

# Estimates of the Size and Characteristics of the Resident Nonimmigrant Population in the United States: January 2012

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## INTRODUCTION

This report presents estimates of the size and characteristics of the resident nonimmigrant population in the United States. The estimates are daily averages for the 12-month period centered on January 1, 2012. In this report, the term *resident nonimmigrant* refers to foreign nationals who are legally admitted into the United States for specific, temporary purposes and whose classes of admission are associated with residency (e.g., students and temporary workers, as opposed to tourists and business travelers). The characteristics analyzed include category of admission, country of citizenship, age, sex, and destination state. The estimates are derived from U.S. Department of Homeland Security (DHS) administrative records of nonimmigrant arrivals and departures.

The resident nonimmigrant population averaged 1.9 million during July 1, 2011–June 30, 2012. Temporary workers and their families accounted for approximately 45 percent of the population, and students and their families accounted for another 40 percent. Nearly half of the resident nonimmigrants were citizens of Asian countries. Eighty percent of resident nonimmigrants were ages 18 through 44.<sup>1</sup>

## DATA AND METHOD

### Overview

The population size was estimated in three steps using arrival and departure data from nonimmigrant visits. In the first step, visit-length frequency tables were tabulated from nonimmigrant visit records that had been reconstructed by matching arrival records with departure records. In the second step, expected days of residence in the United States were calculated for each visit using the arrival date on the arrival record and the visit-length distributions calculated in the first step. Only days of residence that would have occurred during the 12-month period were counted. In the third step, the average daily expected population size was calculated by adding the expected days of residence together

across all visits from the second step and then dividing the total by the number of days in the year.<sup>2</sup>

Arrival and departure records were used because there are no national census or survey data that identify nonimmigrants separately from other foreign-born persons. The population was estimated, as opposed to measured, because departure records were not available for all visits. For example, some visits were ongoing, while others ended without generating a departure record. Presence in (or absence from) the United States could not be determined without a departure record. The data and methods are described in further detail in the following sections.

### Data

Nonimmigrant arrival and departure data were obtained from DHS Form I-94 *Nonimmigrant Arrival/Departure Record* and provided by U.S. Customs and Border Protection (CBP). Information collected on Form I-94 includes arrival date, departure date, port of entry, class of admission, country of citizenship, state of destination, age, and sex. Data were available for arrivals from October 1, 2000 through June 30, 2012 and for departures from October 1, 2004 through June 30, 2012.

<sup>1</sup> Hereafter, each category of admission will include both principal nonimmigrants and dependent (non-principal) family members unless otherwise noted.

<sup>2</sup> The method could also be used to estimate the population size on January 1, but because of seasonal fluctuation, the average population size over the course of the year is a more meaningful measure.



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The arrival and departure sections of form I-94 are submitted separately and come preprinted with identical tracking numbers.<sup>3</sup> During the admission process, a CBP officer either collects the arrival section of the I-94 or updates a preexisting, electronic I-94 record to reflect a repeat arrival during the previously authorized admission period. The departure data, on the other hand, are less reliably collected and may be absent for a variety of reasons. For example, some visits might not have ended by the date the data are compiled, the nonimmigrant might adjust to lawful permanent resident (LPR) status, or the nonimmigrant might depart without submitting the departure section of the I-94. Based on historical trends, departure records are eventually collected for 75–80 percent of all resident nonimmigrant visits, but fewer than 50 percent are collected in the same year as the arrival.

Whenever possible, the arrival and departure sections were matched together to reconstruct the visit history. An arrival record was considered to be a match with a departure record if the preprinted tracking number, first initial of last name, and date of birth were identical on both sections. About 97 percent of departure records are successfully matched to a prior arrival record each year.

Analysis was restricted to resident nonimmigrant classes of admission, i.e., classes characterized by visits lasting 2 months or longer on average.<sup>4</sup> The 2-month duration was chosen in order to be consistent with the residence definitions used in the U.S. Census Bureau's American Community Survey and DHS estimates of the size and characteristics of the unauthorized immigrant population (Hoefer et al, 2012). Because admission under a residence class does not always indicate residence in the United States, data were further restricted by omitting records clearly exhibiting commuter behavior (i.e., 7 or more visits in the same year).

## Method

The population size was estimated by taking the average of the expected number of days of presence during the 12-month period, July 1, 2011–June 30, 2012. The expected days of presence were calculated for each visit using the actual arrival date and the visit-length distribution estimated for the given class of admission and country of citizenship. Only days of presence that would have occurred during the 12-month period were counted toward the total.

**Step 1—Reconstruct Visit Records and Estimate Visit-length Distributions.** Visit records were reconstructed by matching arrival records with departure records. An arrival record was considered to be a match with a departure record if the preprinted tracking number, first initial of last name, and date of birth were identical on both records. Visit length, or the number of days between arrival and departure, was calculated from the arrival and departure dates for each of the reconstructed visit records.

Next, visit-length frequency tables for each class of admission and country of citizenship were tabulated from the reconstructed visit records. Only visits with a departure during the 12-month period were included in the tabulations. The frequency tables were then converted into probability distributions by dividing each visit-length frequency by the total number of visits.

<sup>3</sup>The paper-based Form I-94 was replaced with electronic data collection in May of 2013.

<sup>4</sup>See Appendix I for a list of resident nonimmigrant classes of admission.

The visits used for the frequency tables were limited to those with departures during the 12-month period in order to avoid selection bias. Without such a restriction, longer visits would be disproportionately excluded because they are less likely to have ended by the date on which the data were compiled. The resulting visit-length distributions were assumed to be representative of all visits, but were not representative of either the matched or unmatched visits alone. As a result, days of presence had to be estimated for all arrivals, not just those without matching departure records.

**Step 2—Calculate the Expected Number of Days of Presence during the 12-month Period for Each Visit.** In the second step, the expected number of days of presence in the United States during the 12-month period is calculated for each visit by applying the visit-length distribution (estimated in Step 1 for each class of admission and country of citizenship) to the actual arrival date on the arrival section of the I-94. The calculation is performed by taking the sum across all possible visit lengths ( $D = 1$  day, 2 days, 3 days, ..., max) of the product of the number of days that would have occurred during the 12-month period if the visit lasted  $D$  days and the probability that the visit lasted  $D$  days.

**Step 3—Calculate Total and Convert to Daily Average.** The estimated population size is the daily average of the expected number of days of presence over the course of the year and is calculated by taking the sum of all of the expected days of presence from Step 2 (overall or within a specific group) and dividing the total by the number of days in the year.

## LIMITATIONS

The accuracy and precision of the population estimates depend on how well the reconstructed visits with a departure during the 12-month period represent all visits within each class of admission and country of citizenship. Some of the more apparent or important limitations are discussed below.

### Adjustment to LPR status

Limited departure data are available for nonimmigrants who adjust LPR status. The impact on estimated visit-length and nonimmigrant population size is expected to be small, in general, because relatively few visits result in adjustment to LPR status. For example, fewer than 250,000 resident nonimmigrants adjusted to LPR status in fiscal year 2010, despite more than 5.4 million resident nonimmigrant admissions. The impact may be greater among classes and countries with higher adjustment rates. For example, the number of adjustments per admission in FY 2010 was 1 in 5 for H4 dependents, 1 in 9 for H-1B workers, and only 1 in 60 for seasonal workers. Results are presented only for broad categories of classes because of the clustering of adjustments of status.

### Effect of visit length on probability of Form I-94 loss or damage

If the probability that a nonimmigrant will lose the departure stub prior to departure increases with visit length, then longer visits may be underrepresented in the observed visit-length probability distributions, and the population size may be underestimated as a result.

## Choice of classification variables

Visit length is known to vary with class of admission and country of citizenship, but may also change with additional classification variables within some subgroups. For example, student visits that begin with the start of the fall semester may be more likely to end after 9 months than student visits that start in January. Similarly, Canadian workers in Texas may tend to take fewer trips home than Canadian workers in Michigan. Restricting the method to the two primary classification variables limited complexity and ensured that many data points were available at most levels, but did so at the possible expense of a more robust model.

## Increasing arrival volume

The observed visit-length distributions are based on completed visits with an arrival between Oct. 1, 2000 and June 30, 2012 and a departure recorded between July 1, 2011 and June 30, 2012. Because arrival flow tends to increase slightly each year, departures in the most recent year disproportionately reflect more recent arrivals. Therefore the visit-length distributions, and the resulting population estimates, are likely to be slightly biased downwards.

## Stability of visit length across time

The estimation methodology implicitly assumes that the visit length distribution is constant across time. This assumption is supported by data showing little variation in average visit lengths and distributions of arrival dates from 2007 through 2010.

## RESULTS

### Overview

There were, on average, 1.9 million nonimmigrants residing in the United States during the 12-month period centered on January 1, 2012 (see Table 1). The largest categories were temporary workers<sup>5</sup> (45 percent, or 840,000) and students (38 percent, or 720,000). Among temporary workers, 38 percent were citizens of India and 45 percent were ages 25–34. Nearly 50 percent of the students were citizens of China (22 percent), India (14 percent), or South Korea (13 percent), and slightly more than 50 percent of the students were ages 18–24. Exchange visitors made up another 12 percent of the total resident nonimmigrant population, and the remaining 4 percent were diplomats and other representatives. Estimates for students and exchange visitor principals are consistent<sup>6</sup> with counts of “active” students from the DHS Student and Exchange Visitor Information System (SEVIS) (see Appendix II).

### Region and country of citizenship

About half of the resident nonimmigrants (980,000) were citizens of Asian countries, including India (23 percent), China (11 percent), South Korea (8 percent), and Japan (5 percent). Europe and North America comprised another 26 percent, led by Canada (6 percent) and Mexico (5 percent). The five leading countries accounted for over 50 percent of the total.

<sup>5</sup> Each category of admission includes both principal nonimmigrants and dependent (non-principal) family members.

<sup>6</sup> “Active” students are assumed to reside in the United States for three-quarters of the calendar year, on average.

**Table 1.**

**Resident Nonimmigrant Population by Category of Admission and Country of Citizenship: January 2012**

Region and country of citizenship	Total	Percent of Total by Category of Admission							
		Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>REGION</b>									
Total . . . . .	1,870,000	840,000	45	720,000	38	230,000	12	80,000	4
Asia . . . . .	980,000	460,000	46	430,000	43	80,000	8	20,000	2
Europe . . . . .	250,000	120,000	46	50,000	20	70,000	26	20,000	8
North America . . . . .	240,000	170,000	68	50,000	22	20,000	7	10,000	3
South America . . . . .	90,000	30,000	38	30,000	32	20,000	21	10,000	9
All others including unknown . .	300,000	70,000	24	160,000	53	50,000	17	20,000	6
<b>COUNTRY</b>									
Total . . . . .	1,870,000	840,000	45	720,000	38	230,000	12	80,000	4
India . . . . .	430,000	320,000	74	100,000	23	10,000	2	—	—
China . . . . .	210,000	30,000	12	150,000	73	30,000	13	—	—
Korea, South . . . . .	140,000	30,000	20	100,000	67	20,000	12	—	—
Canada . . . . .	110,000	80,000	67	30,000	24	10,000	6	—	—
Mexico . . . . .	100,000	70,000	78	10,000	14	10,000	6	—	—
Japan . . . . .	90,000	50,000	58	20,000	28	10,000	11	—	—
United Kingdom . . . . .	50,000	30,000	65	10,000	15	10,000	13	—	—
Saudi Arabia . . . . .	50,000	—	—	40,000	91	—	—	—	—
Germany . . . . .	40,000	20,000	41	10,000	15	20,000	35	—	—
France . . . . .	40,000	20,000	48	10,000	18	10,000	26	—	—
All others including unknown . .	610,000	200,000	33	240,000	39	120,000	20	50,000	8

— Base number or percent rounds to zero.

Notes: All class categories include both principals and dependents. Detail may not sum to total due to rounding.

Source: U.S. Department of Homeland Security.

Temporary workers made up much larger portions of the nonimmigrant populations from Mexico (78 percent), India (74 percent), Canada (67 percent), and the United Kingdom (65 percent) than from all countries combined (45 percent). Nonimmigrants from Saudi Arabia, China, and Korea were more likely to be in the United States on student visas. More than 90 percent of resident nonimmigrants with Saudi Arabian citizenship were students, as were 73 percent of Chinese and 67 percent of South Koreans. In comparison, only 38 percent of resident nonimmigrant citizens of all countries were students. Among the top 10 leading countries of citizenship, Germany and France led the exchange visitor category, making up more than 60 percent of the total.

### State of destination

California was the leading destination state, with 270,000 (15 percent) of the total 1.9 million nonimmigrants choosing to reside in that state (see Table 2). The next leading destination states were New York (210,000), Texas (140,000), Florida (100,000), and Massachusetts (90,000). The top 5 destination states accounted for 44 percent of the total, and the top 10 accounted for more than 60 percent. Compared to the nation as a whole, disproportionately large percentages of the temporary worker population resided in Texas, New Jersey, and Washington and substantially larger than average percentages of the student population resided in Massachusetts and Pennsylvania.

### Age and sex

About 720,000 resident nonimmigrants (38 percent of the total 1.9 million) were under the age of 25, another 710,000 (38 percent) were 25–34, and 440,000 (23 percent) were 35 or older (see Table 3). The age distributions for males and females resembled the overall age distribution, though males tended to be slightly older than females (27 percent of males were 35 or older, as compared to 19 percent of females).

About three-quarters of the males and two-thirds of the females between the ages of 35 and 54 were temporary workers, as compared to 45 percent across all age groups. In fact, the only age group with a smaller than average percentage of temporary workers was the 18–24 group, which was largely composed of students (73 percent). Students and exchange visitors tended to be 18–34 (85 and 70 percent of the category totals, respectively), and temporary workers tended to be 25–44 (70 percent of all temporary workers).

Slightly more than half of the resident nonimmigrant population was male (55 percent). Temporary workers and diplomats were disproportionately likely to be male (59 and 60 percent, respectively), 53 percent of students were male, and slightly fewer than half of exchange visitors were male (46 percent).

**Table 2.**  
**Resident Nonimmigrant Population by Category of Admission and State of Destination: January 2012**

State of destination	Total	Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	1,870,000	840,000	45	720,000	38	230,000	12	80,000	4
California . . . . .	270,000	130,000	47	110,000	42	30,000	10	—	—
New York . . . . .	210,000	90,000	42	80,000	38	30,000	12	20,000	8
Texas . . . . .	140,000	80,000	60	40,000	31	10,000	7	—	—
Florida . . . . .	100,000	50,000	52	30,000	35	10,000	10	—	—
Massachusetts . . . . .	90,000	30,000	29	50,000	52	20,000	18	—	—
New Jersey . . . . .	90,000	60,000	68	20,000	21	10,000	9	—	—
Illinois . . . . .	70,000	40,000	48	30,000	39	10,000	11	—	—
Pennsylvania . . . . .	60,000	20,000	36	30,000	48	10,000	15	—	—
Virginia . . . . .	60,000	20,000	37	20,000	32	10,000	13	10,000	18
Washington . . . . .	50,000	30,000	55	20,000	36	—	—	—	—
All others including unknown . .	720,000	290,000	41	280,000	39	100,000	15	40,000	5

— Base number or percent rounds to zero.

Notes: All class categories include both principals and dependents. Detail may not sum to total due to rounding.

Source: U.S. Department of Homeland Security.

**Table 3.****Resident Nonimmigrant Population by Category of Admission and Age and Sex: January 2012**

Characteristic	Total	Temporary workers		Students		Exchange visitors		Diplomats and other representatives	
	Number	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>AGE GROUP</b>									
Total . . . . .	1,870,000	840,000	45	720,000	38	230,000	12	80,000	4
0-17 . . . . .	200,000	100,000	50	70,000	32	30,000	14	10,000	4
18-24 . . . . .	520,000	50,000	9	380,000	73	90,000	17	—	—
25-34 . . . . .	710,000	390,000	55	230,000	32	70,000	10	20,000	2
35-44 . . . . .	280,000	200,000	71	30,000	11	30,000	10	20,000	8
45-54 . . . . .	110,000	80,000	69	10,000	6	10,000	8	20,000	17
55 and over . . . . .	50,000	30,000	61	—	—	—	—	10,000	23
Unknown age . . . . .	10,000	—	—	—	—	—	—	—	—
<b>SEX AND AGE</b>									
Total . . . . .	1,870,000	840,000	45	720,000	38	230,000	12	80,000	4
Male . . . . .	1,030,000	500,000	48	380,000	37	110,000	10	50,000	5
0-17 . . . . .	100,000	50,000	50	30,000	34	10,000	12	—	—
18-24 . . . . .	260,000	30,000	10	200,000	76	40,000	14	—	—
25-34 . . . . .	380,000	220,000	57	120,000	32	40,000	9	10,000	2
35-44 . . . . .	170,000	130,000	75	20,000	9	10,000	9	10,000	8
45-54 . . . . .	70,000	50,000	72	—	—	10,000	7	10,000	16
55 and over . . . . .	30,000	20,000	63	—	—	—	—	10,000	23
Unknown age . . . . .	—	—	—	—	—	—	—	—	—
Female . . . . .	800,000	330,000	42	320,000	40	120,000	15	30,000	4
0-17 . . . . .	100,000	50,000	50	30,000	31	20,000	16	—	—
18-24 . . . . .	240,000	20,000	8	170,000	70	50,000	21	—	—
25-34 . . . . .	310,000	170,000	54	100,000	33	30,000	11	10,000	2
35-44 . . . . .	100,000	70,000	66	10,000	14	10,000	12	10,000	7
45-54 . . . . .	30,000	20,000	64	—	—	—	—	10,000	18
55 and over . . . . .	10,000	10,000	56	—	—	—	—	—	—
Unknown age . . . . .	—	—	—	—	—	—	—	—	—
Unknown sex . . . . .	40,000	20,000	39	20,000	42	10,000	14	—	—

— Base number or percent rounds to zero.

Notes: All class categories include both principals and dependents. Detail may not sum to total due to rounding.

Source: U.S. Department of Homeland Security.

**FOR MORE INFORMATION**

For more information about immigration and immigration statistics, visit the Office of Immigration Statistics Web site at [www.dhs.gov/immigration-statistics](http://www.dhs.gov/immigration-statistics).

## APPENDIX 1

**Table A1-1.**

### Resident Nonimmigrant Classes of Admission

Class	Description
<b>Temporary workers and families</b>	
Temporary workers and trainees	
H1B . . . . .	Workers in specialty occupations
H1B1 . . . . .	Chile and Singapore Free Trade Agreement aliens
H1C . . . . .	Registered nurses participating in the Nursing Relief for Disadvantaged Areas
H2A . . . . .	Agricultural workers
H2B . . . . .	Nonagricultural workers
H2R . . . . .	Returning H2B workers
H3 . . . . .	Trainees
H4 . . . . .	Spouses and children of H1, H2, or H3
O1 . . . . .	Workers with extraordinary ability or achievement
O2 . . . . .	Workers accompanying and assisting in performance of O1 workers
O3 . . . . .	Spouses and children of O1 and O2
P1. . . . .	Internationally recognized athletes or entertainers
P2. . . . .	Artists or entertainers in reciprocal exchange programs
P3. . . . .	Artists or entertainers in culturally unique programs
P4. . . . .	Spouses and children of P1, P2, or P3
Q1 . . . . .	Workers in international cultural exchange programs
R1 . . . . .	Workers in religious occupations
R2 . . . . .	Spouses and children of R1
TN. . . . .	North American Free Trade Agreement (NAFTA) professional workers
TD. . . . .	Spouses and children of TN
<b>Intracompany transferees</b>	
L1. . . . .	Intracompany transferees
L2. . . . .	Spouses and children of L1
<b>Treaty traders and investors</b>	
E1. . . . .	Treaty traders and their spouses and children
E2. . . . .	Treaty investors and their spouses and children
E3. . . . .	Australian Free Trade Agreement principals, spouses and children
<b>Representatives of foreign information media</b>	
I1 . . . . .	Representatives of foreign information media and spouses and children
<b>Students</b>	
F1. . . . .	Academic students
F2. . . . .	Spouses and children of F1
M1 . . . . .	Vocational students
M2 . . . . .	Spouses and children of M1
<b>Exchange visitors</b>	
J1. . . . .	Exchange visitors
J2. . . . .	Spouses and children of J1
<b>Diplomats and other representatives</b>	
A1. . . . .	Ambassadors, public ministers, career diplomatic or consular officers and their families
A2. . . . .	Other foreign government officials or employees and their families
A3. . . . .	Attendants, servants, or personal employees of A1 and A2 and their families
G1 . . . . .	Principals of recognized foreign governments
G2 . . . . .	Other representatives of recognized foreign governments
G3 . . . . .	Representatives of nonrecognized or nonmember foreign governments
G4 . . . . .	International organization officers or employees
G5 . . . . .	Attendants, servants, or personal employees of representatives
N1 to N7 . . . . .	North Atlantic Treaty Organization (NATO) officials, spouses, and children

Note: All class categories include both principals and dependents.

Source: U.S. Department of Homeland Security.

## APPENDIX 2

Counts of active students and exchange visitors and estimates of nonimmigrant academic enrollments are available from other sources and are presented here for comparison with the I-94-based estimates of the population residing in the United States. Average population sizes for active students, exchange visitors, and dependents were calculated from quarterly program statistics tabulated from the Student and Exchange Visitor Information System (see SEVIS By the Numbers). Survey-based estimates of academic-year enrollments for international students were obtained from the Institute of International Education (see Open Doors). The alternative estimates differ from the estimates presented in this report in that they measure types of enrollments as opposed to residence and, in the case of Open Doors, define students differently. Further, because the activity status of dependents in SEVIS is determined by the status of the principal, dependents may be included in the SEVIS counts without presence in, or entry into, the United States.

The number of active students estimated from quarterly SEVIS data was 860,000, which exceeds the estimated size of the population in residence by 29 percent (see Table A2-1). The active student estimate is expected to exceed the size of the residential population in general because students may retain active status while abroad between semesters, may be in the United States for a period of study lasting only a few weeks, or may travel abroad too often to be considered residents.

**Table A2-1.**  
**Comparison against Alternative Data Sources**

Admission group	SEVIS "Active"	Open Doors Enrolled	DHS Population size
Students			
Active . . . . .	860,000	760,000	670,000
Dependents . . . . .	80,000	X	50,000
Exchange Visitors			
Active . . . . .	190,000	X	190,000
Dependents . . . . .	50,000	X	40,000

X Not applicable.  
Note: Open Doors student estimates are not restricted to nonimmigrants with F-1 or M-1 visas.  
Sources: U.S. Department of Homeland Security; Institute of International Education.

Open Doors estimated 760,000 international student enrollments for the 2011/2012 academic year. The enrollment estimate was expected to exceed the residential population size because students may not be enrolled for the entire year or may spend part of the year abroad, and because the estimate includes nonimmigrant visa classes other than students. Open Doors also excludes some students, as the survey is limited to accredited institutions of higher education.

The number of registered dependents of active students estimated from quarterly SEVIS data was 80,000, which exceeds the estimated residential population size. Differences are expected, as registered dependents of active students are included in SEVIS counts regardless of presence in the U.S. The Open Doors report does not provide estimates of student dependents.

The numbers of active exchange visitors and dependents estimated from quarterly SEVIS data were 190,000 and 50,000 respectively. The estimate for active principals was about the same as the estimated residential population size, while the estimate for active dependents exceeded the residential population estimate.

## REFERENCES

Hoefler, Michael, Nancy Rytina, and Bryan Baker, 2012. "Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2011," Office of Immigration Statistics, Policy Directorate, U.S. Department of Homeland Security, [http://www.dhs.gov/xlibrary/assets/statistics/publications/ois\\_ill\\_pe\\_2011.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2011.pdf).

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