International Migration and Economic Development of Global Metropolitan Areas
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
1. Demand for Foreign Skilled Workers
The H-1B Program connects US employers to high-skilled workers
H-1B Visa Program

Immigration Act of 1990
November 29, 1990

American Competitiveness and Workforce Improvement Act of 1998
October 21, 1998
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
Private Firms
*Capped*

H-1B Temporary Work Visas

H-1B Cap
*For Private Employers*

- 1999: 115,000
- 2000: 195,000
- 2001: 195,000
- 2002: 65,000
- 2003: 65,000
- 2004: 85,000
- 2005: 85,000
- 2006: 85,000
- 2007: 85,000
- 2008: 85,000
- 2009: 85,000
- 2010: 85,000
- 2011: 85,000
High-Demand Industries and Firms

Information Technology

Management Consulting

Manufacturing

Finance

Microsoft

IBM

CATHERPILLAR

Ernst & Young

Deloitte

Accenture

Qualcomm

Goldman Sachs

WIPRO

JP Morgan Chase & Co.
H-1B Temporary Work Visas

Research, Non-Profit, Government Organizations

Uncapped
H-1B Temporary Work Visas
Origin Countries of H-1B Visa Recipients

Occupations of H-1B Visa Requests

- **STEM Occupations**: 64%
  - Engineers: 8.2%
  - Computer Occupations: 46.8%

- **Non-STEM Occupations**: 36%
  - Financial Specialists: 5.7%
  - Healthcare Practitioners: 6.4%

Source: Brookings Analysis of Department of Labor Data (2010-2011)
Increasing Responsiveness to Fluctuations in H-1B Demand

**H-1B EMPLOYER DEMAND**

- 1999: 115,000
- 2000: 195,000
- 2001: 220,731
- 2002: 380,320
- 2003: 307,131
- 2004: 404,907
- 2005: 336,309

**H-1B CAP**

- 1999: 115,000
- 2000: 195,000
- 2001: 220,731
- 2002: 380,320
- 2003: 307,131
- 2004: 404,907
- 2005: 336,309
H-1B Cap Not Responsive to Economic Needs

H-1B Cap Fills Rapidly

This year, the demand for H-1B visas has outstripped supply in five days. Last year it took a little over two months to reach the cap.

Annual cap on H-1B visas

195k

115,000

195,000

65,000

65,000 + add'l 20,000 from graduates of American universities

H-1B availability windows

- Annual cap not yet met; new applications accepted
- Cap met; no applications accepted

BROOKINGS
Metros drive demand for H-1B workers
Metros Concentrate H-1B Requests

High-Demand H-1B Metros
106 Metropolitan Areas

67% Workers
91% H-1B Requests
Metros With Greatest Number of H-1B Applications

Seattle
San Francisco
San Jose
Los Angeles
Chicago
Dallas
Boston
New York
Washington
Houston
Metro Profiles

Rochester, MN
San Jose
Columbus, IN
Metro Profile
San Jose, CA

14,926 H-1B visa requests
17.1 H-1B intensity requests per 1,000 workers

Top Employers Requesting H-1Bs
3% Uncapped
Intel
Yahoo!
Ebay

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**

- Uncapped
- Cummins
- 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

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
$1 billion technical skills training and STEM education, 2001-2011
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

WSU
Wichita State University

NIAR
National Institute for Aviation Research

Workforce Alliance

Aligned to aviation and aerospace cluster
Matching Skills Training to Metro Needs

Technical Skills Training
Per-Capita Expenditures

$15.26

$3.09  $2.07  $1.06  $0.00  $0.00
High-Demand H-1B Metros  Low-Demand H-1B Metros  San Jose  New York  Columbus, IN  Bloomington, IL
Metros are home to foreign students
The U.S. is the global hub for higher education, receiving 21 percent of all students studying abroad.
5+ million approvals for F-1 visas in 2001-2012

Forthcoming Brookings Report on Foreign Students
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

### Las Vegas-Paradise, NV Metro Area

- **Total Number of F-1 Visa Approved**: 2,850
- **Number of F-1 Visa Approvals per 1,000 students**: 87
- **Total Tuition Dollars from F-1 Visa Students**: $47.99 million
- **Estimated Living Costs Dollars from F-1 Visa Students**: $41.39 million

### Top Majors of Visa Approvals

<table>
<thead>
<tr>
<th>Major</th>
<th>% of Visa Approvals in STEM Degree Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business, Management, Marketing</td>
<td>18.7%</td>
</tr>
<tr>
<td>Engineering</td>
<td>15.7%</td>
</tr>
<tr>
<td>Basic Skills and Remedial Education</td>
<td>13.6%</td>
</tr>
<tr>
<td>Health Professions</td>
<td>12.1%</td>
</tr>
<tr>
<td>Computer and Information Sciences</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

### Degree Programs

- **Civil Engineering**: 455
- **Electrical Engineering**: 263
- **Chemical Engineering**: 83
- **Mechanical Engineering**: 47
- **Environmental Engineering**: 34

### Top Source Cities and Countries of Citizenship

- **Seoul**: 912,000
- **Singapore**: 18,469
- **Hong Kong**: 12,205
- **Beijing**: 8,274
- **Busan**: 8,118

### Top Schools

<table>
<thead>
<tr>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNLV</td>
</tr>
<tr>
<td>Roseman University of Health Sciences</td>
</tr>
<tr>
<td>Texas A&amp;M University of Texas</td>
</tr>
<tr>
<td>DeVry University</td>
</tr>
<tr>
<td>FLIS International</td>
</tr>
</tbody>
</table>

### Lafayette, IN Metro Area

- **Total Number of F-1 Visa Approved**: 2,731
- **Number of F-1 Visa Approvals per 1,000 students**: 84
- **Total Tuition Dollars from F-1 Visa Students**: $55.21 million
- **Estimated Living Costs Dollars from F-1 Visa Students**: $23.30 million

### Top Majors of Visa Approvals

<table>
<thead>
<tr>
<th>Major</th>
<th>% of Visa Approvals in STEM Degree Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>10.0%</td>
</tr>
<tr>
<td>Business, Management, Marketing</td>
<td>5.9%</td>
</tr>
<tr>
<td>Computer and Information Sciences</td>
<td>4.7%</td>
</tr>
<tr>
<td>Health Professions</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

### Degree Programs

- **Electrical Engineering**: 62.6
- **Mechanical Engineering**: 55.9
- **Computer and Information Sciences**: 14.0
- **Physical Sciences**: 13.0
- **Engineering**: 12.7

### Top Source Cities and Countries of Citizenship

- **China**: 905,000
- **Saudi Arabia**: 866
- **India**: 162
- **South Korea**: 63
- **Australia**: 65

### Top Schools

<table>
<thead>
<tr>
<th>School</th>
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<tbody>
<tr>
<td>Indiana University of Science</td>
</tr>
<tr>
<td>Rose-Hulman Institute of Technology</td>
</tr>
<tr>
<td>Purdue University</td>
</tr>
<tr>
<td>Indiana University of Health Sciences</td>
</tr>
<tr>
<td>Ball State University</td>
</tr>
</tbody>
</table>

### All data for 2008-2013 academic years and only for eligible students for bundling of short term degree programs.
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.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Strength</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism, Gaming &amp; Entertainment</td>
<td>Global hub for the gaming industry</td>
<td>Online gaming, intellectual capital of global gaming, film/media, niche tourism</td>
</tr>
<tr>
<td>Business IT Ecosystems</td>
<td>Base of business service activities, specialization in data centers</td>
<td>Back office/call centers, e-commerce, cloud computing, cyber security</td>
</tr>
<tr>
<td>Health &amp; Medical Services</td>
<td>Population concentration in Southern Nevada</td>
<td>Expansion of service availability and quality, with surgical/geriatric specialties</td>
</tr>
<tr>
<td>Clean Energy</td>
<td>Installed capacity of solar energy and hydropower</td>
<td>Expansion of facilities, design/manufacture of energy systems/components</td>
</tr>
<tr>
<td>Logistics &amp; Operations</td>
<td>Distribution, logistics, transportation activities/infrastructure</td>
<td>Increase position as West Coast hub/gateway, expansion of activities</td>
</tr>
</tbody>
</table>
Metro Profile: Demand for H-1B Workers

Las Vegas, NV

780
H-1B visa requests

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

7%
Uncapped

Top Employers Requesting H-1Bs

7%

Applications

Occupations

- Computer Occupations
- Engineers
- Business Operations Specialists

48%
STEM

Health Practitioners

Las Vegas
Matching Skills Training to Metro Needs: Las Vegas

Technical Skills Training
Per-Capita Expenditures

High-Demand H-1B Metros: $3.09

Low-Demand H-1B Metros: $15.26

Las Vegas: $0.28
Metro Profile: Supply of Foreign Students

Las Vegas, NV

F-1 Students
2,850
15.4

F-1 Visas
Approved
Intensity

Top Schools

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

- F1 Visa
- H1B Visa

Permanent Resident Card
### F-1 visas approved in 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-1s enrolled in advanced degree programs</td>
<td>668,513</td>
</tr>
<tr>
<td>F-1s enrolled in advanced degree programs AND studying a STEM field</td>
<td>188,281</td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

### H-1b visas approved in 2010

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-1bs transferring from F-1 status</td>
<td>76,627</td>
</tr>
<tr>
<td>H-1bs transferring from F-1 status who had a graduate degree</td>
<td>26,502</td>
</tr>
</tbody>
</table>

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.

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.

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