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Jacob France Institute

Grow Baltimore

Brief #1: Understanding Migration in
Baltimore City

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OF BALTIMORE



Grow Baltimore

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April 2015¹

Introduction

In 2011, Baltimore Mayor Stephanie Rawlings-Blake established the Grow Baltimore initiative and set a collective goal of increasing the city's population by 10,000 families by 2020. For Baltimore, like many other US cities on the eastern seaboard, such a goal is ambitious because it would reverse nearly 6 decades of population loss. However, since 2000, Baltimore has shown signs of being well-poised to grow so that the goal has the potential of being realized.

The Grow Baltimore Initiative aims to amplify the "pull" factors that both attract people to the city and retain the current population while also addressing and reducing the "push" factors that make the city less appealing. The purpose of this series of briefs is to help all stakeholders in Baltimore (public agencies, foundations, businesses, community organizations and residents) understand the trends that are already working to attract new residents to Baltimore and better identify the reasons why people are moving out.

Migration Data

Population change is a function of two types of growth (natural and migration) that contribute to either gains or losses as Table 1 shows.

Table 1: Components of Population Change

Type of Growth	Population Increase	Population Loss
Natural	Births	Deaths
Migration (Domestic and International)	In-migration	Out-migration

Key Findings

General

- The total population of Baltimore City declined 4.6% between 2000 and 2010 from 651,154 people to 620,961 people, the smallest percentage loss since 1970.
- The population estimate for Baltimore City in 2014 was 622,793, representing a small yet encouraging growth of 0.3% over 2010.
- The city experienced a net loss of 3,580 residents per year between 2008 and 2012 due to migration, primarily to Baltimore County (40%) and to Anne Arundel County (34%).

Race and Ethnicity

- The city's Latino population increased between 2000 and 2010 by 134% and the Asian population increased by 43%.
- The majority (53%) of people moving into Baltimore City between 2008 and 2012 were white while a third (34%) were black.

Age

- From 2006 to 2010, Baltimore City experienced a net gain of 579 residents per year who were 18 to 19 years old.
- Millennials (people born between 1982 and 2002) comprise the largest component of migration flows both into and out of the city. They accounted for 63% of the entering population and 53% of the leaving population between 2008 and 2012.

Income and Employment

- Between 2007 and 2011, the City experienced a net gain of households earning less than \$25,000 and a net loss of households earning \$25,000 or more.
- Between 2008 and 2012, 15% of the entering population worked in the education industry. Nearly 17% of the leaving population worked in the medical industry.

Housing

- People who left the city between 2008 and 2012 may have been looking for more living space. They were more likely to live on one to ten acres of land and to live in a 4-bedroom residence than either people who entered the city or people who stayed in the city.

¹ Originally released 3/26/2015. This 4/16/2015 version includes corrections to some migration estimates on pages 4 to 8.

Understanding who moves into and out of any city in the US is challenging because different data sources focus upon different aspects of migration. This brief is divided into three sections that each answer a different question about migration and draw from the most appropriate data source.

1. *Baltimore City Population Overview*

Question: **How many people once lived in Baltimore City and how many people live in Baltimore City now?**

Data Sources: U.S. Decennial Census, American Community Survey (ACS) 5-Year Sample, and Population Estimate Program (PEP), which considers births, deaths, and migration.

2. *Profile of Movers*

Question: **How many people entering Baltimore City from the surrounding counties or leaving Baltimore City for the surrounding counties have certain attributes (race, age, etc.)?**

Data Sources: American Community Survey (ACS) 5-Year datasets (2006-2010, 2007-2011, 2008-2012) accessed via the Census Flow Mapper².

3. *Profile of Migration Flows*

Question: **What percentage of people entering, leaving, and staying in Baltimore City have certain attributes (race, age, etc.)?**

Data Sources: Public Use Micro-Sample (PUMS 2008-2012, a subset of ACS).

Baltimore City Population Overview

Even though the total population of Baltimore City declined from 651,154 in 2000 to 620,961 in 2010, this 4.6% loss represents the smallest decennial decline in Baltimore since 1970. The latest population estimate for Baltimore in 2014, 622,793 people, represents a small yet encouraging growth of 0.3%. Table 2 provides an overview of both population counts and population change between 1950 and 2010.

Table 2: Population of Baltimore City, 1950-2010

Population	1950	1960	1970	1980	1990	2000	2010	2014 (est)
Count (#)	949,708	939,024	905,759	786,775	736,014	651,154	620,961	622,793
Change (%) over previous decade		-1.1	-3.5	-13.1	-6.5	-11.5	-4.6	0.3

Data source: U.S. Decennial Census 1950-2010; U.S. Census Bureau, Annual Estimates of the Resident Population July 1, 2014

² Source of data is the Census Flowmapper <http://flowsmapper.geo.census.gov/flowsmapper/flowsmapper.html> which reports three separate flows: Out, In and Net Migration. Net Migration may not always equal the difference between the inbound flow and the outbound flow. This is likely due to data suppression in the source flows to limit disclosure of information about individuals.

The population change over the decade shows large variations in terms of age, race and geography, highlighting that despite the overall loss, the city attracted many Latinos, Asians, Millennials, and working-age residents to growing neighborhoods throughout Baltimore.

Age

Since 2000, the City has consistently increased population among 45-64 year olds (Table 3). Since 2010, the City has gained population among 25-44 year olds. The number of children under 18 and seniors over 65 declined significantly between 2000 and 2010.

Table 3: Population of Baltimore City by Age in 2000, 2010, and 2013 (Estimated)

Age Range	2000		2010		2013 (est) ³		% Change	
	Pop	%	Pop	%	Pop	%	2000-10	2010-13
0-17	161,486	24.8	133,507	21.5	131,276	28.2	-17.3	-1.7
18-24	70,976	10.9	78,241	12.6	70,581	62.5	10.2	-9.8
25-44	194,695	29.9	180,079	29.0	186,312	2.4	-7.5	3.5
45-64	138,045	21.2	156,482	25.2	159,066	2.0	13.4	1.7
65+	85,952	13.2	72,652	11.7	74,869	4.6	-15.5	3.1
TOTAL	651,154	100.0	620,961	100.0	622,104	99.7	-4.6	0.2

Data Source: U.S. Decennial Census 2000 and 2010, 2013 American Community Survey

Race and Ethnicity

The U.S. Census records race and ethnicity (Latino or Not Latino) as separate characteristics of individuals. Between 2000 and 2010, Baltimore experienced losses in both the white (-10.8%) and black (-5.5%) populations, but has grown significantly among Asians and Latinos. Since 2010, the City has seen increases among white (0.9%), Asian (2.1%) and Latino (9.6%) populations, but not among black populations (see Table 4).

Table 4: Population of Baltimore City by Race in 2000, 2010, and 2013 (Estimated)

Race & Ethnicity		2000		2010		2013 (est)		% Change	
		Pop	%	Pop	%	Pop	%	2000-10	2010-13
Not Latino	White	201,881	31.0	174,120	28.0	175,654	28.2	-13.8	0.9
	Black	415,725	64.0	392,938	63.3	388,918	62.5	-5.5	-1.0
	Asian	10,087	1.5	14,397	2.3	14,699	2.4	42.7	2.1
	All Other Races	12,360	1.8	13,546	2.2	12,398	2.0	9.6	-8.5
Latino (Any Race)		11,101	1.7	25,960	4.2	28,440	4.6	133.9	9.6
TOTAL		651,154	100.0	620,961	100.0	622,104	100.0	-4.6	0.2

Data Source: U.S. Decennial Census 2000 and 2010, 2013 American Community Survey (ACS)

³ Census Bureau recommendations for comparing 1-year ACS estimates with 2010 Census statistics http://www.census.gov/acs/www/guidance_for_data_users/comparing_2013/

Migration in the Region⁴

The majority of population loss for Baltimore City has been attributable to net out-migration, which means that more people have moved out of the city than have moved into the city. More than half of all moves both into and out of Baltimore City occurs between one of the surrounding jurisdictions, especially Baltimore County and Anne Arundel County. This follows the national trend of suburbs gaining population from migration and principal cities losing population from migration⁵. Table 5 details the local flows of people. For example, from 2008 to 2012, an estimated 10,905 people moved to Baltimore City from Baltimore County every year and an estimated 12,339 people moved to Baltimore County from Baltimore City every year. These flows in opposite directions resulted in a net city population loss of 1,434 people per year. The row labelled “Other MD” includes all Maryland counties besides those specifically listed. The row labelled “Other US” includes all U.S States besides Maryland.

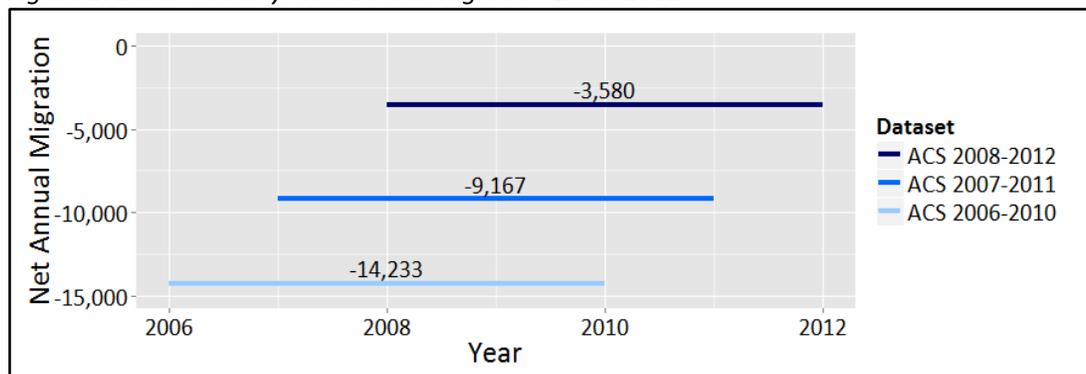
Table 5: Estimated Annual Migration between Baltimore City and Other Locations

County	2008-2012 Inbound	2008-2012 Outbound	2008-2012 Net	2007-2011 Net	2006-2010 Net
Anne Arundel County	2063	-3293	-1230	-2093	-3238
Baltimore County	10905	-12339	-1434	-5472	-8511
Carroll County	356	-399	-43	-75	-93
Harford County	737	-667	70	294	4
Howard County	1483	-1123	360	-120	-257
Other MD	4283	-4864	-581	-975	-1439
Other US	15469	-16191	-722	-726	-699
Net for Baltimore City	35,296	-38,876	-3,580	-9,167	-14,233

Data sources: 2006-2010, 2007-2011, and 2008-2012 American Community Survey (ACS)

Looking back at the past three 5-year ACS estimates, the outmigration trend is subsiding with the annual net loss to all other cities and counties declining as shown in Figure 1.⁶

Figure 1: Baltimore City Net Annual Migration 2006-2012



Data sources: 2006-2010, 2007-2011, and 2008-2012 American Community Survey (ACS)

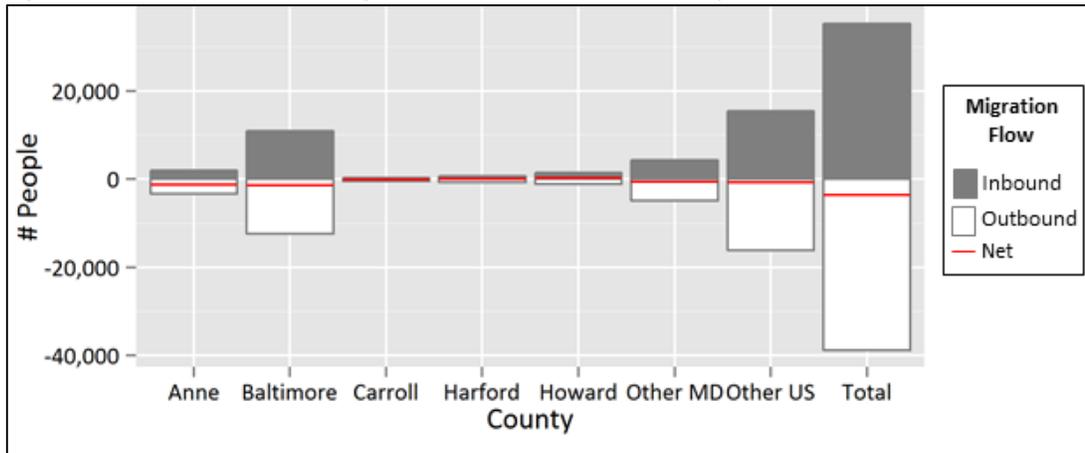
⁴ Note that data tables in this section from the Census Flowmapper contain intra and interstate migration only—not the foreign component.

⁵ In its press release on 3/18/2015 the U.S. Census Bureau reported that “suburbs had a net gain of 2.2 million movers, while principal cities had a net loss of 1.7 million”

⁶ The US Census Bureau advises not to directly compare overlapping 5-year estimates.

Figure 2 illustrates the annual flows of people to and from Baltimore City and the surrounding counties between 2008 and 2012 detailed in Table 5.

Figure 2: Estimated Annual Migration between Baltimore City and Other Locations



Data sources: 2008-2012 American Community Survey (ACS)

Race and Ethnicity

As Table 6 shows, between 2006 and 2010, black migrants made up the largest net loss for Baltimore City (9,141 individuals per year), followed by white migrants (2,436 individuals per year). Net black outmigration was equal to 2.3 percent of the 2006-2010 ACS population for that racial group. Net white outmigration was equal to 1.3 percent of the population for that racial group. Asian net outmigration was low in absolute numbers (625 individuals), but equal to 4.9 percent of the population for that racial group. This means that out migration has a relatively small impact on the overall white and black population of Baltimore City and relatively larger impact on the Asian population.

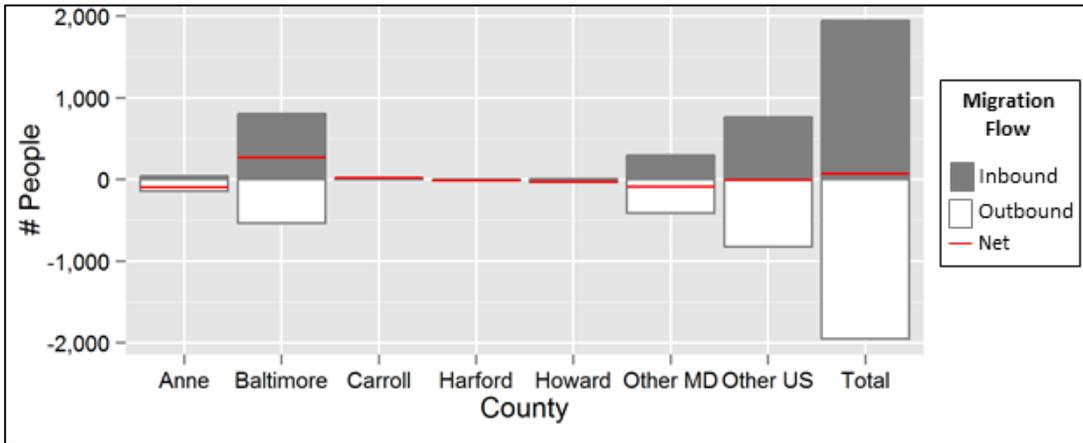
Table 6: Estimated Annual Net Migration between Baltimore City and Other Locations by Race and Ethnicity (2006-2010)

County	Race (Latino or Not Latino)				Latino (Any race)
	White Alone	Black Alone	Asian Alone	Other Race & 2+ Races	
Anne Arundel County	-389	-2301	-47	-501	-93
Baltimore County	-2153	-5805	-543	-10	270
Carroll County	8	-101	0	0	25
Harford County	26	-67	-14	59	-10
Howard County	-47	-100	-17	-93	-23
Other MD	-341	-449	-160	-5	-88
Other US	460	-318	100	-75	-6
Net for Baltimore City	-2,436	-9,141	-681	-625	75
Total Population	186,424	399,121	13,991	21,002	24,301
Net Migration / ACS Total Pop	-1.3%	-2.3%	-4.9%	-3.0%	+0.3%

Data Sources: U.S. Census Bureau, 2006-2010 American Community Survey (ACS), Census Flowmapper

Figure 3 shows that while annual inbound and outbound migration for Latinos were nearly equal over the period 2006-2010, considerable variation existed amongst the locations. Latinos tended to come to Baltimore City from Baltimore County. They tended to leave Baltimore City for Anne Arundel County and other Maryland counties further away.

Figure 3: Estimated Annual Migration between Baltimore City and Other Locations for Latinos (2006-2010)



Data Sources: U.S. Census Bureau, 2006-2010 American Community Survey (ACS), Census Flowmapper

Age

As Table 7 shows, Baltimore City experienced a net migration gain of 18-19 year olds between 2006 and 2010, particularly from outside Maryland. The City overall experienced net migration loss of residents in every other age group. The largest net loss of all ages was to Baltimore County. Baltimore City experienced net gains from Harford and Howard Counties in the 18-19, 20-24, and 25-44 year old groups.

Table 7: Estimated Annual Net Migration between Baltimore City and Other Locations by Age Group (2006-2010)

County	Age Range in Years Old					
	1-17	18-19	20-24	25-44	45-64	65+
Anne Arundel County	-882	-105	-436	-1,539	-161	-115
Baltimore County	-1,751	-268	-1,305	-3,842	-684	-661
Carroll County	33	31	-45	-14	-102	4
Harford County	-103	33	51	51	-55	27
Howard County	-168	27	60	12	-123	-65
Other MD	-285	-16	122	-616	-64	-96
Other US	-353	877	854	-687	-412	-112
Net for Baltimore City	-3,509	579	-699	-6,635	-1,601	-1,018

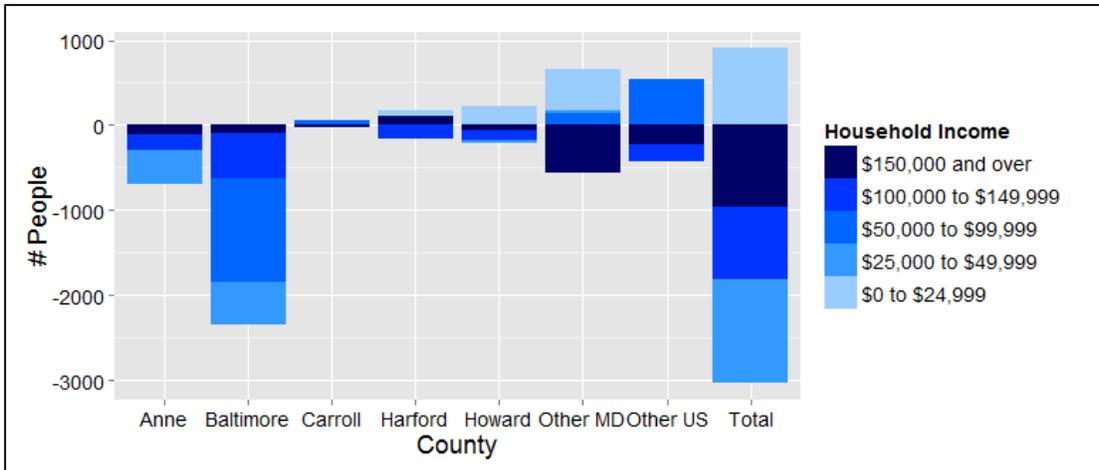
Data Sources: U.S. Census Bureau, 2006-2010 American Community Survey (ACS), Census Flowmapper

Income & Education

As Figure 4 shows, between 2007 and 2011, Baltimore City experienced a net gain of residents in the lower income groups (\$0 to \$24,999) and experienced a net loss of residents in the middle and upper income groups (\$25,000 and above). Lower income residents tend to come to the city from Harford County, Howard County,

and Maryland counties further away. Upper income residents tend to leave the city for Baltimore County, though some move to Maryland counties further away and outside the state.

Figure 4: Estimated Annual Net Migration between Baltimore City and Other Locations by Household Income (2007-2011)



Data Sources: U.S. Census Bureau, 2007-2011 American Community Survey (ACS), Census Flowmapper

From 2007-2011, Baltimore City overall lost persons 25 years and older at every level of education (Table 8). Net positive migration to the City for adults with bachelors, graduate, or professional degrees occurred from Carroll, Harford, and Howard Counties. Baltimore City gained more adults with less than a high school diploma from Carroll and Harford Counties and other parts of the state.

Table 8: Estimated Annual Net Migration for Persons 25 years and older between Baltimore City and Other Locations by Education (2007-2011)

County	Less than HS Graduate	HS Graduate	Some College	Bachelors, Graduate, or Professional Degree
Anne Arundel County	-834	-137	-24	-322
Baltimore County	-325	-982	-1,231	-820
Carroll County	26	-137	-56	70
Harford County	13	57	34	7
Howard County	-46	28	-121	49
Other MD	32	-242	-141	-189
Other US	-141	-350	-184	-186
Net for Baltimore City	-1,275	-1,763	-1,723	-1,391

Data Sources: U.S. Census Bureau, 2007-2011 American Community Survey (ACS), Census Flowmapper

Occupation

Between 2008 and 2012, Baltimore City experienced a net gain of individuals in two higher paying occupational categories and a net loss of individuals in two lower paying occupational categories. The two higher paying occupational categories were: (1) Management, Business, Science, and the Arts and (2) Natural Resources, Construction, and Maintenance (Table 9). Wages in the first category, which consists of a wide range of occupations including chief executives, computer programmers, architects, substance abuse counselors,

lawyers, kindergarten teachers, fashion designers, and surgeons, averaged \$35.11 an hour in 2012⁷. Wages in the second category, consisting of occupations such as agricultural workers, electricians, and cellular tower installers, averaged \$20.95 an hour.

During the same period, the city lost residents primarily working in two occupational categories: (1) Production, Transportation, Material Moving and (2) Sales and Office. Wages in the first category, which includes occupations such as production line supervisors, food processing workers, commercial pilots, and crane operators, averaged \$16.37 an hour in 2012. Wages in the second category, which covers cashiers, insurance sales agents, and payroll clerks, averaged \$17.22 an hour.

In addition to the gain of higher paid workers and loss of lower paid workers, unemployed individuals left the city at a higher rate than they entered the city.

Table 9: Estimated Annual Migration between Baltimore City and Other Locations by Occupation of Employment (2008-2012)

County	Management, Business, Science, and the Arts	Military	Natural Resources, Construction, and Maintenance	Production, Transportation, Material Moving	Sales and Office	Service	Unemployed
Anne Arundel County	-246	9	-37	61	-15	-64	78
Baltimore County	442	0	104	-233	-403	-374	34
Carroll County	18	0	-1	-27	-1	-19	-2
Harford County	-20	0	26	15	61	33	-28
Howard County	-29	0	104	5	196	-8	56
Other MD	-54	-38	-122	-97	-54	-111	144
Other US	262	-46	98	121	68	503	-313
Net for Baltimore City	373	-75	172	-155	-148	-40	-31

Data Sources: U.S. Census Bureau, 2008-2012 American Community Survey (ACS), Census Flowmapper using U.S. Bureau of Labor Statistics' Standard Occupational Classification (SOC) system.

Profile of Migration Flows

Another way to examine migration is to profile the movement or “flows”. There are three types of decisions that produce a migration outcome. The first decision is to move into Baltimore City, which generates a flow referred to as “Entered”. The second decision is to leave Baltimore City, which generates a flow referred to as “Left”. The third decision is for current city residents to continue living here, which generates a status referred to as “Stayed”.

Flows by Race and Ethnicity

Analysis of migration flows by race and ethnicity in Table 10 reveals that the majority (53%) of people who entered Baltimore City between 2008 and 2012 were white and a third (34%) were black. The population who left the city was split roughly equally between white (43%) and black (44%). White migrants formed a larger

⁷ Bureau of Labor Statistics, Occupational Employment Statistics, May 2012.
http://www.bls.gov/oes/2012/may/oes_stru.htm

percentage of the inbound flow than the outbound flow. Black migrants formed a smaller percentage of the inbound flow than the outbound flow. Two-thirds (66%) of the population that stayed in the city (did not enter or leave) were black and a quarter (28%) were white. White, Asian, and Latino migrants accounted for far more of the entering and leaving flows than for the staying population, suggesting a “churning” of these residents in Baltimore City.

Table 10: Migration Flows by Race and Ethnicity (2008-2012)

Race & Ethnicity		Entered Baltimore City	Left Baltimore City	Stayed (Did not Enter or Leave)
Latino or Not	White alone	52.6%	42.5%	28.3%
	Black alone	33.7%	43.7%	66.0%
	Asian alone	7.3%	6.7%	2.0%
	Other races alone	2.7%	2.6%	1.4%
	Two or more races	3.4%	4.5%	2.1%
Latino (Any Race)		7.1%	4.8%	3.9%

Data Source: U.S. Census Bureau, 2008-2012 Public Use Micro Sample (PUMS)

Flows by Age

Analysis of migration flows by generation in Table 11 reveals an influx of Millennials (people born between 1982 and 2002) and loss of both Generation X’ers (people born between 1961 and 1981) and Baby Boomers (people born between 1946 and 1964). Millennials make up nearly two-thirds (63%) of the incoming population, but also more than half (53%) of the outgoing population.

Table 11: Migration Flows by Generation (2008-2012)

Generation	Entered	Left	Stayed
Millennials (b. 1982-2002)	62.6%	52.7%	31.3%
Generation X’ers (b. 1961-1981)	21.0%	26.3%	28.3%
Baby Boomers (b. 1946-1964)	6.5%	7.1%	28.1%

Data Source: U.S. Census Bureau, 2008-2012 Public Use Micro Sample (PUMS)

Flows by Citizenship and Nativity

As Table 12 shows, the incoming population and outgoing population are composed of a larger percentage of foreign born residents than the city’s population that does not migrate. Moreover, the outgoing population has a higher percentage of naturalized citizens than the incoming population. One possible explanation for these trends is that foreign born individuals come to Baltimore City for college, job training, or social/cultural relationships and then leave when they are more confident of their future in the country. They may also leave the city for the same reasons as non-foreign born residents⁸.

⁸ The second BNIA-JFI Grow Baltimore brief will focus on why people move to and from Baltimore City. Recent research by the Brookings Institute revealed that immigrants are continuing to move to the suburbs nationally (<http://www.brookings.edu/research/papers/2014/10/29-immigrants-disperse-suburbs-wilson-svajlenka>).

Table 12: Migration Flows by Citizenship / Nativity (2008-2012)

Citizenship / Nativity	Entered	Left	Stayed
Foreign Born	14.9%	12.8%	6.7%
U.S. Citizen by Naturalization	4.9%	7.9%	3.5%

Data Source: U.S. Census Bureau, 2008-2012 Public Use Micro Sample (PUMS)

Flows by Industry of Employment

Analysis of 2008-2012 data by industry (Table 13) reveals that 15% of incoming residents worked in education, compared with only 9% of outgoing residents. Medical workers composed nearly 17% of the flow leaving the city compared with nearly 12% of the flow entering the city.

Table 13: Estimated Annual Migration Flows by Industry of Employment

Industry	Entered	Left	Stayed
Education	15.0%	9.0%	10.7%
Information	1.7%	3.5%	1.9%
Medical	11.8%	16.7%	14.5%
Retail	9.0%	12.9%	9.6%

Data Source: U.S. Census Bureau, 2008-2012 Public Use Micro Sample (PUMS)

Flows by Type of Housing

When examining households rather than individuals, the “entered” category can be refined further into households composed of people who moved to Baltimore City together and households composed of people who moved to Baltimore City to join people who were already here. Analysis suggests that household members leaving the city seek larger yards and larger homes (Table 14). Fourteen percent (14%) of households that left the city have four bedroom residences compared with only three percent of households that entered the city together. It is roughly three times as likely for a household that left the city to reside in a home with one to ten acres of land than it is for a household that entered or stayed in the city.

Table 14: Number of Bedrooms and Acreage by Migration Status

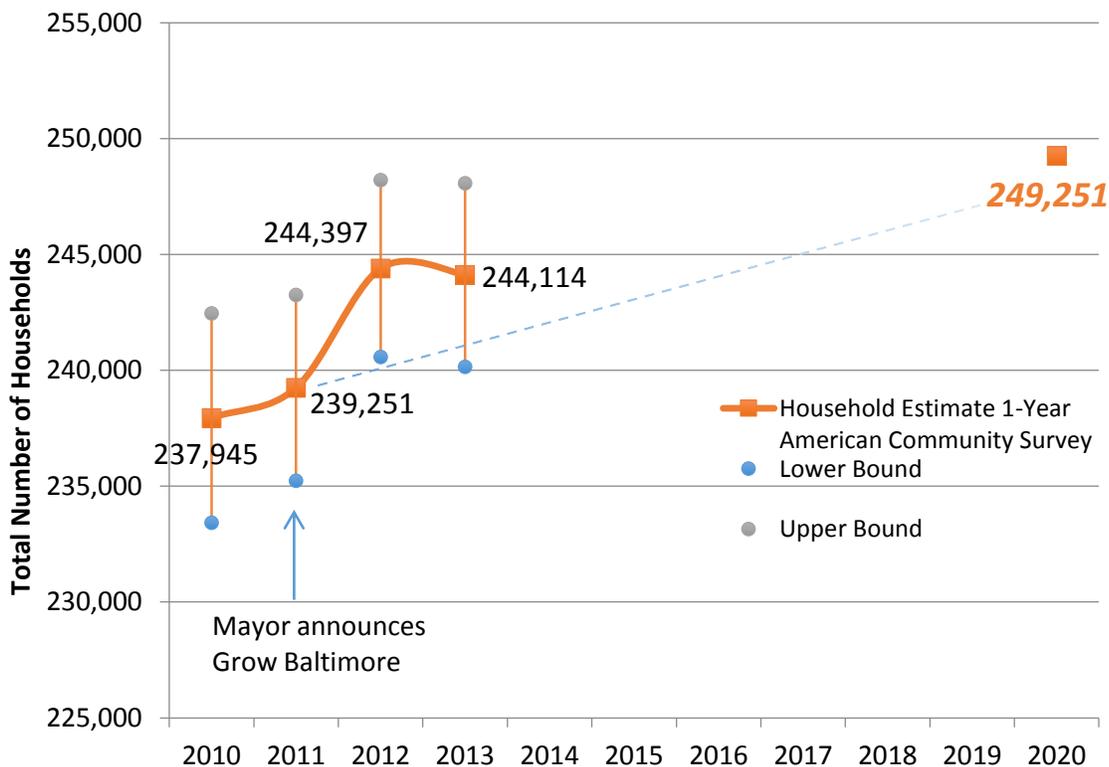
Housing Characteristics	Entered		Left	Stayed
	Entered together	Joined someone already in city		
1 bedroom	35.9%	8.0%	18.6%	17.5%
2 bedrooms	31.5%	29.8%	31.3%	26.6%
3 bedrooms	20.6%	43.9%	28.1%	40.3%
4 bedrooms	2.9%	11.9%	14.1%	9.2%
1 to 10 acres	0.6%	2.4%	6.1%	1.9%

Data Source: Public Use Micro Sample (PUMS) 2008 – 2012, 5 Year Average

Can Baltimore Achieve the Grow Baltimore 10,000 Goal?

As a way to aid in tracking progress towards Baltimore’s attaining the Grow Baltimore 10,000 families goal, the first step is to determine a reliable means to track year-over-year incremental changes. Over the 9-year period between when the Mayor made the announcement and the out-year of 2020, the overall goal can be thought of as 9 annual goals of increases by 1,111 households. We recommend using the 1-year American Community Survey which reports annual estimates for total households for Baltimore City. Looking at the past 4 years in Figure 5 below, there are some signs that the City’s number of households has been trending upwards⁹ from 239,251 households in 2011 to 244,114 households in 2013.

Figure 5: Progress toward the Grow Baltimore 10,000 Households Goal



Data Source: 1-year American Community Survey, 2010, 2011, 2012, 2013

Making steady progress toward the Grow Baltimore Goal of a net gain of 10,000 households will require mutually reinforcing efforts by numerous city stakeholders, including public agencies, local foundations, anchor institutions, and community organizations. The large migration flows of people into and out of the city suggest the presence of both pull factors (reasons for entering) and push factors (reasons for leaving). Future briefs will discuss these factors in more detail and also identify decision-points when households determine whether to stay in the city or to leave.

Acknowledgements: Special thanks to the Mayor’s Grow Baltimore Advisory Team for the members’ thoughtful comments throughout this project. This research was funded by the Goldseker Foundation.

⁹ Given the significant overall in the annual margins of error, annual differences in total number of households is not statistically significant.



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