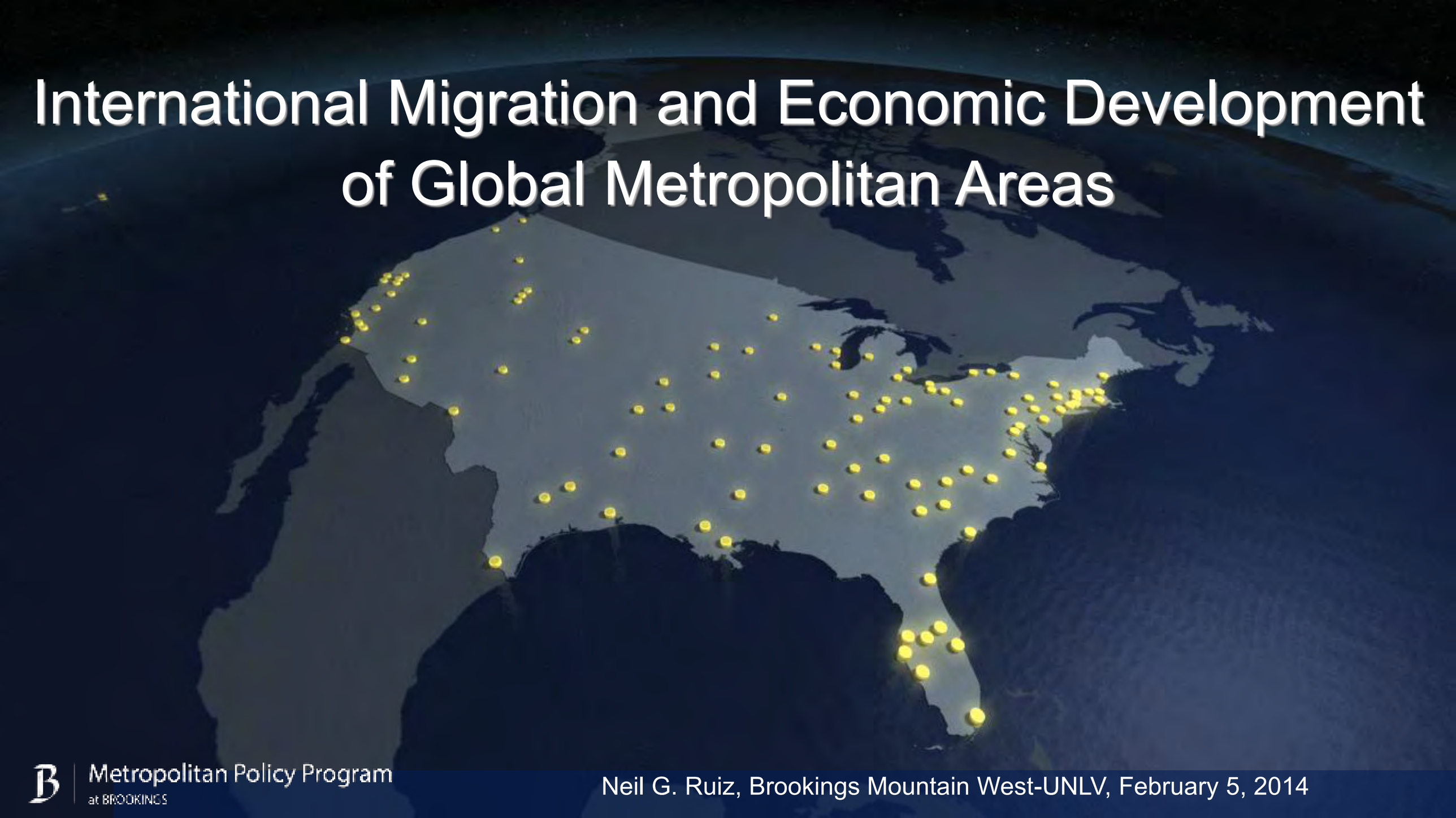
International Migration and Economic Development of Global Metropolitan Areas



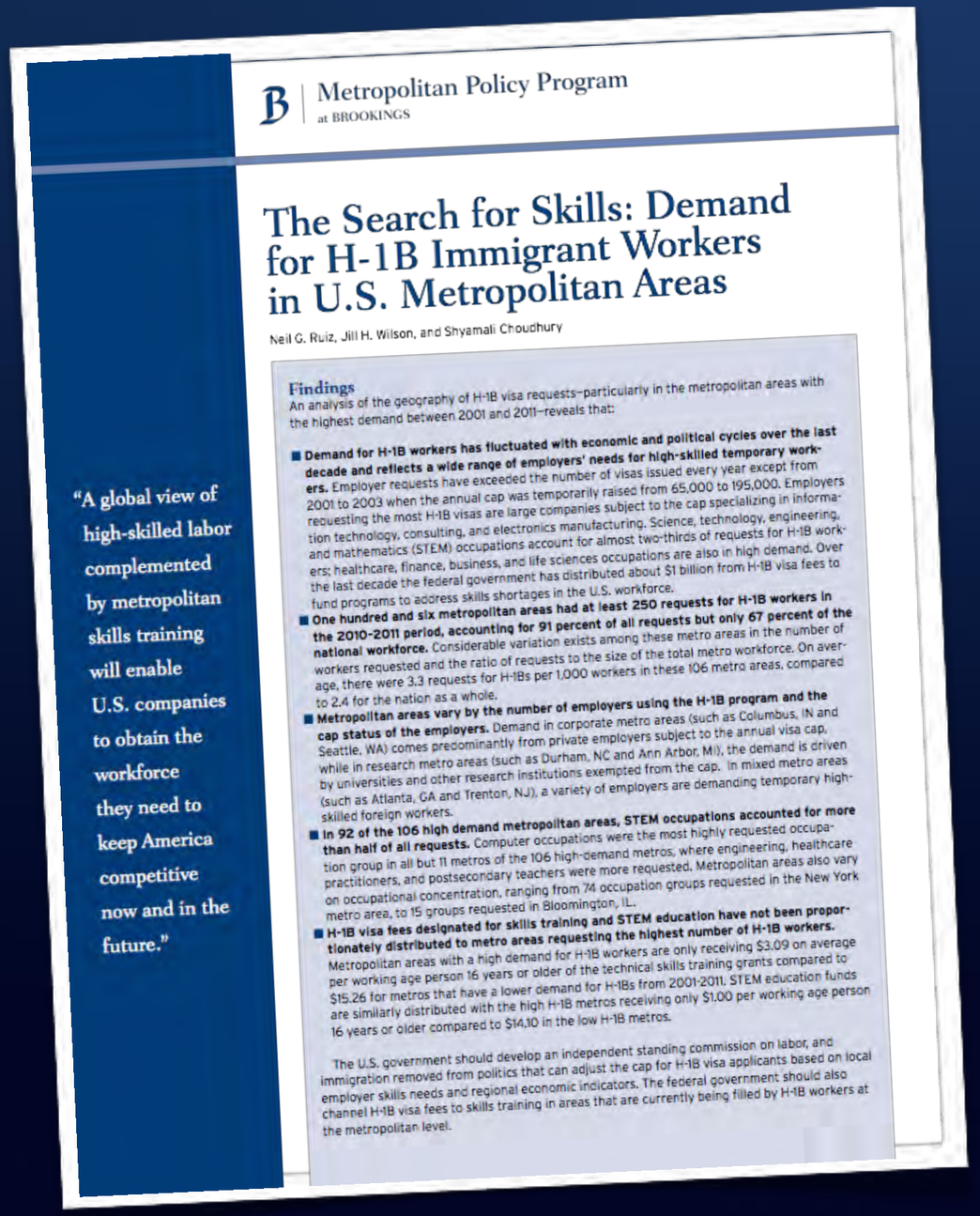
Metropolitan Policy Program
at BROOKINGS

Neil G. Ruiz, Brookings Mountain West-UNLV, February 5, 2014

A skilled workforce provides the foundation for metropolitan areas to transition to the Next Economy

Outline

1. Demand for Foreign Skilled Workers
2. Supply of Skilled Workers
3. Las Vegas Metropolitan Area Profile
4. Challenges and Prospects for Immigration Reform



Metropolitan Policy Program
at BROOKINGS

The Search for Skills: Demand for H-1B Immigrant Workers in U.S. Metropolitan Areas

Neil G. Ruiz, Jill H. Wilson, and Shyamali Choudhury

"A global view of high-skilled labor complemented by metropolitan skills training will enable U.S. companies to obtain the workforce they need to keep America competitive now and in the future."

Findings

An analysis of the geography of H-1B visa requests–particularly in the metropolitan areas with the highest demand between 2001 and 2011–reveals that:

- **Demand for H-1B workers has fluctuated with economic and political cycles over the last decade and reflects a wide range of employers' needs for high-skilled temporary workers.** Employer requests have exceeded the number of visas issued every year except from 2001 to 2003 when the annual cap was temporarily raised from 65,000 to 195,000. Employers requesting the most H-1B visas are large companies subject to the cap specializing in information technology, consulting, and electronics manufacturing. Science, technology, engineering, and mathematics (STEM) occupations account for almost two-thirds of requests for H-1B workers; healthcare, finance, business, and life sciences occupations are also in high demand. Over the last decade the federal government has distributed about $1 billion from H-1B visa fees to fund programs to address skills shortages in the U.S. workforce.
- **One hundred and six metropolitan areas had at least 250 requests for H-1B workers in the 2010-2011 period, accounting for 91 percent of all requests but only 67 percent of the national workforce.** Considerable variation exists among these metro areas in the number of workers requested and the ratio of requests to the size of the total metro workforce. On average, there were 3.3 requests for H-1Bs per 1,000 workers in these 106 metro areas, compared to 2.4 for the nation as a whole.
- **Metropolitan areas vary by the number of employers using the H-1B program and the cap status of the employers.** Demand in corporate metro areas (such as Columbus, IN and Seattle, WA) comes predominantly from private employers subject to the annual visa cap, while in research metro areas (such as Durham, NC and Ann Arbor, MI), the demand is driven by universities and other research institutions exempted from the cap. In mixed metro areas (such as Atlanta, GA and Trenton, NJ), a variety of employers are demanding temporary high-skilled foreign workers.
- **In 92 of the 106 high demand metropolitan areas, STEM occupations accounted for more than half of all requests.** Computer occupations were the most highly requested occupation group in all but 11 metros of the 106 high-demand metros, where engineering, healthcare practitioners, and postsecondary teachers were more requested. Metropolitan areas also vary on occupational concentration, ranging from 74 occupation groups requested in the New York metro area, to 15 groups requested in Bloomington, IL.
- **H-1B visa fees designated for skills training and STEM education have not been proportionately distributed to metro areas requesting the highest number of H-1B workers.** Metropolitan areas with a high demand for H-1B workers are only receiving $3.09 on average per working age person 16 years or older of the technical skills training grants compared to $15.26 for metros that have a lower demand for H-1Bs from 2001-2011. STEM education funds are similarly distributed with the high H-1B metros receiving only $1.00 per working age person 16 years or older compared to $14.10 in the low H-1B metros.

The U.S. government should develop an independent standing commission on labor, and immigration removed from politics that can adjust the cap for H-1B visa applicants based on local employer skills needs and regional economic indicators. The federal government should also channel H-1B visa fees to skills training in areas that are currently being filled by H-1B workers at the metropolitan level.

1. Demand for Foreign Skilled Workers

The H-1B Program connects US employers to high-skilled workers

H-1B Visa Program

Share of Global Engineering BAs

56%
Asia

4%
United States

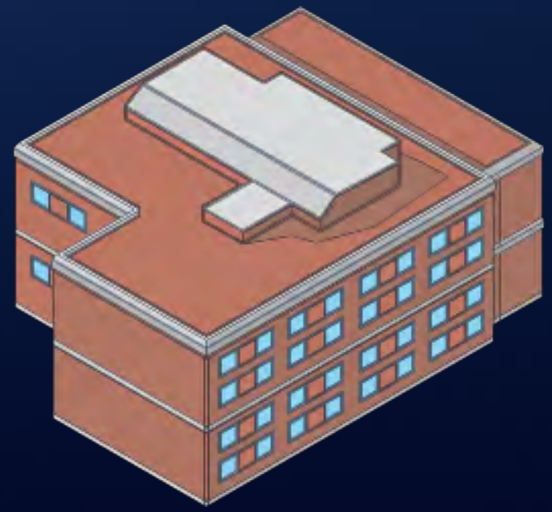
17%
Europe

Source: National Science Foundation, Science and Engineering Indicators (2012)

H-1B Temporary Work Visas

Private Firms

Capped



Research, Non-Profit,
Government Organizations

Uncapped

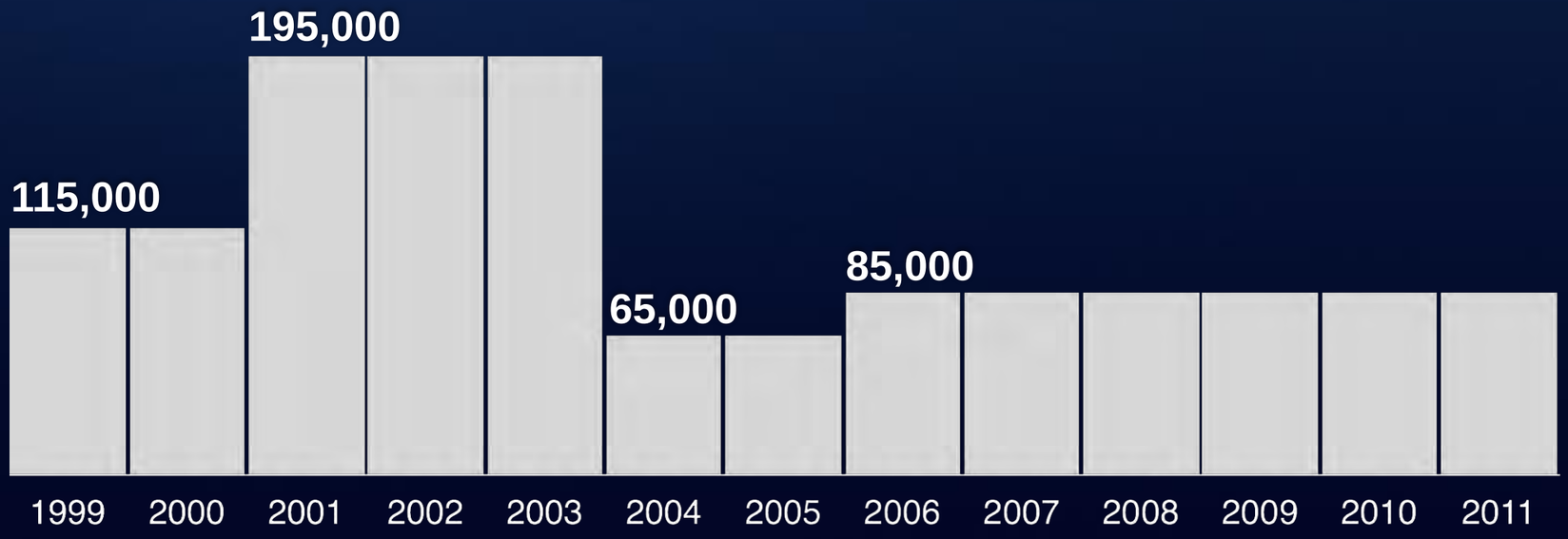
H-1B Temporary Work Visas

Private Firms

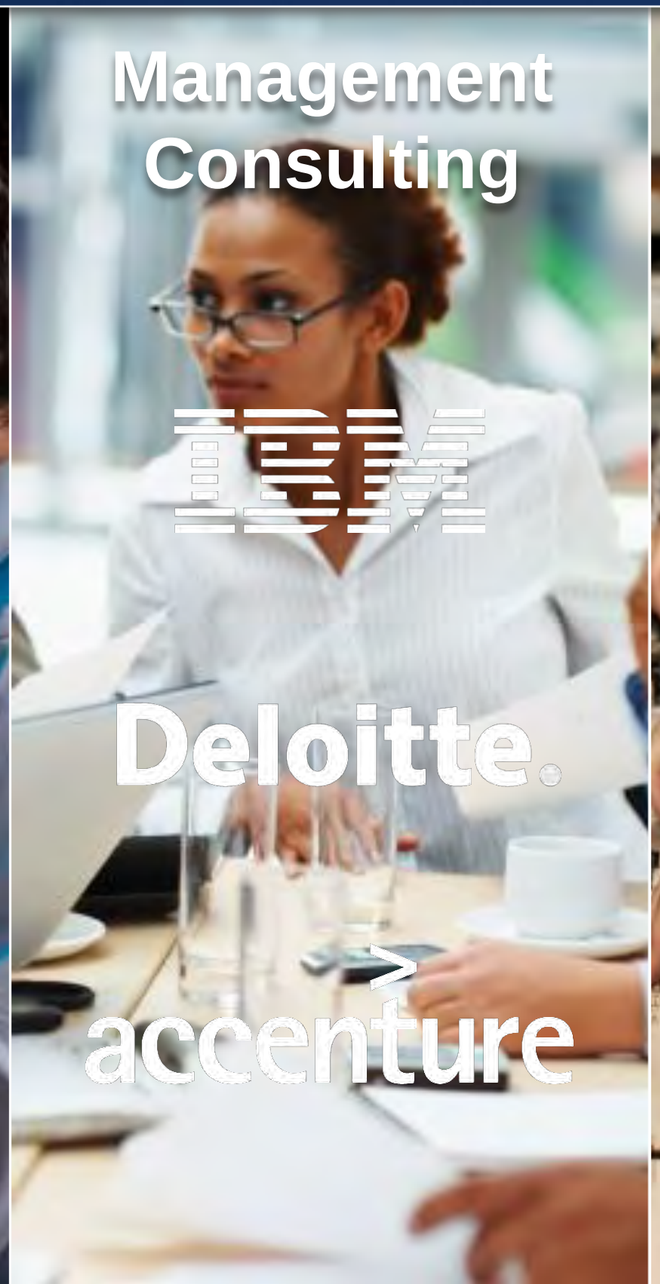
Capped

H-1B Cap

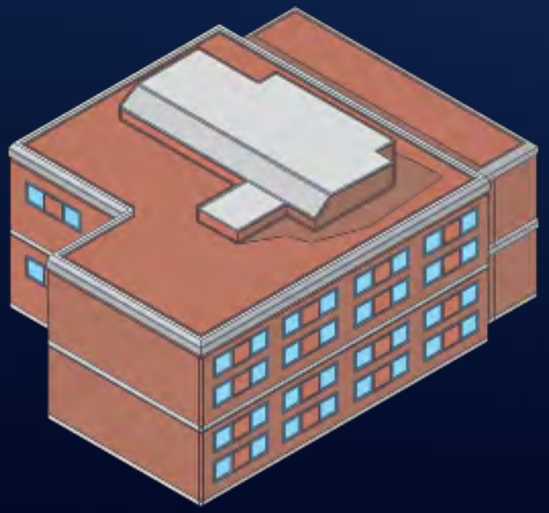
For Private Employers



High-Demand Industries and Firms



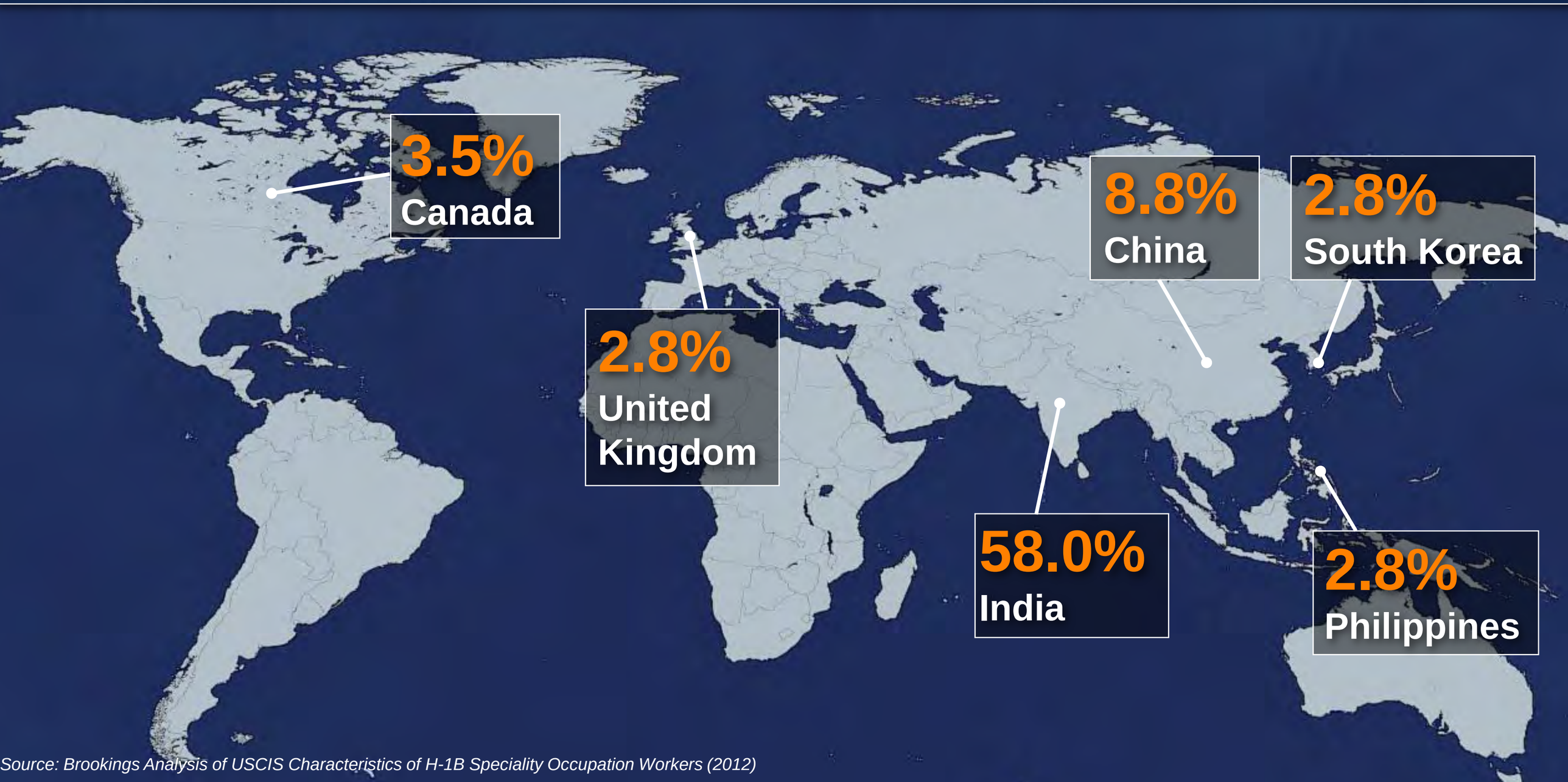
H-1B Temporary Work Visas



Research, Non-Profit,
Government Organizations
Uncapped

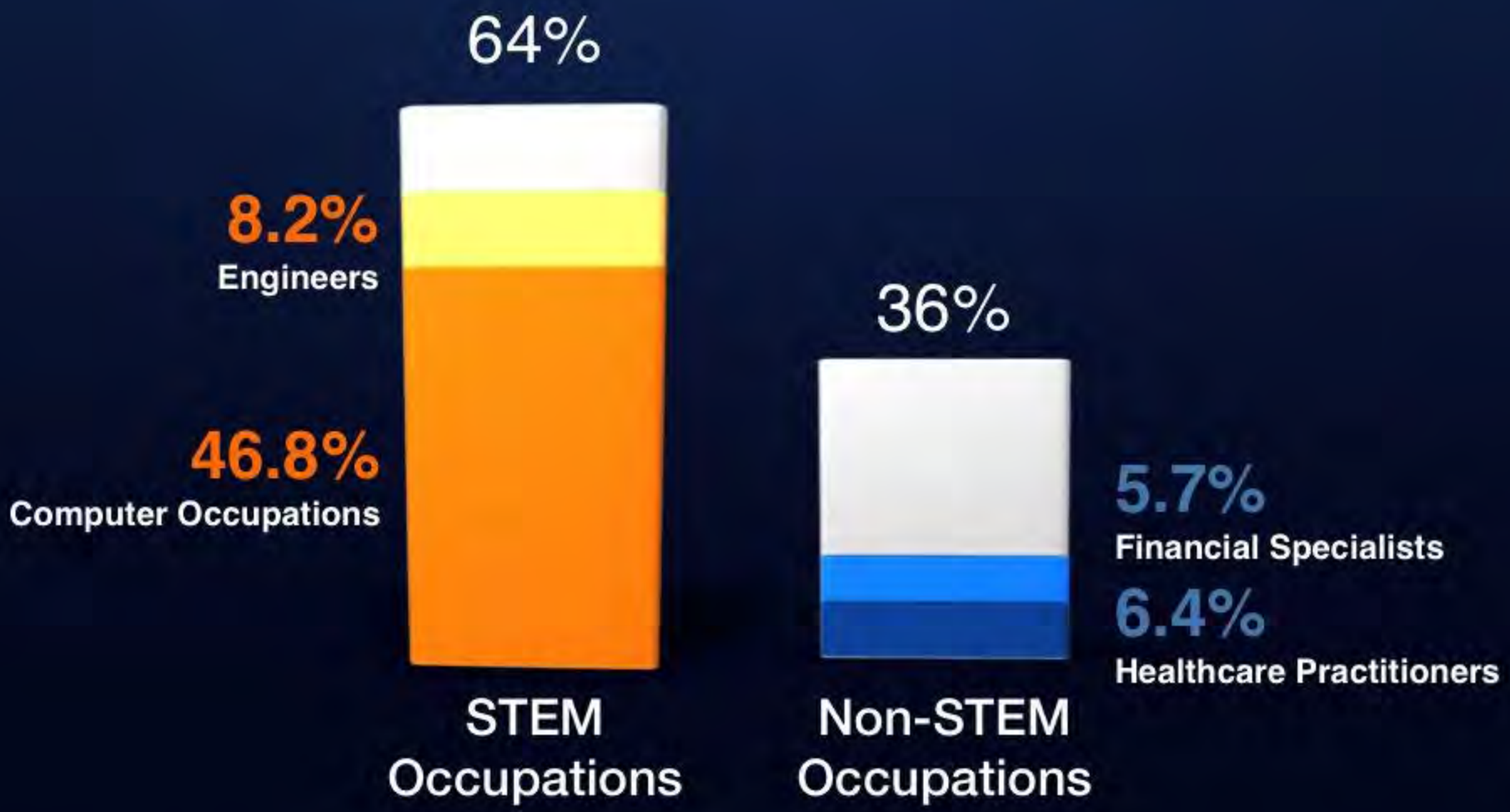
H-1B Temporary Work Visas

Origin Countries of H-1B Visa Recipients



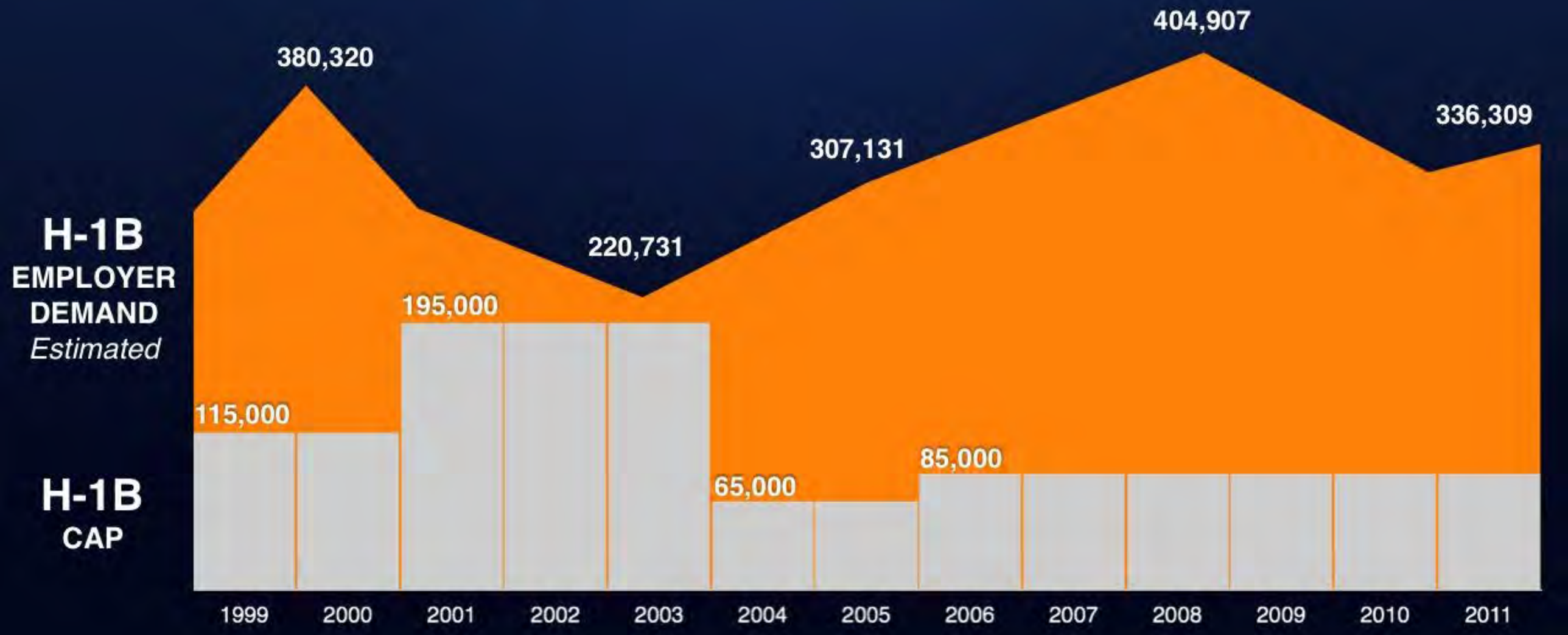
Source: Brookings Analysis of USCIS Characteristics of H-1B Speciality Occupation Workers (2012)

Occupations of H-1B Visa Requests

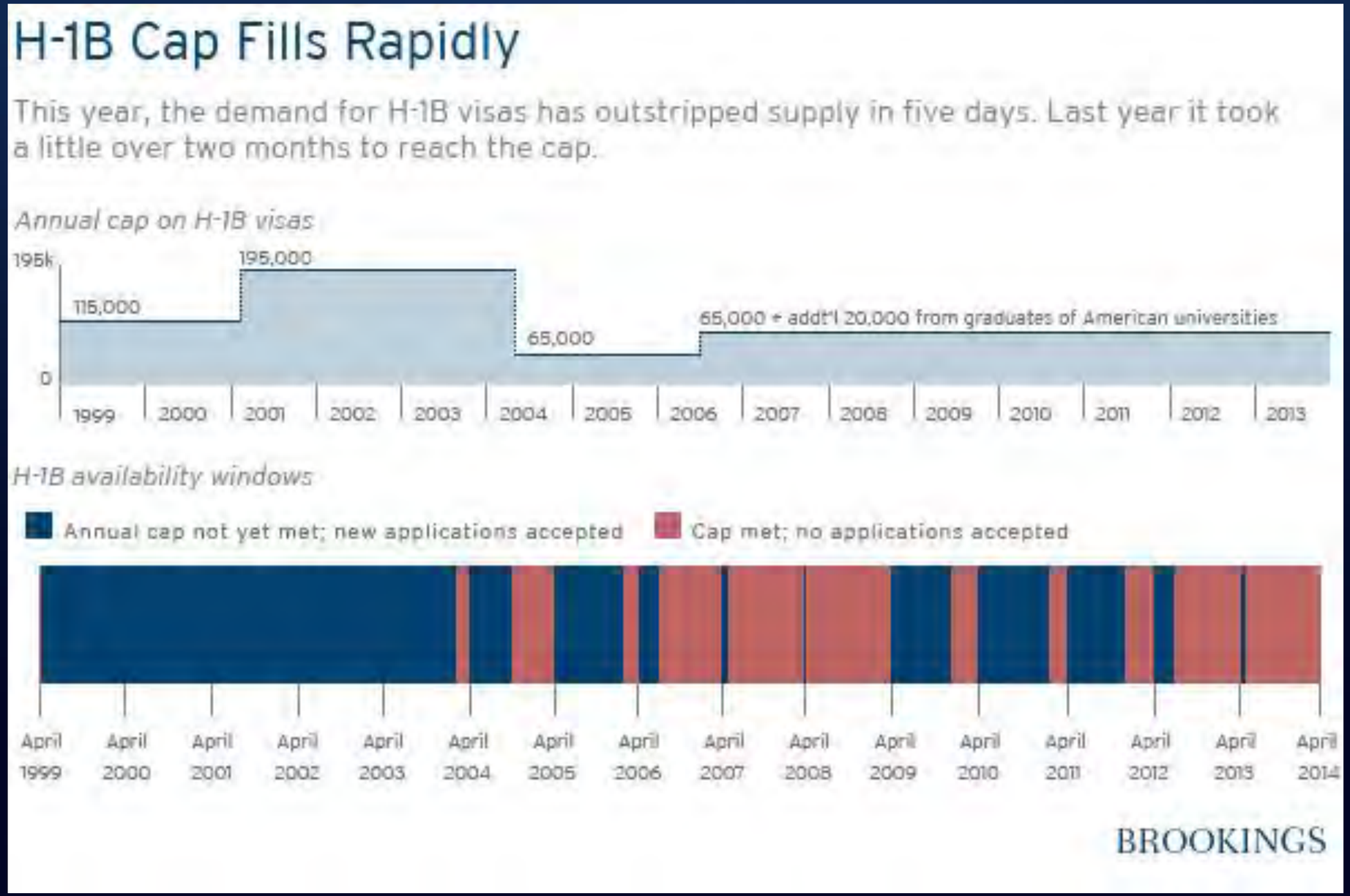


Source: Brookings Analysis of Department of Labor Data (2010-2011)

Increasing Responsiveness to Fluctuations in H-1B Demand

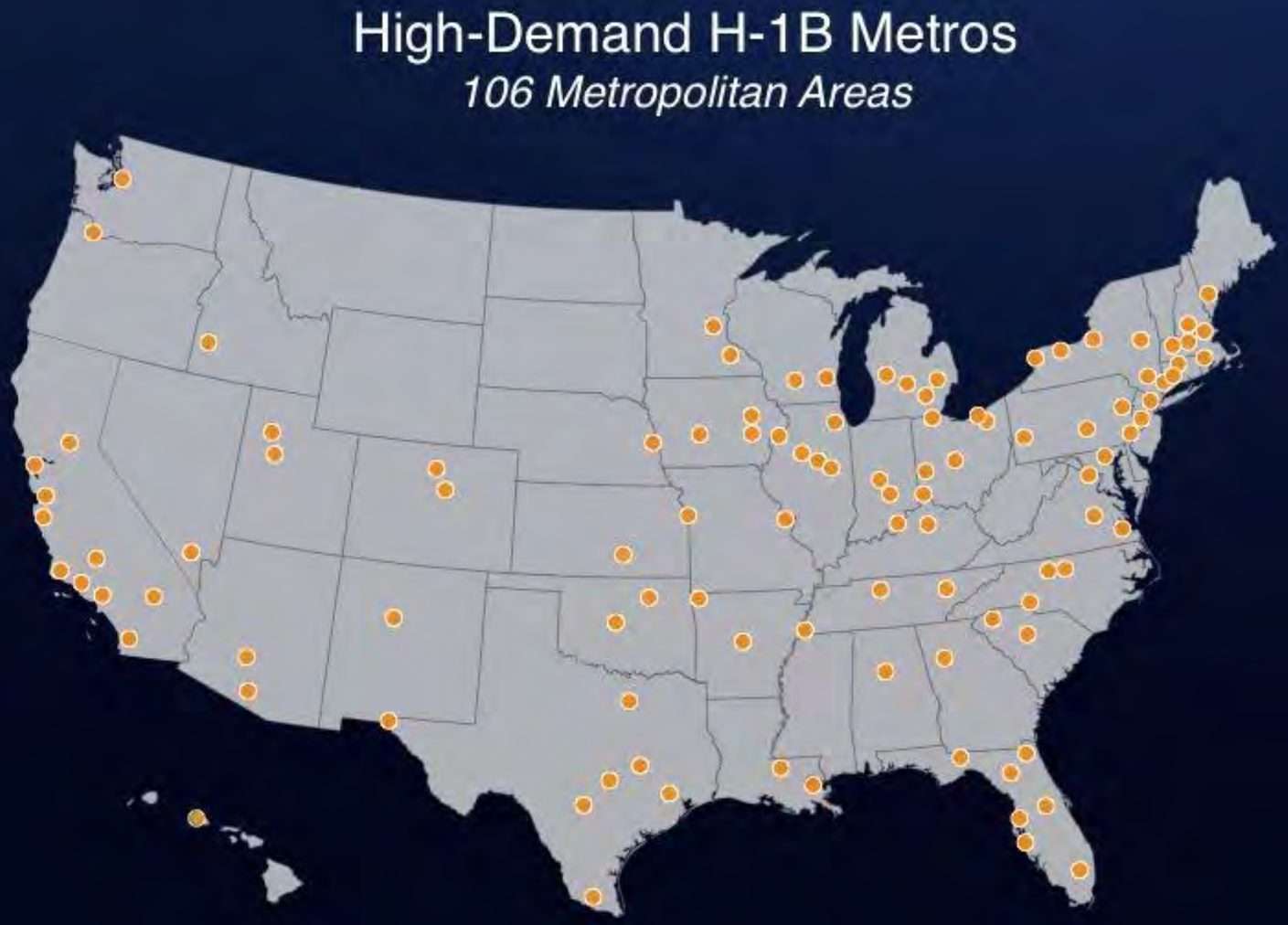


H-1B Cap Not Responsive to Economic Needs



Metros drive demand for H-1B workers

Metros Concentrate H-1B Requests



Metros With Greatest Number of H-1B Applications

Metros With Highest H-1B Intensity

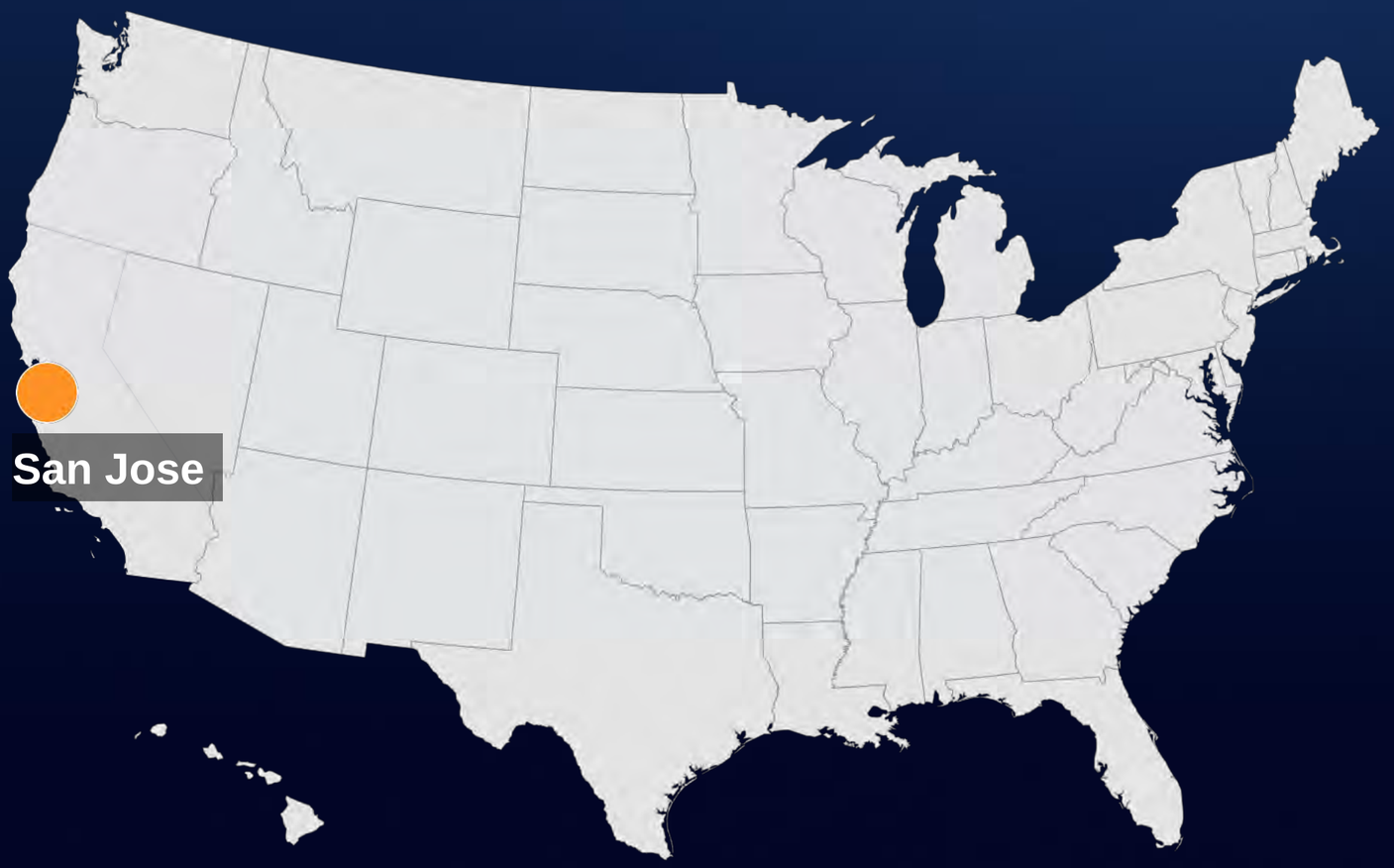
Note: Intensity represents applications per 1,000 workers

Metros With Highest Share of STEM H-1B Requests

Metro Profiles

Metro Profile

San Jose, CA



Applications

14,926
H-1B visa requests

17.1
H-1B intensity
requests per 1,000 workers

Top Employers Requesting H-1Bs

3%
Uncapped

Occupations

87%
STEM

Computer Occupations

Engineers

Business Operations Specialists

Metro Profile

Columbus, IN

Applications

629

H-1B visa requests

14.6

H-1B intensity

requests per 1,000 workers

Top Employers Requesting H-1Bs

1%

Uncapped

Cummins

LHP Software

KPIT Infosystems Ltd.

Occupations

89%

STEM

Engineers

Computer Occupations

Metro Profile

Rochester, MN

Applications

278

H-1B visa requests

2.6

H-1B intensity

requests per 1,000 workers

Top Employers Requesting H-1Bs

71%

Uncapped

MAYO CLINIC

Occupations

58%

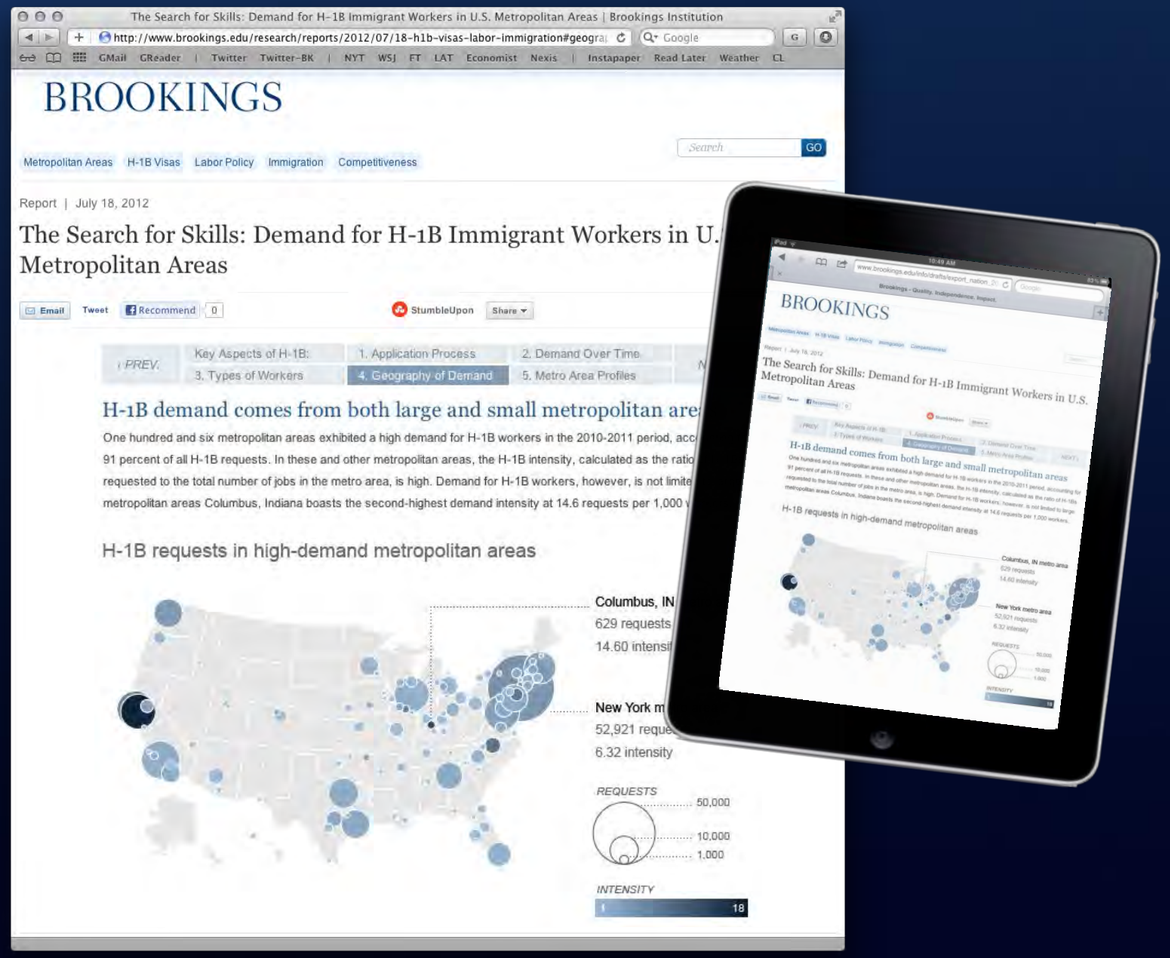
STEM

Life Scientists

Health Practitioners

Metro H-1B Data Profiles

106 High-Demand Metros



www.brookings.edu/metro/h1b

2. Supply of Skilled Workforce

Metros need skills training

H-1B Visa Program: Skills Training

$1 billion

technical skills training and STEM education, 2001-2011

Employment and Training Administration
Department of Labor

National Science Foundation

Employment & Training Administration
Department of Labor

Federal Government

Target skills training in high H-1B demand metros

Metro Leaders

Collaborate to apply for H-1B technical skill grants

Kansas Engineering Excellence Project

Wichita, KS

$5 million skills training grant

Wichita State University

NIAR
National Institute for Aviation Research

Workforce Alliance

Aligned to aviation and aerospace cluster

Matching Skills Training to Metro Needs

Metros are home to foreign students

The U.S. is the global hub for higher education, receiving 21 percent of all students studying abroad

Forthcoming Brookings Report on Foreign Students

5+ million

approvals for F-1 visas in 2001-2012

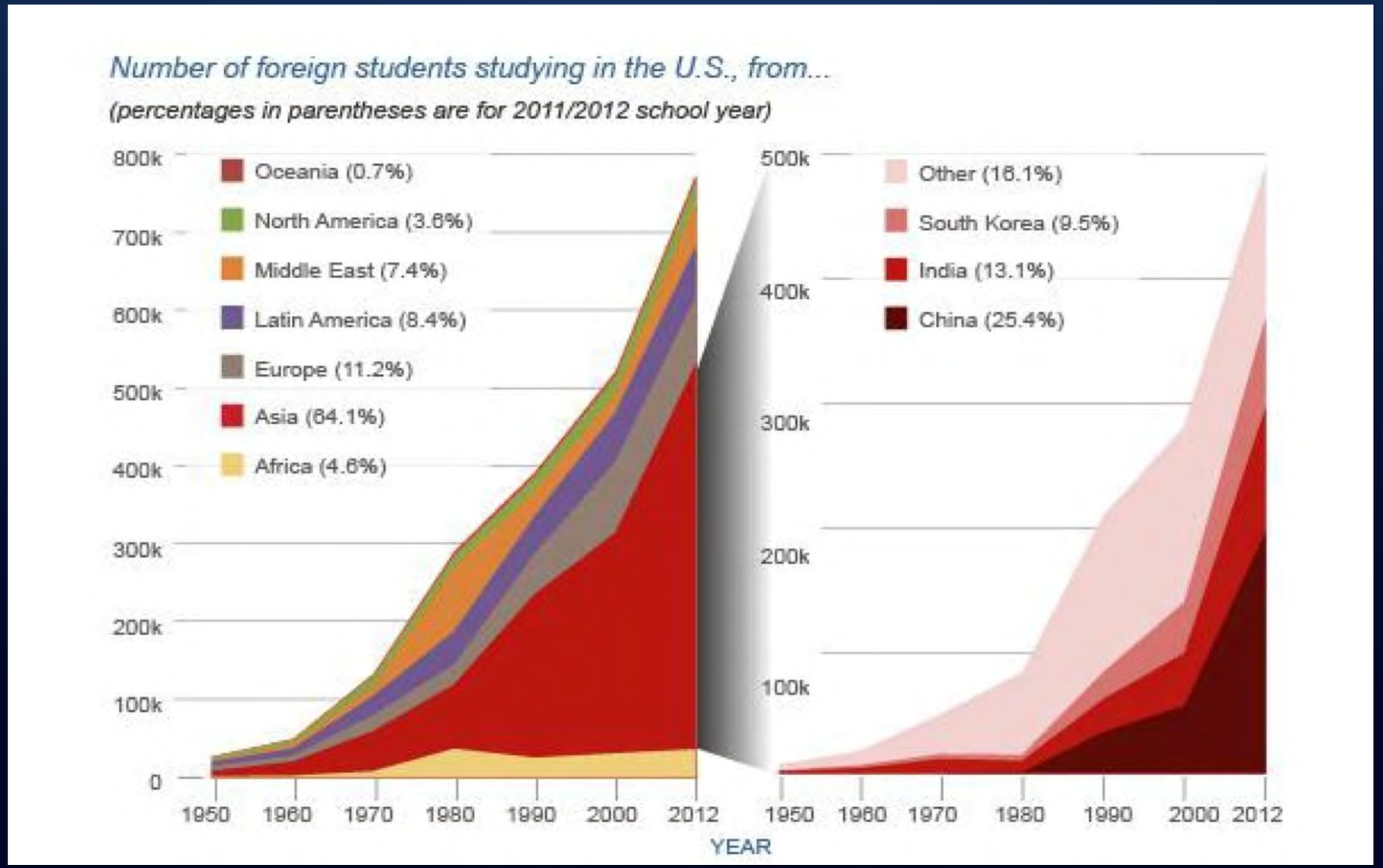
Three Types of Foreign Student Visas

1. **F-1 Visa: For full-time academic study; most common visa**

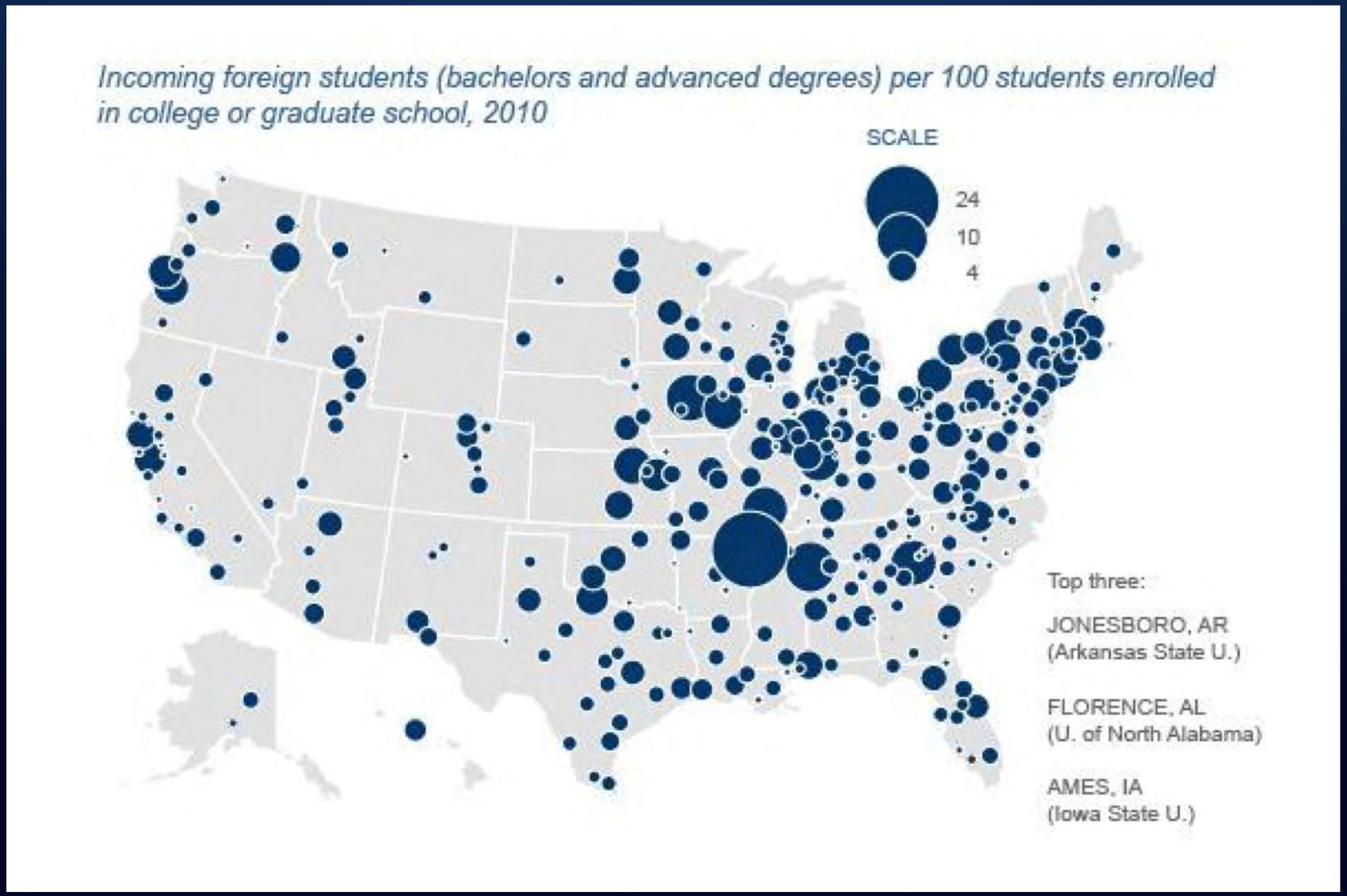
2. J-1 Visa: For cultural exchange purposes, also known as the Fulbright Program

3. M-1 Visa: For non-academic vocational purposes only; least common visa

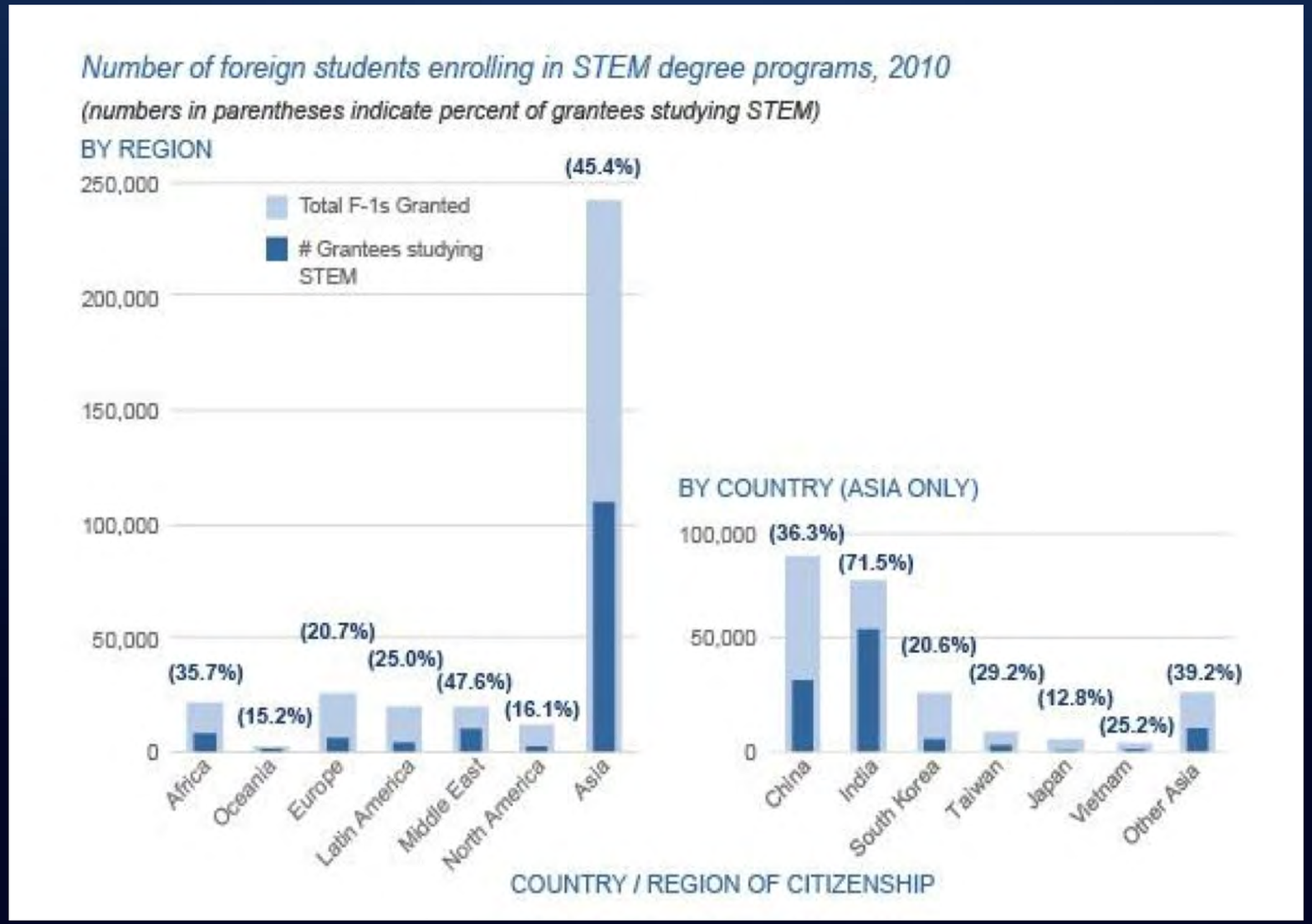
Foreign Students from Asia are driving growth



Smaller metros have the highest concentration of foreign students



Students from Asia comprise an overwhelming share of all foreign students studying STEM



US Metro Foreign Student Data Profiles

118 Highest US Metro Destinations of Foreign Students

U.S. Metropolitan Destinations of America's Foreign Students

Las Vegas-Paradise, NV Metro Area

CONFIDENTIAL Not for Citation or Distribution

Total Number of F-1 Visas Approved	Number of F-1 Visa Approvals per 1,000 students	Total Tuition Dollars from F-1 Visa Students	Estimated Living Costs Dollars from F-1 Visa Students
2,850	15.4	$47.99 million	$41.39 million
RANK 87	RANK 87	RANK 85	RANK 64

Top Majors of Visa Approvals

Business, Management, Marketing	1,876
Engineering	157
Basic Skills and Development/Remedial Education	136
Health Professions	121
Computer and Information Sciences	74

Degree Programs

% of Visa Approvals in STEM Degree Programs

12.1%

RANK 115

Top Schools

UNLV
Roseman University of Health Sciences
Touro University Nevada
DeVry University
FLS International

Top Source Cities and Countries of Citizenship

Seoul	455	South Korea	936
Singapore	263	China	469
Hong Kong	83	Singapore	263
Beijing	57	India	173
Busan	55	Japan	165

CONFIDENTIAL

All data is for 2008-2012 calendar years and only for students studying for Bachelors or above degree programs.

Not for Citation or Distribution

U.S. Metropolitan Destinations of America's Foreign Students

Lafayette, IN Metro Area

U.S. Metropolitan Destinations of America's Foreign Students

Boston-Cambridge-Quincy, MA-NH Metro Area

U.S. Metropolitan Destinations of America's Foreign Students

Corvallis, OR Metro Area

Total Number of F-1 Visas Approved	Number of F-1 Visa Approvals per 1,000 students	Total Tuition Dollars from F-1 Visa Students	Estimated Living Costs Dollars from F-1 Visa Students
2,731	62.6	$55.21 million	$23.30 million
RANK 84	RANK 5	RANK 66	RANK 103

Top Majors of Visa Approvals

Engineering	1,130
Business, Management, Marketing	596
Computer and Information Sciences	180
Physical Sciences	138
Health Professions	87

Degree Programs

% of Visa Approvals in STEM Degree Programs

63.7%

RANK 13

Top Schools

Oregon State University

Countries of Citizenship

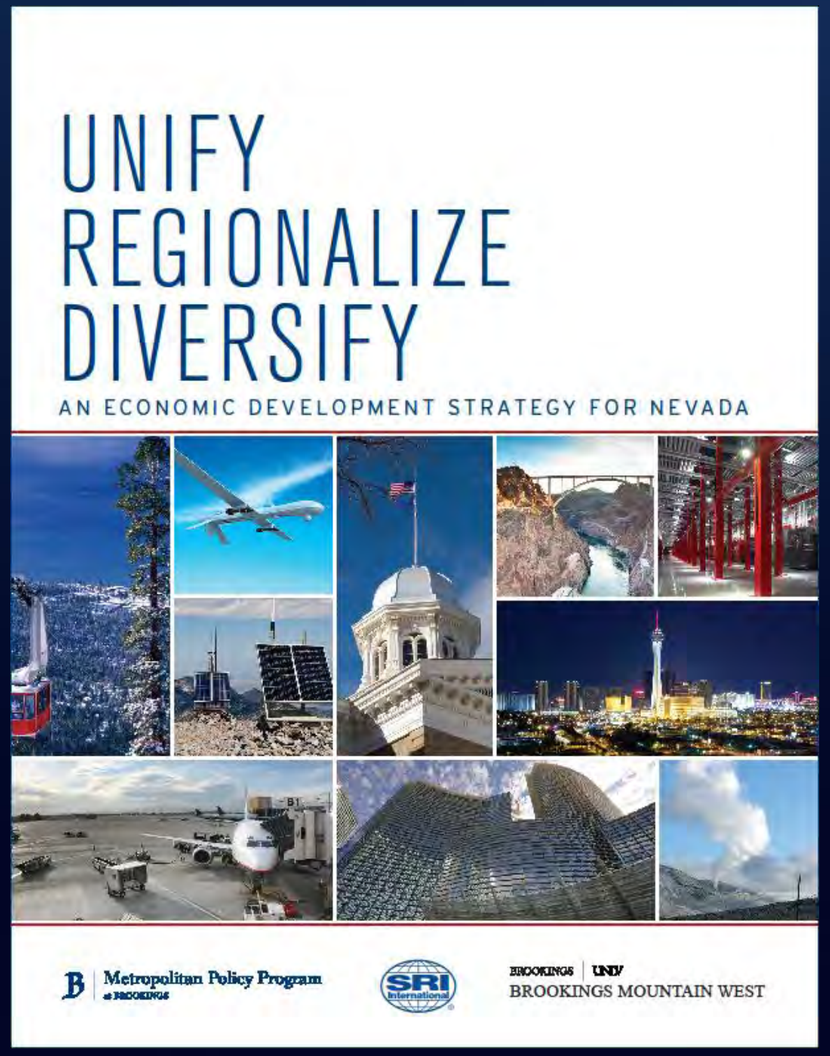
China	795
Saudi Arabia	556
India	163
South Korea	163
Kuwait	106

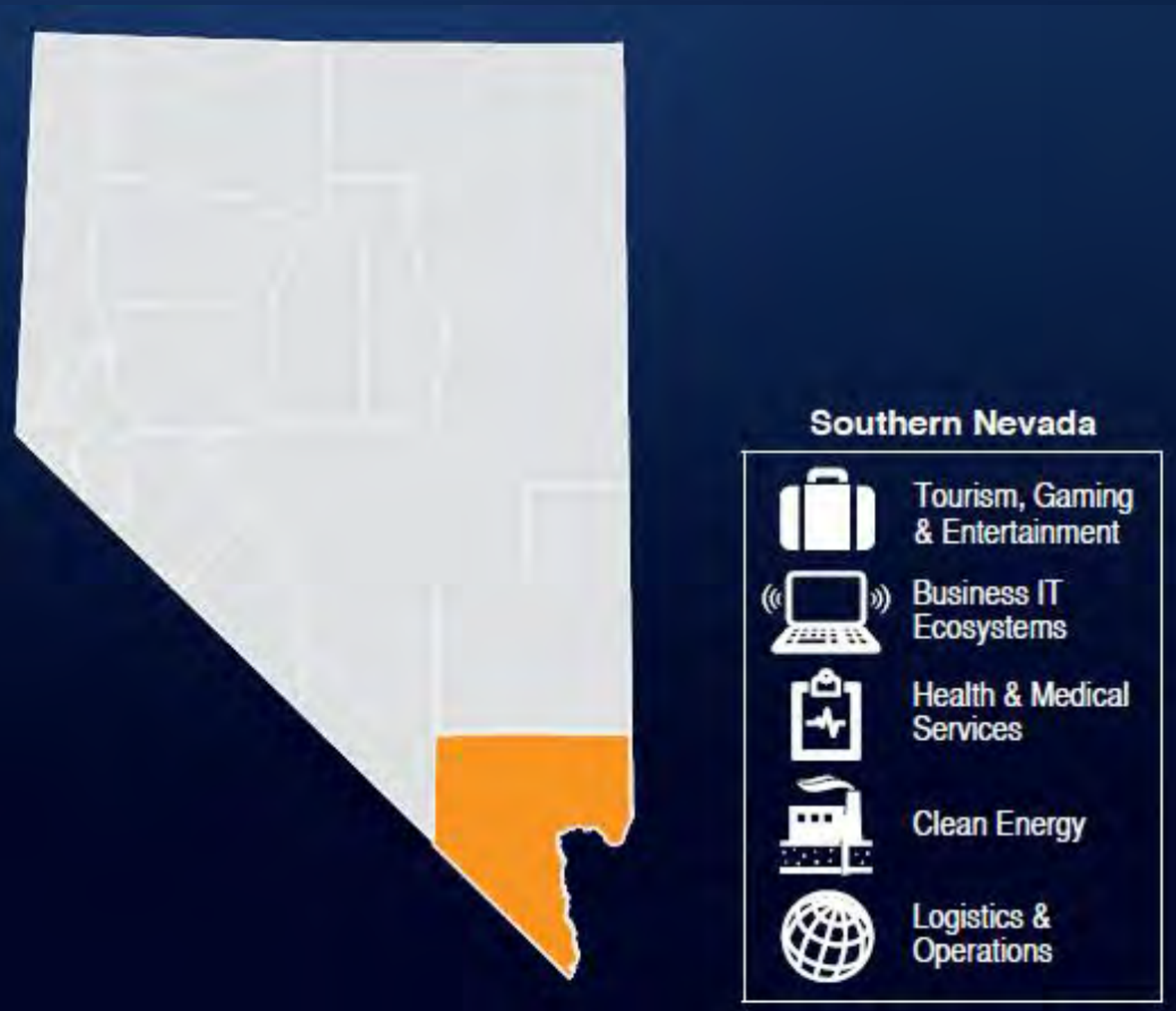
All data is for 2008-2012 calen

3. Las Vegas Demand & Supply of Foreign Skills

In 2011 we worked with SRI International to provide research that informed the creation of the state's first economic development plan

Nevada Economic Recovery





All of the target industries have a significant STEM orientation

Southern Nevada
Industry Opportunities

	Strength	Potential
Tourism, Gaming &Entertainment	Global hub for the gaming industry	Online gaming, intellectual capital of global gaming, film/ media, niche tourism
Business IT Ecosystems	Base of business service activities, specialization in data centers	Back office/call centers, e-commerce, cloud computing, cyber security
Health & Medical Services	Population concentration in Southern Nevada	Expansion of service availability and quality, with surgical/geriatric specialties
Clean Energy	Installed capacity of solar energy and hydropower	Expansion of facilities, design/manufacture of energy systems/components
Logistics & Operations	Distribution, logistics, transportation activities/ infrastructure	Increase position as West Coast hub/gateway, expansion of activities

Metro Profile: Demand for H-1B Workers

Las Vegas, NV

Applications

780
H-1B visa requests

0.96
H-1B intensity
requests per 1,000 workers

Top Employers Requesting H-1Bs

7%
Uncapped

UNLV

Bally TECHNOLOGIES

Occupations

48%
STEM

Computer Occupations
Health Practitioners
Engineers
Business Operations Specialists

Matching Skills Training to Metro Needs: Las Vegas

Metro Profile: Supply of Foreign Students

Las Vegas, NV

F-1 Students

2,850	15.4
F-1 Visas Approved	Intensity

Top Schools

UNLV

Roseman University of Health Sciences

Touro University Nevada

12.1% STEM

Top Global Hometowns

Seoul	455
Singapore	263
Hong Kong	83
Beijing	57
Busan	55

Business, Management, Marketing	1,876
Engineering	157
Basic Skills and Remedial Education	136
Health Professions	121
Computer and Information Sciences	74

Las Vegas Demand & Supply of Foreign Skills

1. Demand for STEM H-1B Workers (50 percent of all requests)
2. Only 12 percent of Foreign Students in STEM fields
3. Large majority of Foreign students in Business (66 percent of all F-1 students)
4. Las Vegas is connected with Seoul, Singapore, and Hong Kong through Foreign Students
5. Las Vegas should apply for H-1B visa fee funded workforce training grants in STEM

4. Challenges and Prospects for Reform

Current US Visa System

F-1 visas approved in 2010

F-1s enrolled in advanced degree programs

F-1s enrolled in advanced degree programs AND studying a STEM field

Of the 668,513 F-1 visas in 2010, 188,281 (28.2%) were enrolled in advanced degree programs, of whom **96,162 (14.4%)** were studying a STEM field.

Under proposals to give green cards to foreign STEM advanced degree holders these individuals would have faster access to a green card upon graduating with a job offer.

H-1b visas approved in 2010

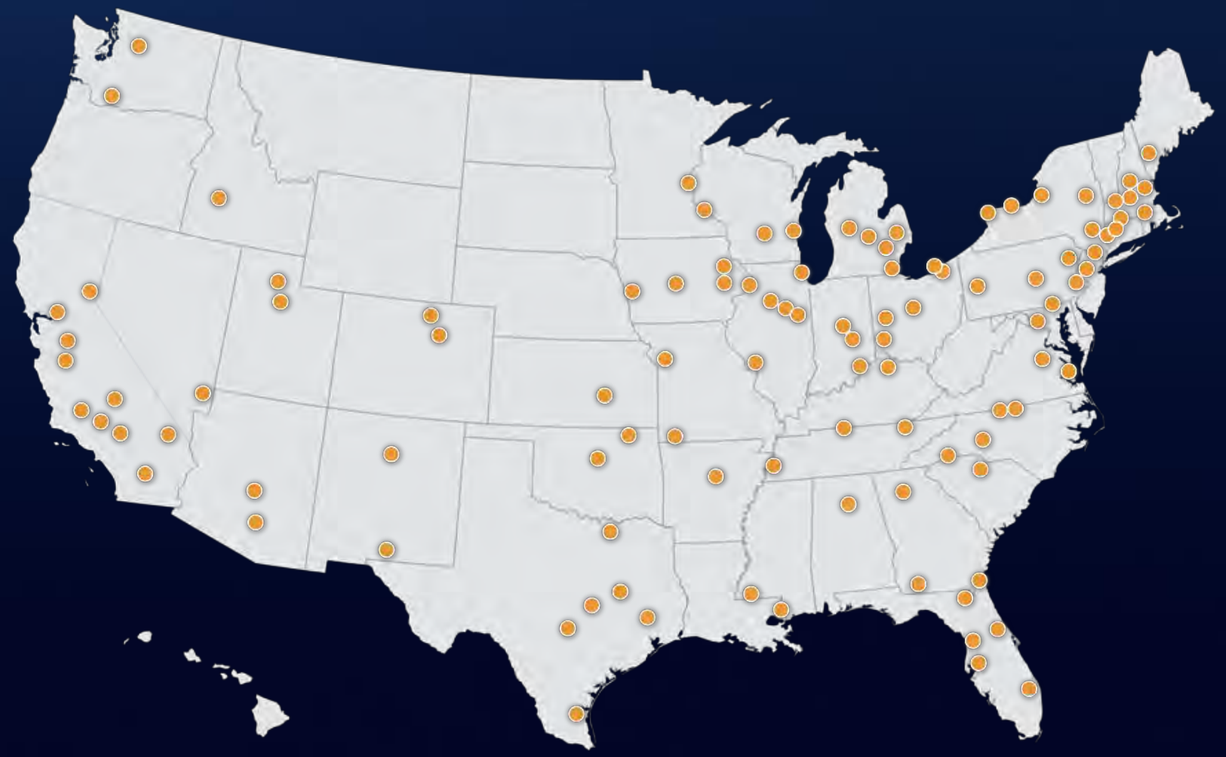
H-1bs transferring from F-1 status

H-1bs transferring from F-1 status who had a graduate degree

Of the 76,627 new H-1B visas approved in 2010, **26,502 (34.6%)** were transferring from F-1 visa status, of whom **19,922 (26.0%)** had a graduate degree.

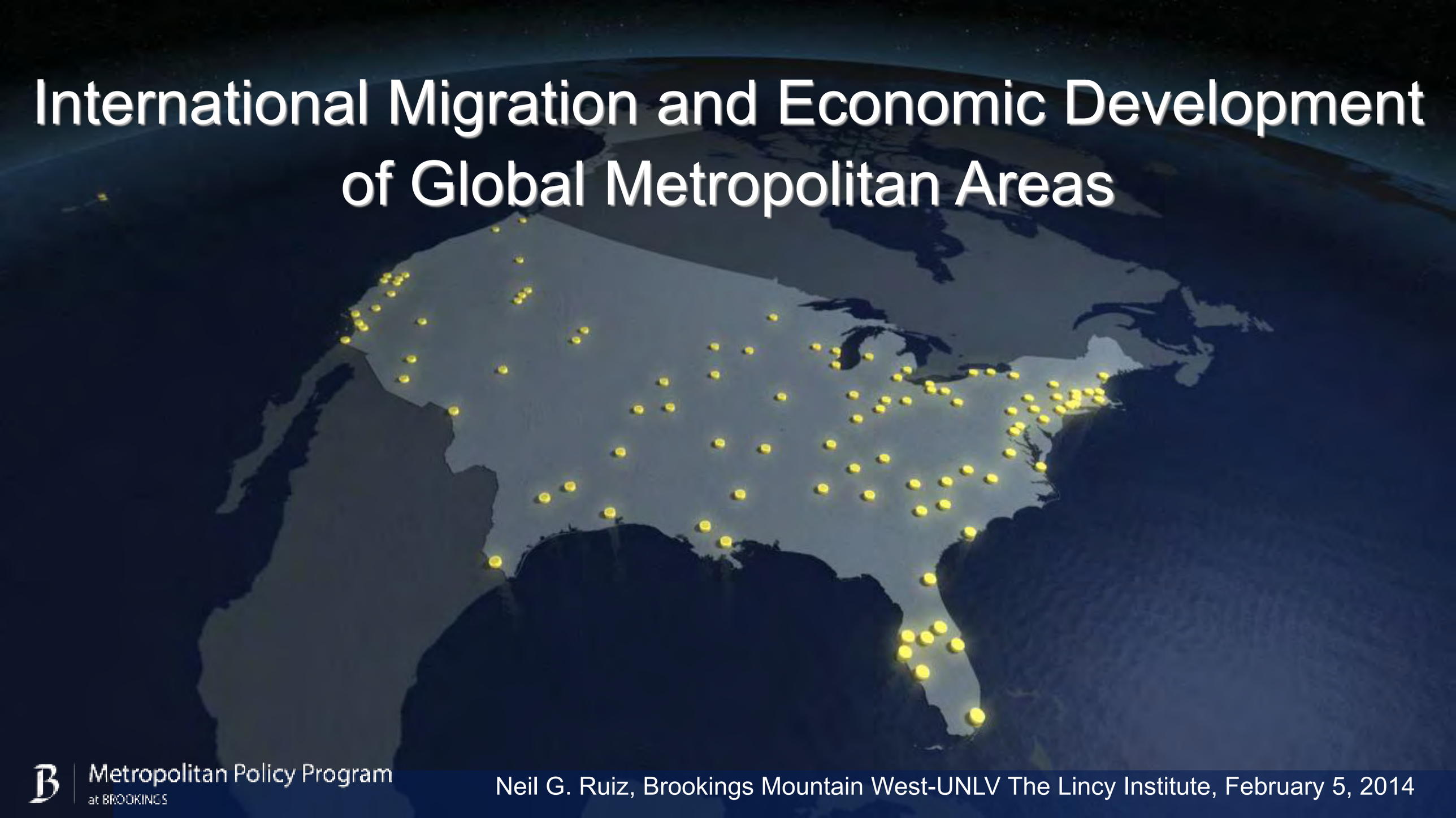
They can then apply for permanent status, if sponsored by their employer.

Congress Agrees on High-Skilled Immigration Reform



Fast Track Regional Visas?

International Migration and Economic Development of Global Metropolitan Areas



Metropolitan Policy Program at BROOKINGS

Neil G. Ruiz, Brookings Mountain West-UNLV The Lincy Institute, February 5, 2014