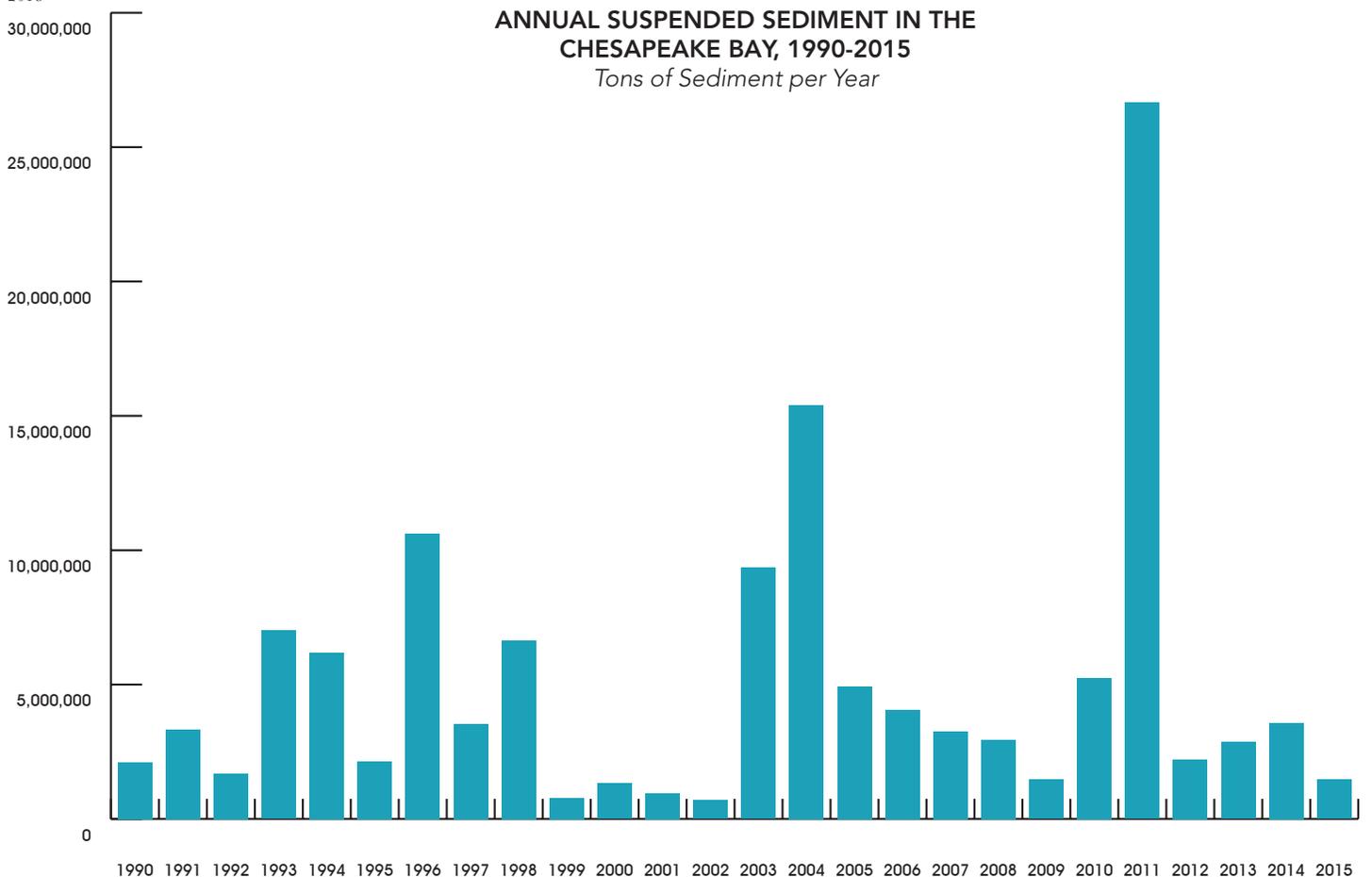
2015 TOTAL RAW WATER WITHDRAWS FROM RESERVOIRS IN THE BALTIMORE REGION

	Total used in 100 cf units	Change from previous year in 100 cf units	Consumptive use (mgd)	Percentage Total
Anne Arundel County	1,529,243	+831,546	3.13	2%
Baltimore City	33,734,376	+5,009,096	69.13	43%
Baltimore County	29,501,073	+1,878,667	60.46	37.6%
Carroll County	992,246	+41,552	2.03	1.3%
Harford County	3,396,577	-215,535	6.97	4.3%
Howard County	9,320,079	+98,942	19.10	11.8%
TOTAL	78,473,894	+7,644,278	160.82	100

FIGURE E-5 source: City Department of Public Works

Photo: Stock Image

PEER COMPARISON: 2015 BAD OZONE DAYS*
Days Above 70 PPB

2010 Population Rank	Region	
14.	San Bernardino	123
25.	Sacramento	36
12.	Phoenix	35
17.	San Diego	35
21.	Denver	22
30.	Las Vegas	21
20.	Baltimore*	15
22.	Pittsburgh	15
28.	San Antonio	14
11.	Detroit	12
13.	San Francisco	10
26.	Cleveland	10
18.	St. Louis	9
24.	Cincinnati	9
15.	Seattle	5
10.	Boston	4
29.	Kansas City	3
23.	Portland	2
16.	Minneapolis-St. Paul	1
19.	Tampa	1
27.	Orlando	1
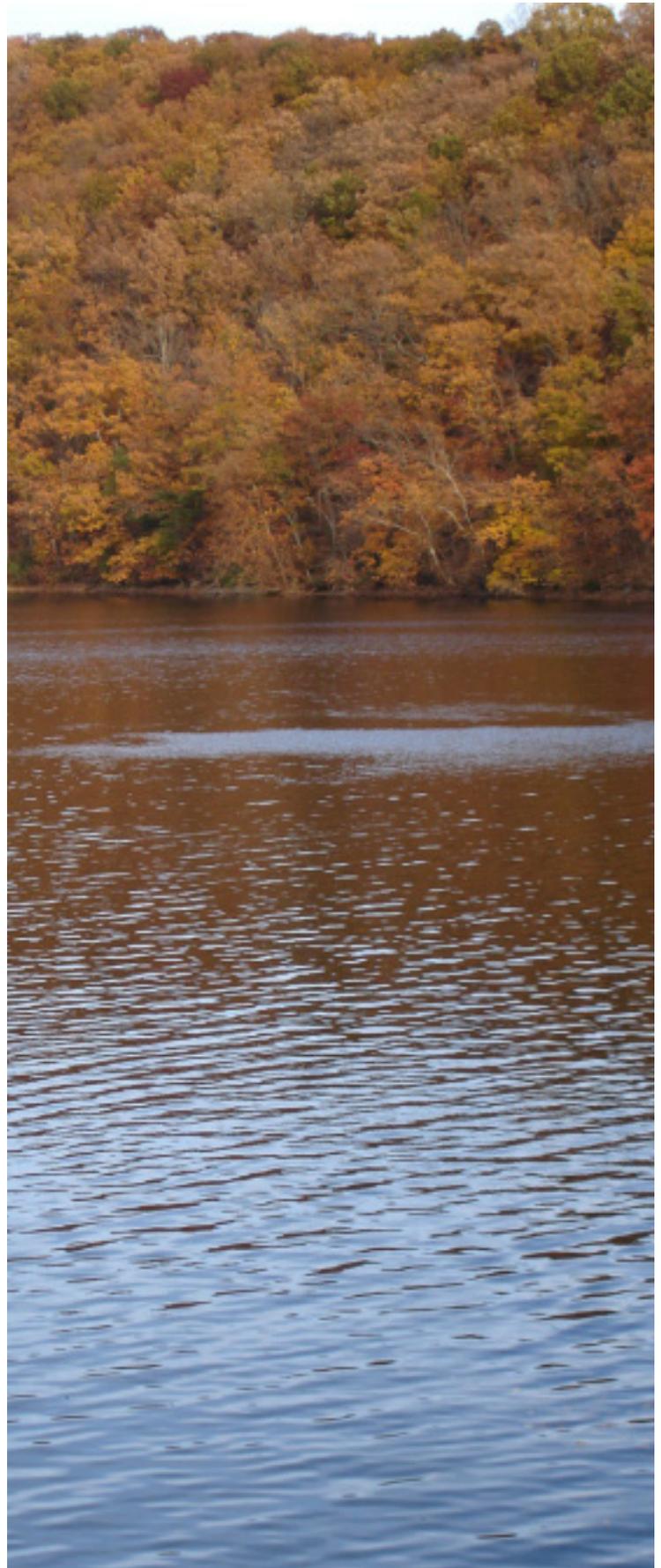
FIGURE E-1 source: U.S. Environmental Protection Agency. Air Quality System Data Mart (Internet database) available at https://www.epa.gov/airdata. Accessed December 2016; Photo: BMC.

What does 'home' look like in the Baltimore region?

Like most metropolitan regions, Baltimore enjoys a wide range of housing options, from affordable urban living to luxury suburban communities and rural homesteads.

However, the Great Recession and collapse of the housing market in 2007, caused an increase in foreclosures. Three events often used to measure foreclosure activity are defaults, auction sales and new Real Estate Owned (REO) properties. A default occurs when a home owner is several months behind on their mortgage payment. An auction sale occurs when a court authorizes the sale of a property in foreclosure and REO properties refer to properties that have been acquired by a lender as a result of a foreclosure.

Since 2008 the number of defaults in the Baltimore region have fluctuated significantly, with spikes in the middle of 2013 and early 2014, but decreased significantly during the last two years. However, the number of quarterly auctions and properties becoming Real Estate Owned (REO) have increased steadily since 2012.

At the height of the real estate bubble in 2007, the average value of a single family home in the Baltimore region was approximately $253,800. By 2012, they fell to around $232,300, which was the same as it was in early 2005. In the last four years, single family home values continue to recover.
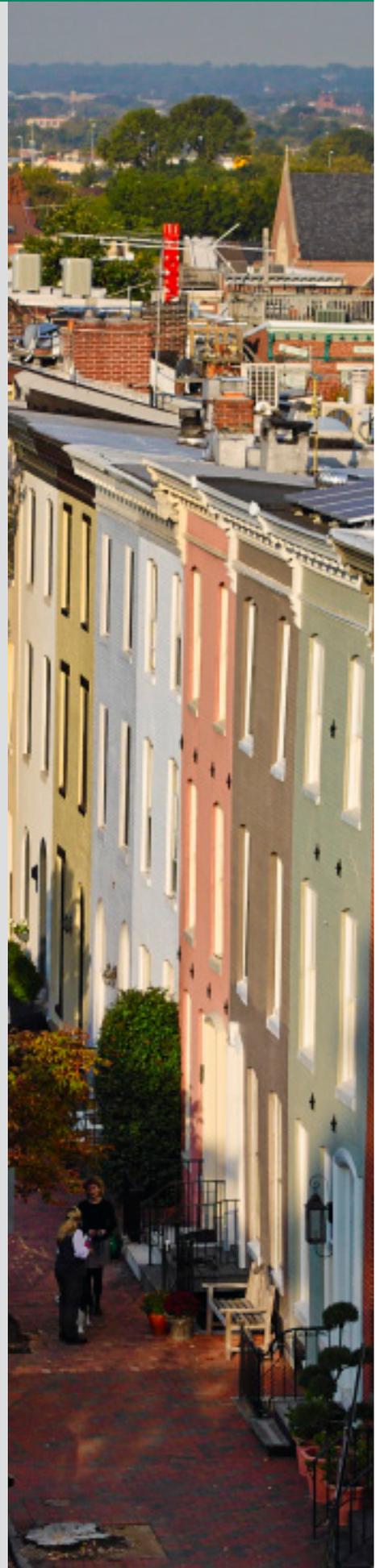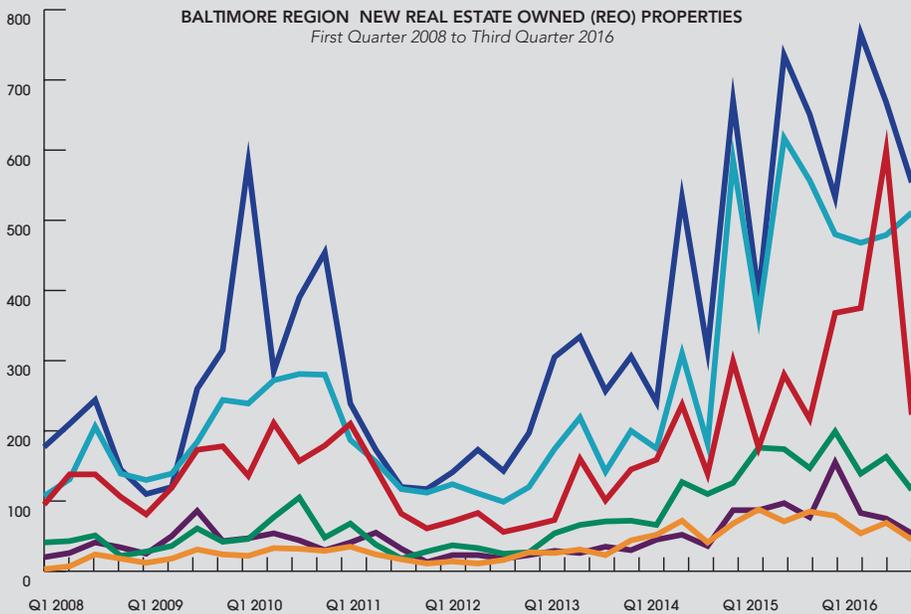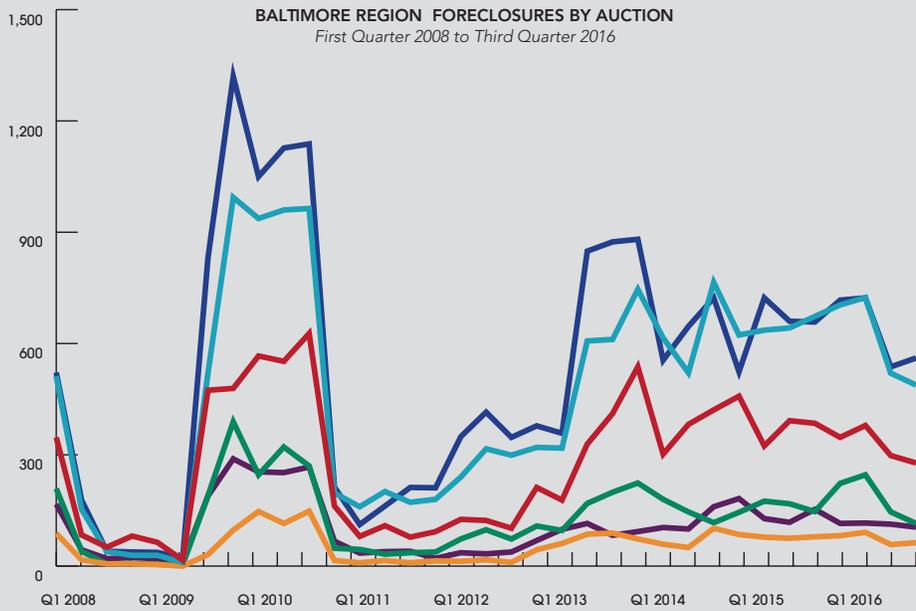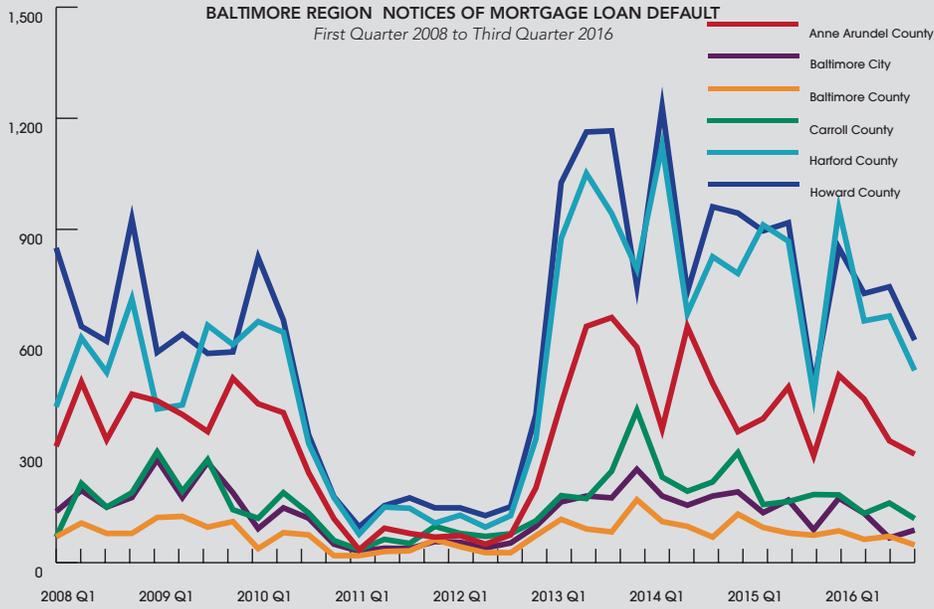
As of September 2016, the average value of a single family home in the Baltimore region was $261,500. However, Baltimore lagged significantly behind the home value growth of its peers during the last four years. With a 12.52 percent increase in average value, it ranked second to last among its peers, beating out only Cleveland (11.28 percent).
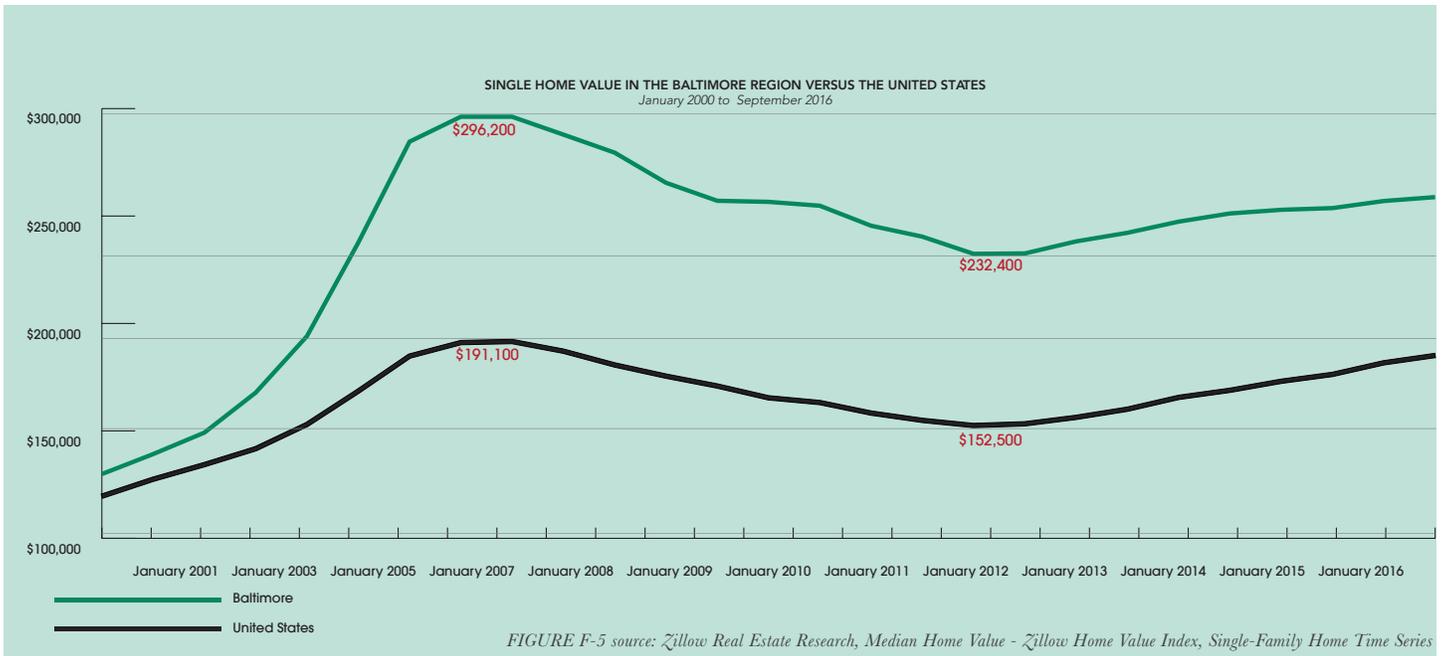
For another measure of regional affordability, we can compare the average monthly cost to rent a two-bedroom apartment. Relative to its peers, Baltimore ranked 5th most expensive at around $1,376 per month. Baltimore is also significantly higher cost than six of its larger population peers, including Detroit and Phoenix, which each averaged approximately $1,000 per month.

■

RESIDENTIAL UNITS PERMITTED FOR CONSTRUCTION IN THE BALTIMORE REGION
Fiscal Years 2001-2016

Legend:
- Anne Arundel County
- Baltimore City
- Baltimore County
- Carroll County
- Harford County
- Howard County
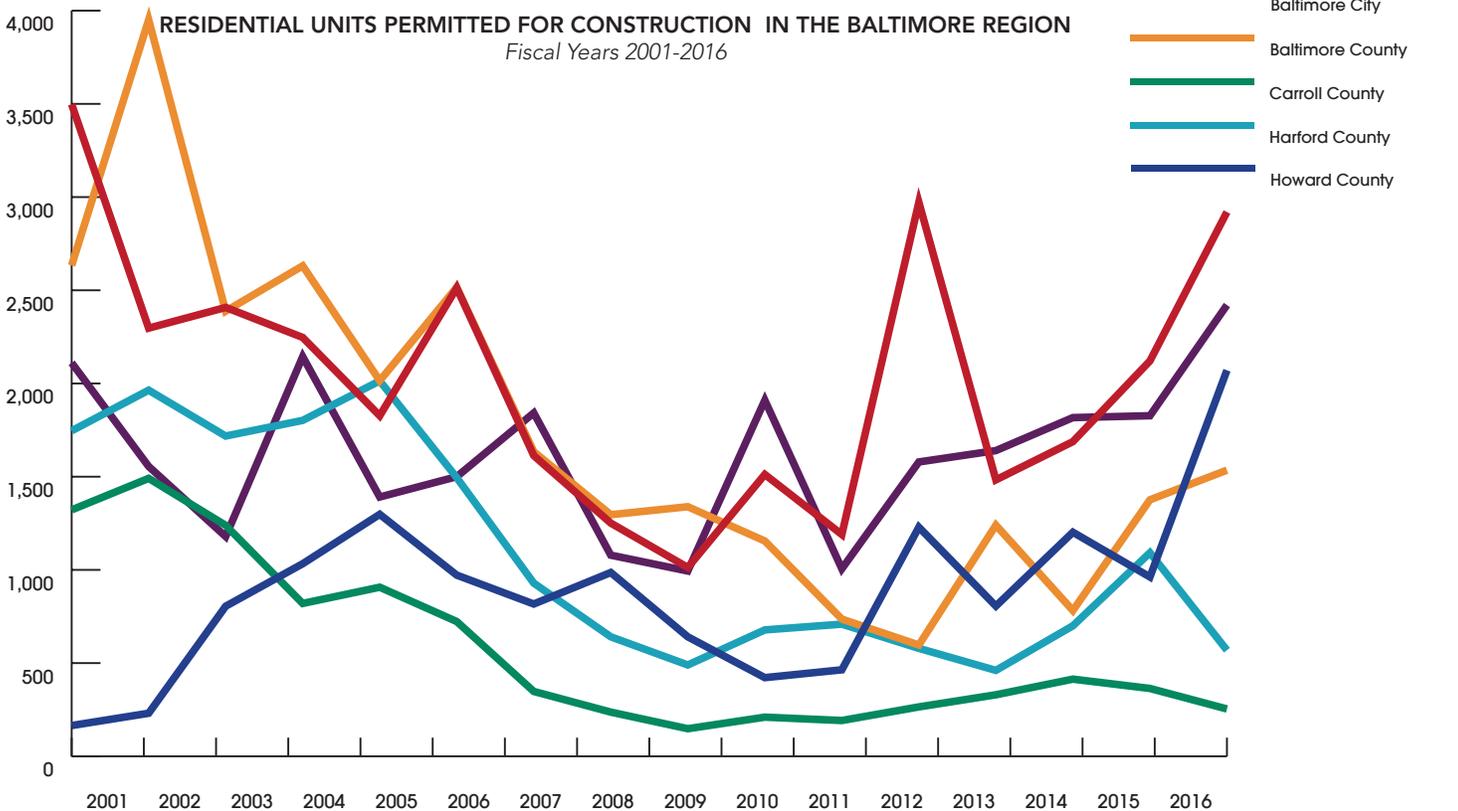
(Page 33) FIGURES F-1, F-2 and F-3 source: Maryland Department of Housing and Community Development Housing and Economic Research Office (HERO); (Above) FIGURE F-4 source: Baltimore Metropolitan Council Building Permit Data System

FORECLOSURE EVENTS IN THREE STEPS

BALTIMORE REGION NOTICES OF MORTGAGE LOAN DEFAULT
First Quarter 2008 to Third Quarter 2016

Legend:
- Anne Arundel County
- Baltimore City
- Baltimore County
- Carroll County
- Harford County
- Howard County

BALTIMORE REGION FORECLOSURES BY AUCTION
First Quarter 2008 to Third Quarter 2016

BALTIMORE REGION NEW REAL ESTATE OWNED (REO) PROPERTIES
First Quarter 2008 to Third Quarter 2016

SINGLE HOME VALUE IN THE BALTIMORE REGION VERSUS THE UNITED STATES
January 2000 to September 2016

FIGURE F-5 source: Zillow Real Estate Research, Median Home Value - Zillow Home Value Index, Single-Family Home Time Series

PEER COMPARISON: SINGLE HOME VALUE
January 2012 to September 2016
In United States Dollars

2010 Population Rank	Region	January 2012	January 2013	January 2014	January 2015	September 2016	Percentage Change
30.	Las Vegas	$128,300	$144,400	$188,500	$202,500	$229,400	78.80%
14.	San Bernardino	$189,200	$207,200	$262,600	$287,200	$322,700	70.56%
13.	San Francisco	$506,200	$556,400	$680,400	$740,200	$851,800	68.27%
11.	Detroit	$75,400	$81,800	$98,900	$111,900	$126,000	67.11%
12.	Phoenix	$141,800	$168,800	$202,500	$211,400	$236,300	66.64%
25.	Sacramento	$214,200	$236,200	$293,300	$317,200	$354,600	65.55%
21.	Denver	$231,600	$249,900	$277,000	$307,900	$368,900	59.28%
23.	Portland	$223,200	$236,800	$263,600	$285,400	$353,700	58.47%
27.	Orlando	$134,000	$145,400	$171,300	$181,100	$207,400	54.78%
19.	Tampa	$119,000	$126,400	$48,000	$158,400	$184,100	54.71%
15.	Seattle	$277,400	$291,900	$329,800	$351,200	$418,100	50.72%
17.	San Diego	$369,300	$406,800	$476,800	$508,900	$554,000	50.01%
16.	Minneapolis-St. Paul	$178,700	$191,600	$212,600	$220,200	$240,800	34.75%
10.	Boston	$329,600	$338,900	$364,500	$384,800	$415,300	26.00%
28.	San Antonio	$125,400	$126,800	$132,800	$139,000	$155,000	23.60%
22.	Pittsburgh	$111,900	$113,700	$117,800	$122,800	$131,600	17.61%
24.	Cincinnati	$131,600	$131,500	$132,000	$137,900	$150,300	14.21%
29.	Kansas City	$133,500	$132,900	$137,000	$140,900	$152,100	13.93%
18.	St. Louis	$130,800	$130,700	$133,100	$135,400	$147,200	12.54%
20.	Baltimore	$232,400	$237,200	$247,400	$252,900	$261,500	12.52%
26.	Cleveland	$118,800	$119,500	$122,700	$124,200	$132,200	11.28%

FIGURE F-5 source: Zillow Real Estate Research, Median Home Value - Zillow Home Value Index, Single-Family Home Time Series
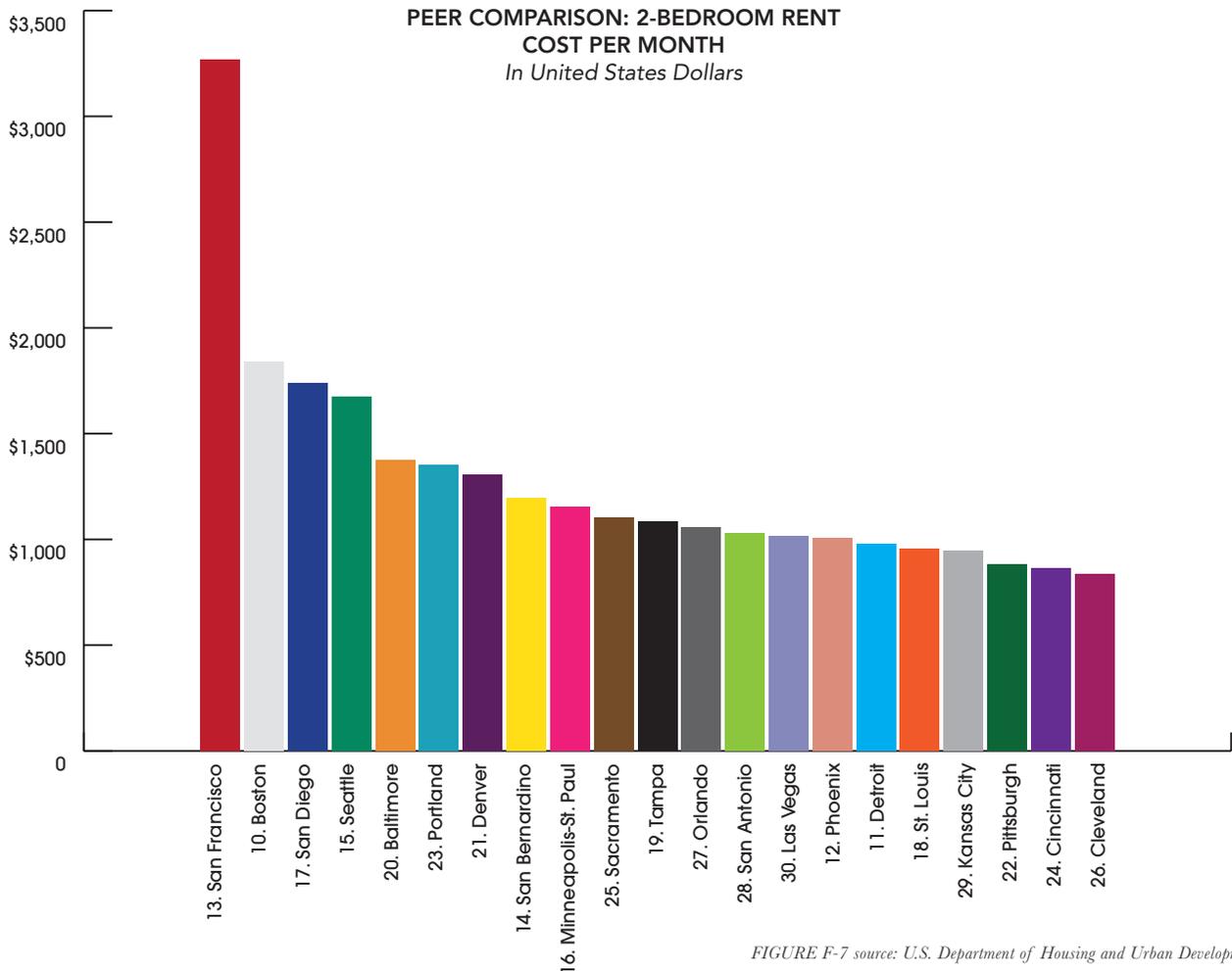
PEER COMPARISON: 2-BEDROOM RENT
COST PER MONTH
In United States Dollars

FIGURE F-7 source: U.S. Department of Housing and Urban Development (HUD)

RENTERS IN THE BALTIMORE REGION
WHO ARE SEVERELY COST BURDENED

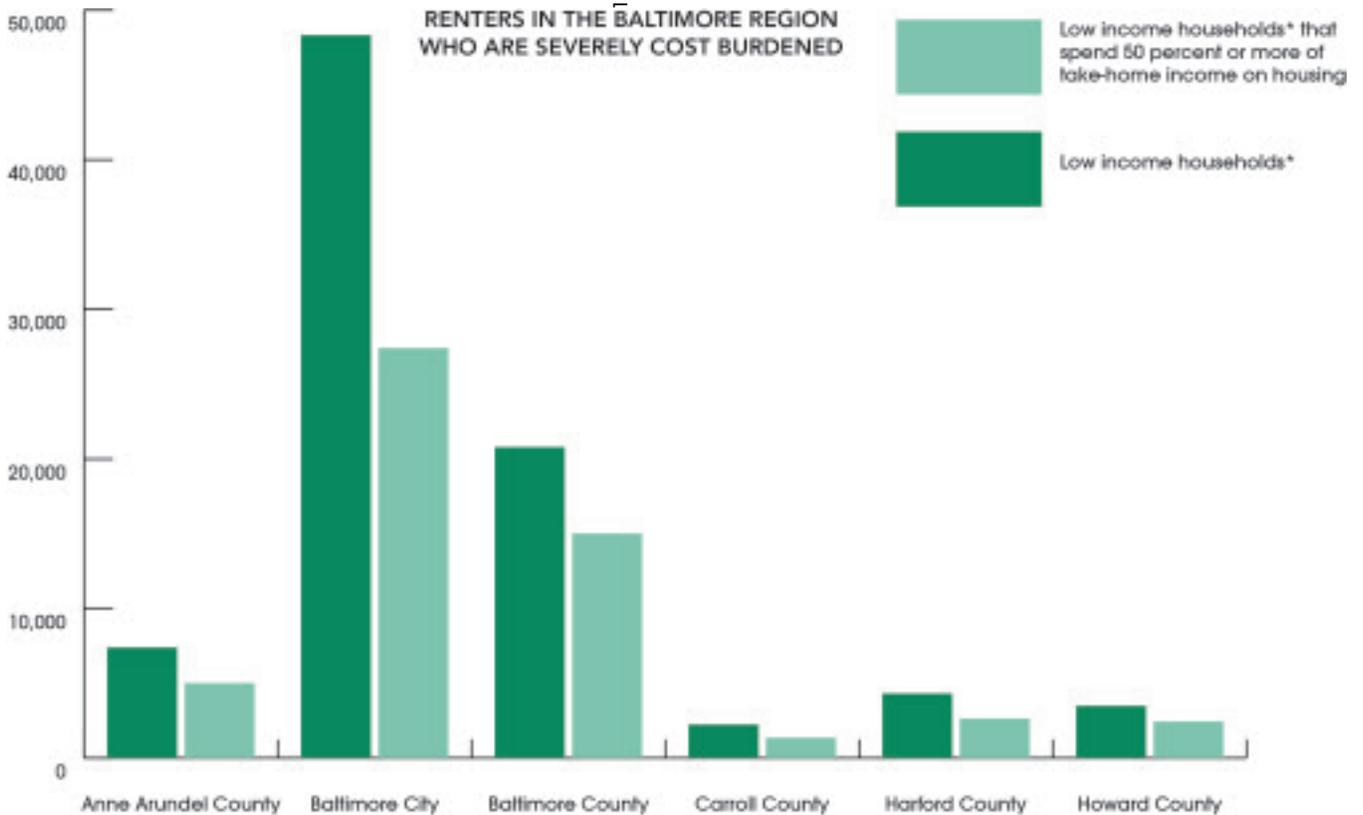Low income households* that spend 50 percent or more of take-home income on housing

Low income households*

FIGURE F-8 source: U.S. Department of Housing and Urban Development (HUD)
*Households below 30 percent of area median income.

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