INCLUSION IN ARCHITECTURE
The J. Max Bond Center on Design for the Just City at the Bernard and Anne Spitzer School of Architecture at The City College of New York, believes that design can have a positive impact on urban reform in our nation’s cities. Founded in 2011, the Bond Center is dedicated to the advancement of design practice, education, research and advocacy in ways that build and sustain resilient and just communities, cities, and regions.

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INCLUSION IN ARCHITECTURE
“Inclusion in Architecture” is a three-part research and engagement initiative, started in the spring of 2013 by the J. Max Bond Center, to support an ongoing national discussion about diversity and inclusion in the discipline of architecture and its allied design fields.

It specifically seeks to 1) better understand the potential barriers that may limit an individual of color from accessing, pursuing, and succeeding in the architecture profession and academy and 2) broaden awareness about architecture to New York City youth. Our efforts to-date are as follows:

1. Statistical Analysis: In the spring of 2013, students participating in an undergraduate independent study course gathered and analyzed data about the state of the architecture profession for African-Americans and Hispanic/Latinos. This research has continued over the last 2 years by JMBC undergraduate and graduate student interns. We were able to collect a robust amount of data for African-Americans architects, however little data could be found documenting Hispanics/Latinos in the profession. Additionally, the research also included investigations about the various platforms and programs that expose youth to architecture.

2. Youth Engagement: In 2013, the J. Max Bond Center also began a collaboration with the Harlem School of the Arts (HSA) and the CCNY Spitzer School of Architecture. The collaboration resulted in a 10-week youth engagement program that integrated 5 high-school students from the HSA visual arts department into undergraduate 3rd year architecture design studios once a week. HSA students worked with 4 undergraduate faculty, 2 student teaching assistants, and 50 architecture students in the re-design of HSA’s building and facade, located near the CCNY campus. This engagement program sought to 1) expose youth to the design studio and an architecture curriculum through first-hand experience, and 2) to integrate HSA students as a client to the project. HSA students are active in after-school programs at HSA 5 days a week.

3. Survey Development: The 2014-2015 academic year has been devoted to the development of survey instruments for youth and adults. The survey seeks to better ascertain how the public understands what architects do, in order to develop public awareness and youth educational programs that begin to attract more youth of color to the profession.
Almost 106,000 individuals in the United States have invested an extraordinary amount of time and energy to becoming an architect. The title “architect” can only be used when an individual has obtained an extensive set of educational and professional development requisites, has successfully completed a set of rigorous exams, and has officially been approved and registered to practice in a specific state of residence. This intense foundation is only the primer to a lifelong career that physically shapes the built environment and influences how populations will navigate and operate within it. Furthermore, the seal of an “architect” holds an individual accountable to a lifetime of liability for the work they produce. It is a title that is not easily obtained and can be costly to maintain; however, the capacity of this profession that works in tandem with a host of allied design disciplines to shape and impact the development of towns, cities, and regions to serve an incredibly diverse landscape of populations and cultures is not to be short-changed. To engage and to actively participate in the disciplines of architecture (architecture, landscape architecture, urban design, interior design, sustainability) signifies a professional investment and an influential voice in creating the environment where we live and thrive.

This chapter provides a closer examination of architects working throughout the United States; who they are; what they do; how much they earn; the cost investments made to achieve their titles; and the support network that accompanies them through their career. The data provides a general summary of the current state of the profession overall, and also reveals areas where more access to the profession is needed, particularly for African-American and Hispanic/Latino populations.
In 1968, Whitney M. Young Jr., then the head of the National Urban League, challenged the American Institute of Architects (AIA) at their annual convention. Young explicitly expressed his concern that they “had fostered urban blight with its ‘thunderous silence’ and lack of black members, thereby tightening the white noose around the central city” (Khan, 1992). At the convention, he became the first individual to publicly criticize the lack of minority (specifically black) participation in architectural practice. His speech was the impetus for a “call for action” by the profession and the public. Shortly thereafter, architecture scholarships for minorities started flowing, the National Organization for Minority Architects was formed in 1971, and government contracts began requiring minority participation.

In 1992, the black architect, Jack Travis, became the first individual to publish a book on the state of black participation in the practice of architecture. His book, African American Architect in Current Practice, highlighted the contributions of black architects to the field of architecture at the time. Using data from Directory of African American Architects, sponsored by the Center for the Study of Practice at the University of Cincinnati, Travis’ book also illustrated the persistent underrepresentation of minorities in the field.

A decade later, Melvin Mitchell (2002), another black architect, in his book, The Crisis of the African-American Architect, recognized that the entire future of blacks in the field of architecture was still in jeopardy and exposed the roots of an eighty-year-old estrangement between black architects and Black America.

Still yet another decade later, in 2013, nearly 45 years after Whitney Young’s call for action we are faced with the same dilemma of gross underrepresentation of Blacks, and Hispanics, among the ranks of licensed practicing architects. There has been very little improvement since the University of Cincinnati began to compile data on black architects in 1991. Blacks and Latinos together, still comprise less than 10% of professionals in the field, and blacks alone make up less than 2% of licensed architects. The disparities that exist in architectural education institutions are being reproduced in the practice of architectural design, and related fields. Related research demonstrates that these types of disparities are also prevalent in other highly specialized fields in the STEM areas, where non-Asian minority representation in the science, technology, engineering and mathematics workforce combined is a mere 7% compared to a respectable 17% among Asians and an extreme 73% for whites (STEM Gap Widen, 2012).

Some major issues here must consider how “elite” minorities who have “beat the odds” to enter the field, provide pipelines of support to bring in others after them. Also of importance is an understanding of the challenges that Blacks and Hispanics/Latinos in architectural practice face with getting exposure and promotion in the field, while struggling with whether to compete against or yield to the prevalent hegemonic ideals of the discipline which serve to disenfranchise and distance many minority communities.

Todd Brown
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CUNY Graduate Center

SOURCES:
105,847
LICENSED ARCHITECTS IN THE US
(83,000 AMERICAN INSTITUTE OF ARCHITECTS MEMBERS)

~6X MORE MALES THAN FEMALES IN THE PROFESSION

85% 15%
GENDER

22-34 35-49 50-65 65+
12% 28% 45% 18%
AGE

1,694
AFRICAN AMERICAN ARCHITECTS

8,362
HISPANIC LATINO ARCHITECTS

<10%
OF ARCHITECTURE PROFESSION ARE AFRICAN AMERICANS AND HISPANICS/ LATINOS

72.0% CAUCASIAN
12.7% OTHER
7.9% HISPANIC/LATINO
5.8% ASIAN
1.6% AFRICAN AMERICAN

WHO IS PRACTICING ARCHITECTURE?

White males have historically dominated the architecture profession. While women and architects of color are represented, their participation in the profession is disconcertingly low. There are 6 times more licensed male architects than females, and less than 10% of all licensed architects are African American and Hispanic/Latino. Hispanics / Latino architects, however, outpace the number of African-American architects by almost 5 times.

INCLUSION IN ARCHITECTURE

STATE OF THE PROFESSION

(2.1.1) The American Institute of Architects (AIA) is a professional organization for architects in the United States. There are 264 chapters throughout the United States and 6 international locations, and as of 2014 have a membership of over 85,000. Headquartered in Washington, DC, the AIA offers education, government advocacy, community re-development, and public outreach to support the architecture profession and improve its public image.


California and New York attract the most number of licenses to practice architecture, with Texas trailing not far behind. California has a total of 15,575 architects practicing, New York with 9,467, and Texas with 7,333. Additionally, New York and Arizona attract over 5,000 reciprocal licenses -- a license that grants an architect living and working in one state to practice architecture work in another state.

### States with >3,000 Licensed Architects (2011)

1. California 15,575
2. New York 9,467
3. Texas 7,333
4. Illinois 5,499
5. Florida 4,904
6. Washington 3,956
7. Pennsylvania 3,742
8. Massachusetts 3,666
9. Ohio 3,279
10. Colorado 3,193
11. New Jersey 3,066

### States with >3,000 Reciprocal* Architect Registrations (2011)

1. New York 6,592
2. Arizona 5,238
3. New Jersey 4,762
4. Pennsylvania 4,326
5. Florida 4,272
6. Virginia 4,185
7. Colorado 3,937
8. California 3,907
9. Texas 3,882
10. Maryland 3,867
11. Illinois 3,846
12. Ohio 3,343
13. Michigan 3,125
14. Wisconsin 3,031
15. North Carolina 3,005

*Reciprocal Architect Registration is when a registered architect in one jurisdiction applies for registration in another jurisdiction by presenting documentation that he or she meets that jurisdiction’s registration requirements. The most common and widely accepted means of gaining reciprocity is through the NCARB Certificate.
INCLUSION IN ARCHITECTURE

WHERE ARE ARCHITECTS OF COLOR BEING LICENSED?

Only 14 US cities have more than 20 licensed African-American architects. Washington DC and New York City attract the most African-American architects with Atlanta, GA following closely behind. Based on data from the Directory of African-American Architects, an online platform where licensed architects self-subscribe to the directory and identify the cities where they work, Washington DC is currently showing 136 African-American architects, New York City with 121 and Atlanta with 92. These 2 cities and our nation’s capital are also within states/regions that show an African-American population of greater than 25%. On the opposite spectrum, the directory also reveals that there are 6 states with zero African-American architects (Idaho, Maine, Montana, New Hampshire, Vermont, and Wyoming).

STATES WITH >25% AFRICAN AMERICAN AND HISPANIC POPULATIONS


STATES WITH>20 LICENSED AFRICAN AMERICAN ARCHITECTS (2014)

Washington D.C | 136
New York, NY | 121
Atlanta, GA | 92
Chicago, IL | 70
Houston, TX | 51
Detroit, MI | 40
Brooklyn, NY | 35
Los Angeles, CA | 32
Baltimore, MD | 31
Charlotte, NC | 30
Philadelphia, PA | 30
Oakland, CA | 25
San Francisco, CA | 23
Miami, FL | 20
17,500 **ARCHITECTURE FIRMS IN 2011**

**DECREASE IN TOTAL # OF FIRMS FROM 2009 - 2011**

73% **OF ARCHITECTS PRACTICE IN FIRMS***

*Includes sole practitioners and multidisciplinary firms with architecture as lead discipline

20% **OF ARCHITECTS ARE SELF EMPLOYED**

Firm Billings

*As reported by AIA membership*

- State and local government: 25%
- Business, industrial, commercial, or other companies: 22%
- Nonprofit institutions: 14%
- Developers and construction companies: 14%
- Private individuals: 12%
- Federal government: 7%
- Other architects, engineers, and design professionals: 4%

32% **OF ALL ARCHITECTURE FIRM BILLINGS ARE FROM PUBLIC SECTOR CLIENTS**

Firms Owned by African-Americans Over Time

- 1946-1960: 7
- 1961-1975: 19
- 1976-1990: 55

66% **OF AFRICAN AMERICAN ARCHITECTS PRIVATE IN FIRMS**

21% **OF AFRICAN AMERICAN ARCHITECTS ARE SELF EMPLOYED**

Business Structures Architects Are Working In

- Sole Proprietorship: 22%
- Limited Liability Company: 28%
- Partnership: 11%
- Other (LLP, PA, etc): 7%
- S Corporation: 20%
- Professional Corporation: 16%
- General Business Corporation: 7%

32% **OF PUBLIC SECTOR PROJECTS ARE RECEIVED FROM BUSINESS, INDUSTRIAL, COMMERCIAL, OR OTHER COMPANIES**

Directory of African-American Architects

Additionally, according to a survey conducted by the AIA, 23% of survey respondents stated they primarily work on public sector projects.

The majority of architects, 93%, are working in the private sector in architecture firms or are self-employed. The majority of African-American architects, 97%, are also working in the private sector in architecture firms or are self-employed. Firm billings, as reported by the AIA, reveals that 32% of firm billings reported by architecture firms are received from public sector clients. Additionally, according to a survey conducted by the Directory of African-American architects, 19% of survey respondents stated they primarily work on public sector projects.
Architect salaries generally range between $35,000 - $170,000 and are distributed through 7 salary position levels. According to 2014 salary research, starting salaries in architecture, both at the low and high ends are only slightly lower than the starting salaries of its peer disciplines of Landscape Architecture and Urban Planning. Additionally, this research reveals 2 additional pay tiers in the architecture profession compared to its peer disciplines, which implies more time required to achieve higher salary points. When salaries in architecture are compared to other service sector positions, entry-level architect salaries are similar to sectors that require little to no college education and mid-level architect salaries are generally equal to public school teachers. Opportunities for higher salaries in the architecture profession occur typically in positions of senior management and ownership.
According to a survey conducted by the Directory of African-American Architects in 2000, many architects of color are earning between $50,001 - $100,000. However, the salary statistics for African-American architects represented in the adjacent graphic are based on a very small survey sampling of approximately 260 respondents. The survey reveals average salaries for architects but did not request the individual to identify their specific professional level (i.e. Intern Architect vs. Architect V).

### How Much Money Are Architects of Color Making?

<table>
<thead>
<tr>
<th>Salary Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000</td>
<td>3%</td>
</tr>
<tr>
<td>$25,001 - $37,500</td>
<td>3%</td>
</tr>
<tr>
<td>$37,501 - $50,000</td>
<td>3.7%</td>
</tr>
<tr>
<td>$50,001 - $62,500</td>
<td>8.8%</td>
</tr>
<tr>
<td>$62,502 - $75,000</td>
<td>12.2%</td>
</tr>
<tr>
<td>$75,001 - $100,000</td>
<td>13.8%</td>
</tr>
<tr>
<td>$101,000 - $150,000</td>
<td>14.2%</td>
</tr>
<tr>
<td>$150,001 - $200,000</td>
<td>9.8%</td>
</tr>
<tr>
<td>$200,001 - $250,000</td>
<td>4.7%</td>
</tr>
<tr>
<td>$250,000+</td>
<td>1.3%</td>
</tr>
<tr>
<td>NO ANSWER</td>
<td>14.2%</td>
</tr>
</tbody>
</table>

**Higher Percentages of Architects of Color Are Earning Between $50,001 - $100,000**

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<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Accredited Education</td>
</tr>
<tr>
<td>02</td>
<td>Intern Development Program (IDP)</td>
</tr>
<tr>
<td>03</td>
<td>Architect Registration Examination (ARE)</td>
</tr>
<tr>
<td>04</td>
<td>Registered Architect (RA)</td>
</tr>
</tbody>
</table>

**Average # Yrs Spent on Each Stage for Licensure in 2012**
- Accredited Education: 5 - 7 yrs
- Intern Development Program (IDP): 4.5 - 6 yrs
- Architect Registration Examination (ARE): 1.5 - 2 yrs

**11 - 15 yrs on avg to become a registered architect**

**Average Age at Initial Licensure**

- 34 yrs

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The architecture degree program a student selects will influence the length of time it will take to become licensed. The most direct path that qualifies an individual to enter the licensure process is to obtain a degree from an accredited professional undergraduate or graduate program as identified by the National Architectural Accreditation Board (NAAB). Individuals who seek 4-year pre-professional degrees in architecture (Bachelor of Science in Architecture or a Bachelor of Arts in Architecture) will be required to either re-enroll in a professional undergraduate 5-year Bachelors of Architecture program or enroll in a 2-3 year professional graduate program thereby increasing the time it will take to obtain licensure.

### MEDIAN # YEARS SPENT ON EACH STAGE, BY DEGREE PROGRAM

<table>
<thead>
<tr>
<th>Degree Program</th>
<th>IDP</th>
<th>ARE</th>
<th>RA</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. ARCH</td>
<td>4.5</td>
<td>1.5</td>
<td>11</td>
</tr>
<tr>
<td>M. ARCH</td>
<td>2-3</td>
<td>1.5</td>
<td>12</td>
</tr>
</tbody>
</table>

### AVG # YRS TO BECOME A REGISTERED ARCHITECT

<table>
<thead>
<tr>
<th>Degree Program</th>
<th>IDP</th>
<th>ARE</th>
<th>RA</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.S or B.A ARCH</td>
<td>5.5</td>
<td>2</td>
<td>11.5</td>
</tr>
</tbody>
</table>

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**How Much Does It Cost to Be a Licensed Architect?**

The initial cost to become a licensed architect is contingent upon which degree program you begin your educational training. While costs associated for professional development and registration exams are fixed, the largest variable is the aggregate cost of tuition.

Reviewing tuition data from a report issued by Design Intelligence, a Design Futures council entity that reports on original research, insightful commentary, and instructive best practices, and data collected by The Association of Collegiate Schools of Architecture (ACSA) reveals that an individual can spend as little as $38,536 (excluding scholarships and financial assistance) and up to approximately $229,864 on undergraduate and graduate tuition. This wide range is attributed to tuition differences between in-state and out-of-state tuition rates and/or if the school is a public or private institution, the latter costs significantly more.

The costs for the Intern Development Program (IDP), the program that oversees qualifying work experience towards licensure, will cost approximately $725 (based on a 5-year average for completing IDP).

It will cost an individual $1,470 dollars to complete all 7 licensure exams, provided they do not fail and are required to repeat exams, and upon successful completion, each state’s architecture licensing board will have their spectrum of fees to issue licenses and registration stamps.

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Professional Development, Post Initial Licensure Costs

<table>
<thead>
<tr>
<th>LICENSURE MAINTENANCE</th>
<th>05</th>
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<tbody>
<tr>
<td>Most states also require some form of continuing education to maintain a license.</td>
<td></td>
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<table>
<thead>
<tr>
<th>NCARB CERTIFICATE</th>
<th>06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitates reciprocal registration among all 54 NCARB Member Boards, 11 CA jurisdictions, and can be used to support an application for registration in other countries.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>$ VARI E S</th>
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</thead>
<tbody>
<tr>
<td>Requirements vary by state, but usually involve the completion of a certain number of credits annually or biennially through workshops, formal university classes, conferences, self-study courses, or other sources including NCARB monographs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INITIAL CERTIFICATE APPLICATION</th>
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<tbody>
<tr>
<td>$0 - 1,500</td>
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<table>
<thead>
<tr>
<th>ANNUAL RENEWAL</th>
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<tbody>
<tr>
<td>$225</td>
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<table>
<thead>
<tr>
<th>TRANSMITTAL X EACH DESIRED REGISTRATION BOARD</th>
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<tbody>
<tr>
<td>$400</td>
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<table>
<thead>
<tr>
<th>ESTIMATED COST OF CERTIFICATION</th>
</tr>
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<tbody>
<tr>
<td>$2,125</td>
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</table>


How Do Architects Maintain Their License?

The requisites to maintain an architecture license varies per state, but all states require architects to remain updated on current practices and innovative thinking within the industry, and thereby require architects to obtain at least 12 continuing education units (CEUs) per year (a). The cost for these credits will vary by state and by the method in which CEUs are obtained. CEUs can be achieved through workshops, formal university classes, conferences, self-study course, or other sources.

If an architect wishes to practice in other states or within other countries, pursuing NCARB certification, in addition to a state architectural license, is necessary. The NCARB certification certifies an individual has met the highest professional standards established by registration boards and provides opportunities to practice in several national and international jurisdictions (b) – also known as reciprocal registration.

While NCARB certification is advantageous because it provides additional support particularly when pursuing clients out-of-state or internationally, the NCARB certification requires additional costs that may hinder architects from pursuing it. Recent surveys by NCARB reveal disinterest in certification due to lack of financial assistance by firms and the perception of its worth.

Reason You Have Not Applied for NCARB Certification?

- “I don’t intend to work outside the state where I am currently licensed” 14%
- “I don’t see the value in certification / it is not worth the money” 26%
- “It is too expensive” 53.2%

Reason You Have Not Renewed Your NCARB Certification?

- In Firm Financial Assistance since 2009 38%
- Decrease in firm assistance since 2009 53.2%
NATIONAL ORGANIZATION OF MINORITY ARCHITECTS (NOMA); Founded 1971

Mission
The National Organization of Minority Architects (NOMA) mission is to champion diversity within the design professions by promoting the excellence, community engagement, and professional development of its members.

ARQUITECTOS: The Society of Hispanic Professional Architects; Founded 1985

Mission
Arquitectos, Inc. is a non-profit, 501c (3) organization, whose mission is to provide development, mentorship, community assistance and further enrich the architectural profession through different cultural views and practices.

ORGANIZATION OF BLACK DESIGNERS (OBD)
Founded 1990

Mission
The Organization of Black Designers was founded to educate the design professions regarding the contributions of African-Americans and other designers of color and increase the number and visibility of African-American designers and other designers of color.

AMERICAN INSTITUTE OF ARCHITECTS (AIA)
Founded 1857 (AIA); 1992 (Diversity Task Force)

Mission
AIA Diversity and Inclusion celebrates the multitude of perspectives and experiences within the profession, empowers members to become active and engaged in their communities, and offers tools and resources needed to remain competitive and relevant within a changing global marketplace.

HOW ARE PROFESSIONALS OF COLOR SUPPORTED?

There are 4 primary national organizations that support professionals of color; each initiating efforts to support diversity in the field of architecture.

1. The National Organization of Minority Architects (NOMA), founded in 1971, works together to create programming that will inspire audiences from across varied disciplines and points of view. The membership is comprised of architects, artists and designers, students and educators, practitioners in related fields, and those who seek to enrich their understanding of the built environment.

2. Arquitectos, founded in 1985, exists to promote professional and economic development, membership, community, and assistance and to further enrich the architectural profession through different cultural views and practices.

3. The Organization of Black Designers (OBD), founded in 1990, encourages and actively promotes the highest standards of ethics in the offering of professional services by its members. OBD is dedicated to opening and exploring new directions in design, to expanding the horizons and the influences of the designer, to introducing new ideas and techniques in the accomplishment of professional duties. OBD strives to contribute to the advancement of well-being, culture, and satisfaction of the total environment of humanity.

4. The American Institute of Architects (AIA) Diversity Task Force, founded in 1992, encourages diversity as the cultural ethos embraced by the AIA membership to foster inclusion, service, and quality of life in celebration of all communities in society, regardless of race, ethnicity, gender, national origin, religion, physical ability, sexual orientation or identity, age, geography, intellectual or practice area.
The architecture academy not only introduces a student to the discipline of design, a dynamic learning environment and culture of design peers, it also sets the pace for how long an individual will spend pursuing professional licensure, and how much money an individual will invest in their architectural training. There are several factors a student needs to carefully consider and subsequently overcome to qualify and matriculate from an architecture school. The first threshold is to demonstrate strong academic performance at the high school level with strong grade-point averages and standardized test scores. The second threshold is to decide which degree path to pursue and gain admission into. The third threshold is to successfully move through an architecture program and graduate. These three steps seem straightforward, but the truth is only some who enter an architecture degree program will graduate and later become architects; some will choose to pursue related fields; and some will just leave the design field altogether.

This chapter will describe these academic thresholds including what institutions offer architecture programs, how many individuals are enrolling; and how many students are graduating, what percentage of students are retained from the beginning to the end, who is teaching and what salaries are being offered to the faculty. This chapter also comments on the barriers that may limit access and perhaps discourage individuals, particularly African-Americans and Hispanic/Latinos, from entering the discipline.
Architectural practice, as a profession, is one that is regulated and monitored by state boards of licensure which control the requirements for official entry into the field, as with other occupations in medicine, law, nursing, etc. Because there are certain and strict educational requirements that must be fulfilled in order to gain access to the profession, the academy must be considered a gatekeeper to architectural practice. Therefore, in order to fully understand some of the barriers to minority participation in architecture, a critical evaluation of the status of minorities with regard to architectural education is essential. Additionally, before beginning to assess and address how people of color are included in, or rather excluded from, schools of architecture, it is equally important to consider the overall status of minorities with respect to higher education. Broadly understanding the challenges and barriers for minorities to gain access to post-secondary educational institutions provides a critical framework from which to critique the gross underrepresentation of minorities in highly specialized programs such as architecture.

Minority participation in higher education is a topic that is consistently discussed within the academic disciplines of sociology (Reskin & Charles, 1999), urban studies (Hodo, 2009), public health (Liao et al, 2011) and, of course, education as well many other fields. Agencies such as the United States Department of Education, the National Center for Education Statistics and the American Council on Education have contributed the publication of annual surveillance summaries. Much research has shown a tremendous deficiency in STEM (science, technology, engineering and mathematics) areas. The percentage of minorities enrolled in college.

However, there remains a significant disparity across ethnic groups as blacks, over the last 25 years, have lagged behind whites in terms of high school diploma attainment and college enrollment and Hispanics still come in third (Kim, 2012). In fact, the data shows that there has actually been a widening of the educational attainment gap from 1989 to 2009. For example, in 1989, traditional college-aged (18-24 year old) blacks lagged behind the same cohort of whites by 6 percentage point with regard to holding a high school credential or higher. However, by 2009 there was a 10 percentage point difference between these two groups. Also, in 1989 blacks were 8.5 percentage points behind whites in terms of college enrollment for traditional college-aged adults; however by 2009, the lag had increased to 11 percent. (Kim, 2012). Although Hispanics still come in third with regard to these same two metrics, their status has shown significant improvement since 1989. College-aged Hispanics were 26.2 and 2.2 percentage points behind whites and blacks, respectively, in terms of holding a high school credential or higher; however by 2009 the lag for Hispanics dropped to 17.2 percent in comparison with whites and 7.2 percent in relation to blacks (Kim, 2012).

Recently, many researchers have begun to focus on how minorities fair in terms of enrollment and graduation in specific majors, particularly highly specialized programs in STEM (science, technology, engineering and mathematics) areas. Much research has shown a tremendous deficiency in minority participation (Tan, 2002). A 2000 report by the Center for Institutional Data Exchange and Analysis (C-IDEA) showed that by minority status, 9% of all first-time STEM freshmen were African-Americans, % were Hispanics, and 1% were Native Americans (in contrast to 63% of Whites and Asian-Americans). Although these numbers have improved slightly over the last decade, this gap still proves to be extremely problematic and has brought attention and critique to the preparation of minorities for STEM majors in college during high school.

A critical assessment of this pipeline is necessary in order to understand the barriers for minority participation in architecture, an area that still lacks much comprehensive research. Considerations of how minority youth are socialized to think about the field of architecture must be a central theme, and involve an understanding of the influence social/peer networks, family guidance and educational awareness.

**SOURCES:**

There are 120 institutions that offer professional degree programs (Bachelors of Architecture and Masters of Architecture) and pre-professional programs (Bachelors of Art in Architectural Studies and Bachelors of Science in Architecture). The signature difference between a pre-professional and professional degree path is if it is a 4 or 5-year program. A student who begins their foundational years with an undergraduate 5-year professional program automatically qualify to enter into the licensure process. Students who enroll and graduate from 4-year pre-professional architecture programs will be required to later enroll into a professional Masters program to qualify to enter the licensure process. Additionally, within this network of 120 institutions, there are 7 Historically Black College and Universities (HBCUs) that offer architecture programs as well.

HISTORICALLY BLACK COLLEGES AND UNIVERSITIES IN THE U.S WITH ARCHITECTURE PROGRAMS (2012)

WHERE CAN YOU STUDY ARCHITECTURE?

- MORGAN STATE UNIVERSITY
  BALTIMORE, MD
- HOWARD UNIVERSITY
  WASHINGTON, D.C.
- HAMPTON UNIVERSITY
  HAMPTON, VA
- FLORIDA A&M UNIVERSITY
  TALLAHASSEE, FL
- SOUTHERN UNIVERSITY AND
  A&M COLLEGE
  BATON ROUGE, LA
- PRAIRIE VIEW
  A&M UNIVERSITY
  PRAIRIE VIEW, TX
- TUSKEGEE UNIVERSITY
  TUSKEGEE, AL
Students of all races and ethnicities are enrolling into programs across the United States, but at varying proportions. According to visual data recently published by the Association of Collegiate Schools of Architecture (ACSA), white student populations have a significant presence throughout the nation and in all program types, with the exception of the Gulf region which shows noticeably lower white enrollment percentages, and East Central with very little participation in the B. Arch programs. Hispanic/Latino students show strong enrollment in 5 of the 6 regions, but a visible enrollment drop in the East Central region. Asians have enrollment strength in the western regions and the Northeast, but show absolutely no presence in pre-professional programs in the Gulf region. African-American enrollment across the board is visibly lower than all aforementioned races/ethnicities with stronger and more consistent enrollment in pre-professional programs, higher enrollment in professional programs in the Gulf and Mid-Atlantic regions, and those who pursue a Masters and Doctorate degrees have larger numbers in the Mid-Atlantic and Northeast.

In 2012, there were 44,144 total students enrolled in architecture institutions across the country, and approximately 31% or 13,524 were freshman / first time entrants. Of the 44,144 students, approximately 20% or 9,270 students were African-American and Hispanic/Latino, with the Hispanic/Latino enrollment figures outpacing African-American enrollment by 2.5 times. Out of the total number of students enrolled, 1,283 students were enrolled in historically black colleges and universities (HBCU), representing approximately 3% of total student enrollment for all architecture institutions. Additionally, out of the total number of architecture students enrolled, 37% of all African-American architecture students are enrolled in the 7 HBCUS, a miniscule fraction of the total architecture institutions.
STATE OF THE ACADEMY

44,144

STUDENTS ENROLLED IN ARCHITECTURE SCHOOLS IN 2012

PRE-PROFESSIONAL PROGRAMS

17,294

STUDENTS ENROLLED IN 2012

B. SCIENCE IN ARCHITECTURE

B. ARTS IN ARCHITECTURE

PROFESSIONAL PROGRAMS

26,850

STUDENTS ENROLLED IN 2012

M. ARCH

B. ARCH

D. ARCH (Ph.D Program)

HISPANIC/LATINO & AFRICAN AMERICAN STUDENTS ENROLLED IN ALL PRE-PROFESSIONAL AND PROFESSIONAL PROGRAMS IN 2012

17,294 PRE-PROFESSIONAL STUDENTS

16.7% HISPANIC/LATINO

7.3% AFRICAN AMERICAN

26,850 PROFESSIONAL STUDENTS

14.6% HISPANIC/LATINO

5.1% AFRICAN AMERICAN

HBCU PROFESSIONAL PROGRAMS

587

STUDENTS ENROLLED IN 2012

M. ARCH

0%

50.7%

49.3%

D. ARCH (Ph.D Program)

HISPANIC/LATINO & AFRICAN AMERICAN STUDENTS ENROLLED IN HBCU PRE-PROFESSIONAL AND PROFESSIONAL PROGRAMS IN 2012

676 PRE-PROFESSIONAL STUDENTS

37 HISPANIC/LATINO

76.6% AFRICAN AMERICAN

587 PROFESSIONAL STUDENTS

37 HISPANIC/LATINO

79.5% AFRICAN AMERICAN

WHAT PROGRAMS ARE STUDENTS ENROLLING INTO?

Approximately 61% of all architecture students are pursuing professional degrees in architecture and 39% are enrolled in pre-professional undergraduate programs. What this means is that 39% of the student population will be required to pay additional educational costs to obtain a professional degree that will qualify them to begin the process towards licensure. Based on enrollment figures nearly 4,000 African-American and Hispanic/Latino students will need to pursue additional education if they wish to pursue licensure. On the flip side, 5,295 African-American and Hispanic/Latino architecture students (19.7% of all students enrolled in professional programs) could qualify to begin the process towards licensure without additional schooling. If the architecture profession is to retain a large pool of candidates to enter the field, research and survey work will need to investigate if students of color are aware of the differences between pre-professional and professional programs when applying for schools and to understand the factors students of color use when deciding between degree programs.


INCLUSION IN ARCHITECTURE

INCLUSION IN ARCHITECTURE
Between 2009 and 2012, an average of 9,638 students graduated from pre-professional and accredited professional architecture programs. An average of 3,493 students are graduating each year from pre-professional programs, and 6,145 students from accredited professional programs. Larger volumes of students are graduating from professional programs with smaller proportions graduating with pre-professional degrees.

Between 2010 and 2012, all architecture institutions, including historically black colleges and universities (HBCUs) were graduating an average of 402 African-American students and 1089 Hispanic/Latino students. However, when you take a closer look at graduation figures for HBCUs specifically, the 7 HBCUs account for 38% of all African-American architecture graduates; while the majority of Hispanic/Latinos students are graduating from the other 113 architecture institutions.

~50% of African-American architecture students graduate from the 7 HBCUs (3.5.1)

25% less African-American architecture student graduates (2010-2012) (3.5.2)
### Inclusion in Architecture

#### State of the Academy

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Enrollment</th>
<th>Graduates</th>
<th>Retained %</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Pre-Professional Programs</td>
<td>5,282 (2010-2012)</td>
<td>3,638 (2010-2012)</td>
<td>69%</td>
</tr>
<tr>
<td>All Professional Programs</td>
<td>8,360 (2010-2012)</td>
<td>6,187 (2010-2012)</td>
<td>74%</td>
</tr>
<tr>
<td>HBCUs Pre-Professional Programs</td>
<td>219 (2010-2012)</td>
<td>76 (2010-2012)</td>
<td>34%</td>
</tr>
<tr>
<td>HBCUs Professional Programs</td>
<td>207 (2010-2012)</td>
<td>126 (2010-2012)</td>
<td>61%</td>
</tr>
</tbody>
</table>

#### How Many Students Are Architecture Programs Retaining?

Enrollment and graduation statistics between the years of 2010 and 2012 reported by the National Architectural Accrediting Board (NAAB) reveal that pre-professional and professional programs retain 69% and 74% of their students, respectively. However, within historically black college and universities (HBCUs), pre-professional programs only retain about 34% of their students while professional architecture programs at HBCUs retain similar percentages as the other architecture institutions.

By race, Hispanic/Latino students have higher retention rates than African-Americans. Pre-professional programs in all architecture institutions and HBCUs are losing an average of 64% - 71% of its African-American student population respectively; however all 120 architecture institutions retain an average of 52% of its African-American students in its professional programs – a program that both attracts and retains many more students than pre-professional programs. In the case of HBCUs, while the pre-professional programs may attract a similar volume of first-year entrants, the retention rate for both African-American and Hispanic/Latino populations are noticeably lower than peer schools.
A data sampling of SAT scores of students attending New York State schools, Ivy Leagues, and Historically Black College and Universities (HBCU) that offer architecture degree programs shows a range of test scores. Ivy League Schools, across the board admit students with very strong SAT scores on all three exam sections with scores almost always above 600. Students attending New York State schools tend to perform well in math with various level of performance in reading and writing; however, Cooper Union and Rensselaer Polytechnic have stronger performance in two sections. Overall SAT performance from students enrolled in HBCUs are lower than the other school cohorts, but scores in reading are competitive with students enrolled with New York State schools.

In the article “Test Scores Do Not Equal Merit: Executive Summary” reported by FairTest, an organization that places special emphasis on eliminating the racial, class, gender, and cultural barriers to equal opportunity posed by standardized tests, and preventing their damage to the quality of education, states that over 815 colleges and universities across the United States have now “made standardized tests optional for admissions [and that] enrolled classes have become more diverse without any loss in academic quality.” Additionally, some lessons learned from “test-score optional” schools reveal that “dropping tests leads to greater diversity because the focus on test scores deters otherwise qualified minority, low-income, first-generation, female, and other students from applying [and that] “high-school performance -- expressed either as grades or class rank -- is the best available screening device for applicants.”
GRADE POINT AVERAGES (GPA) OF STUDENTS ENROLLED IN NEW YORK STATE SCHOOLS, IVY LEAGUE SCHOOLS AND HISTORICALLY BLACK COLLEGE AND UNIVERSITIES

A data sampling of grade point averages (GPA) of students attending New York State schools, Ivy Leagues, and Historically Black College and Universities (HBCU) reveal that while students at New York State schools and Ivy League schools tend to have stronger grade point averages, many students in HBCUs are entering with equally strong GPAs, particularly at Tuskegee, Howard, and Hampton University.

In the article “Validity of High School Grades in Predicting Student Success Beyond the Freshman Year” by Saul Geiser and Maria Veronica Santelices from the Center for Studies in Higher Education at UC Berkeley, they reveal three conclusions based on an analyses of high school grades from college prep course, SAT scores, undergraduate grades, and graduation rates from 80,000 University of California (UC) students in 2003: 1) high school GPA is the best predictor of four year college outcomes for all academic disciplines, campuses, and freshman cohorts in UC systems; 2) the predictive strength of high school grades increases after the freshman year of college, and actually explains a greater proportion of four year undergraduate performance than of first year grades, and 3) when used in admissions, GPA has less adverse impact on low-income and underrepresented minority students than standardized tests.

WHAT ARE THE AVERAGE GPAs OF ADMITTED STUDENTS?

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The cost of an architectural degree depends on three things 1) the degree path 2), if the school is a private or public institution, and 3) if an individual chooses to attend an in-state or out-of-state school. Research conducted by the National Architectural Accreditation Board (NAAB) reveals that a pre-professional degree (PPP) program can cost between $11,438.11 – $30,084.25 each year, a Bachelors in Architecture (B. Arch) between $7,707.25 - $40,114.50, and Masters of Architecture (M. Arch) between $10,565.57 - $36,509.18. This data also reveals that it may be most cost effective to attend a PPP in the Gulf region; a B. Arch Program in the Gulf region if an individual is eligible for in-state tuition rates, or if not, a B. Arch program within a public institution in the Northeast; and an M. Arch in a public institution in the West Central.
## INCLUSION IN ARCHITECTURE

### How Much

**Does Architecture School Cost, Private vs. Public?**

Pursuing an architecture degree at a public institution is generally more affordable than a degree from a private institution. However affordability also depends if an individual chooses to attend a school located in their state of residence or in another state. Both of these factors significantly influence the total investment an individual will make towards their architectural education.

5 of the 7 historically black college and universities (HBCUs) that offer architecture programs are among the most affordable architectural programs in the country. Southern University and A&M College, Florida A&M University, and Tuskegee University offer affordable professional undergraduate B. Arch programs. Prairie View A&M University and Hampton University offer affordable graduate M. Arch programs.

### Average Tuition Increases Between Public and Private Schools

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN-STATE</td>
<td>$5,757</td>
<td>2.7X</td>
<td>5.2X</td>
</tr>
<tr>
<td>OUT-OF-STATE</td>
<td>$10,421</td>
<td>2.3X</td>
<td>3.9X</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$16,178</td>
<td>1.9X</td>
<td>3.2X</td>
</tr>
<tr>
<td>PUBLIC</td>
<td>$6,981</td>
<td>2.6X</td>
<td>3.9X</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>$9,197</td>
<td>2.5X</td>
<td>4.1X</td>
</tr>
</tbody>
</table>

### Lowest B.Arch Tuition

<table>
<thead>
<tr>
<th>Rank</th>
<th>School</th>
<th>Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cooper Union</td>
<td>$1,700</td>
</tr>
<tr>
<td>2</td>
<td>City College of New York</td>
<td>$5,270</td>
</tr>
<tr>
<td>3</td>
<td>City College of New York</td>
<td>$5,759</td>
</tr>
<tr>
<td>4</td>
<td>Southern University and A&amp;M College</td>
<td>$5,810</td>
</tr>
<tr>
<td>5</td>
<td>University of North Carolina</td>
<td>$5,916</td>
</tr>
<tr>
<td>6</td>
<td>Florida Atlantic University</td>
<td>$5,987</td>
</tr>
<tr>
<td>7</td>
<td>Mississippi State University</td>
<td>$6,523</td>
</tr>
<tr>
<td>8</td>
<td>Washington State University</td>
<td>$6,814</td>
</tr>
<tr>
<td>9</td>
<td>Louisiana State University</td>
<td>$6,989</td>
</tr>
<tr>
<td>10</td>
<td>Iowa State University</td>
<td>$8,126</td>
</tr>
</tbody>
</table>

### Highest B.Arch Tuition

<table>
<thead>
<tr>
<th>Rank</th>
<th>School</th>
<th>Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carnegie Mellon University</td>
<td>$45,760</td>
</tr>
<tr>
<td>2</td>
<td>Rensselaer Polytechnic Institute</td>
<td>$44,650</td>
</tr>
<tr>
<td>3</td>
<td>University of Southern California</td>
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<tr>
<td>4</td>
<td>Cornell University</td>
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<td>5</td>
<td>University of Notre Dame</td>
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<td>6</td>
<td>Rhode Island School of Design</td>
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<td>Pratt Institute</td>
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<td>University of Miami</td>
<td>$41,220</td>
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<tr>
<td>9</td>
<td>California College of the Arts</td>
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### Lowest M.Arch Tuition

<table>
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<tr>
<th>Rank</th>
<th>School</th>
<th>Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carnegie Mellon University</td>
<td>$45,760</td>
</tr>
<tr>
<td>2</td>
<td>Commonwealth of Pennsylvania - Boston</td>
<td>$15,150</td>
</tr>
<tr>
<td>3</td>
<td>Cooper Union</td>
<td>$15,829</td>
</tr>
<tr>
<td>4</td>
<td>Prairie View A&amp;M University</td>
<td>$15,829</td>
</tr>
<tr>
<td>5</td>
<td>Clemson University</td>
<td>$16,670</td>
</tr>
<tr>
<td>6</td>
<td>Texas A&amp;M University</td>
<td>$16,674</td>
</tr>
<tr>
<td>7</td>
<td>California Polytechnic - Pomona</td>
<td>$16,954</td>
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<tr>
<td>8</td>
<td>Florida International University</td>
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<tr>
<td>9</td>
<td>Texas Tech University</td>
<td>$17,141</td>
</tr>
<tr>
<td>10</td>
<td>Louisiana Tech University</td>
<td>$17,770</td>
</tr>
<tr>
<td>11</td>
<td>Hampton University</td>
<td>$18,482</td>
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</table>

### Highest M.Arch Tuition

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>Cooper Union</td>
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<td>City College of New York</td>
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<tr>
<td>3</td>
<td>Southern University and A&amp;M College</td>
<td>$11,332</td>
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<tr>
<td>4</td>
<td>Mississippi State University</td>
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<td>5</td>
<td>Florida A&amp;M University</td>
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<td>6</td>
<td>University of Houston</td>
<td>$17,820</td>
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<tr>
<td>7</td>
<td>University of North Carolina</td>
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</tr>
<tr>
<td>8</td>
<td>California Polytechnic State University</td>
<td>$18,718</td>
</tr>
<tr>
<td>9</td>
<td>Tuskegee University</td>
<td>$19,210</td>
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### Private Institutions

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</table>

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In 2012, there were 6,064 architecture full-time, part-time, and adjunct faculty teaching in NAAB-accredited degree programs in the United States; this total was composed 40% full-time, 15% part-time, and 45% adjuncts. The total faculty is 68% male, and 32% female; 75% of total architecture faculty are white and among that total only 3% are African-American and 8% are Hispanic/Latino.

Architecture students are most likely to be taught by white male faculty, however female faculty hold a third of all architecture faculty positions. The opportunities for architecture students to be exposed to faculty of color are far more limited. Referencing 2012 student enrollment figures, the probability of a student encountering a Hispanic faculty member is 1 in 58, and 1 in 174 for an African-American instructor.
In 2013, the National Architectural Accrediting Board (NAAB) reported faculty salaries ranging from $15,289 - $117,200 within 4 ranks – Instructor, Assistant Professor, Associate Professor, and Full Professor. Instructors in 2013 are averaging a salary of $23,552, Assistant Professors at $57,757, Associate Professors at $68,214, and Full Professors at $90,192. However the minimum and maximum salary range for each particular faculty rank varies between the 6 regions designated by the Association of Collegiate Schools of Architecture (ACSA). Additionally, the same 2013 NAAB report states that faculty in public institutions tend to have higher salaries than those teaching in private institutions; In public institution, Instructors earn 32% more, Assistant Professors 15% more, Associate Professors 9% more, and Professors 16% more.
Youth in the United States encounter the work of architects each and every day. Architecture shapes the physical environment they experience and it influences their perceptions of people, places, and the communities that envelope them. The low numbers of professionals and students in the profession represented by data in the previous chapters suggest that youth of color may not have a full awareness or understanding of the discipline or the role of an architect. Furthermore, based on conversations with young students of color, the direct and indirect messaging youth receive about the architecture profession can often be discouraging and may not entirely be accurate.

This chapter reveals the growth of the ethnic and racial diversity of the United States and provides examples of the formal and informal settings in which a young person may be exposed to architecture and architects. Additionally, this chapter illustrates how the architecture profession has been represented in popular culture.
HOW MANY
YOUNG PEOPLE ARE THERE IN THE UNITED STATES?

There are 75 million young people under the age of 18 in the United States. 58% of all young people in the United States, under the age of 18, are African-American or Hispanic/Latino. These young people will steadily begin to shift the nation’s racial and ethnic composition and it is important that the architecture profession begin to reflect this change. While there are 22 million youth between the ages of 15-19 who may be considering career paths, only a small percentage will pursue the architecture discipline. However the timing is ripe to increase exposure about the architecture design profession to young people and help them better understand what architects do and gauge if it is a professional path they would like to pursue.

YOUTH POPULATION IN THE UNITED STATES (2010)

<table>
<thead>
<tr>
<th>AGE</th>
<th>5-9</th>
<th>10-14</th>
<th>15-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1M</td>
<td>20.6M</td>
<td>22M</td>
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</tbody>
</table>

24% OF THE TOTAL UNITED STATES POPULATION ARE UNDER THE AGE OF 18


58% OF YOUTH IN THE UNITED STATES ARE AFRICAN-AMERICAN AND HISPANIC/LATINO (2010)

HOW MANY
AFRICAN AMERICANS 32M HISPANIC/LATINOS

11M AFRICAN AMERICANS 32M HISPANIC/LATINOS

INCLUSION IN ARCHITECTURE


Many school systems offer specialized schools with unique curricula designed around a specific industry or academic cluster (i.e. science, technology, engineering, math (STEM), arts). These schools require successful completion of qualifying exams, and in some cases, rigorous evaluations like auditions and portfolios to obtain admission. There are currently 9 specialized high schools in the New York City Public School system.

Teachers will periodically invite guests to speak to their students to expose them to professionals that can demonstrate a particular relevance and application of course assignments. This platform provides students with a more intimate setting in which to engage in conversation and/or hands-on activities.

Schools will often sponsor an event to showcase an array of professional options to their student body. Professionals visit from specific firms and/or organizations, as well as from higher-education institutions that may be located in close proximity to the school. Oftentimes, informational brochures are provided, and invited professionals may also review student portfolios and resumes and provide advice.

There are a handful of academic paths that expose young people to architecture in grade K-12 settings. Our research currently reveals 5 areas of exposure. Most all will be exposed to various course topics, in-class presentations, and some scale of a career fair where young people are introduced to potential professions. However, some young people may choose to attend a special curriculum, vocational or technical high school that offer more architecture-specific track of courses.
Many universities often sponsor short and long-term summer experience programs for high-school students to learn about architecture in an abridged design-studio sequence that simulates a classroom setting in a professional degree program. Sessions are taught by architecture faculty that introduce beginning design concepts and ends with a finished architecture design project.

There are select architecture programs that collaborate with local area high schools to offer college-level enrichment programs to high school juniors and seniors for high school credit or advanced placement college-level credit. These students enter into semester-long courses on architecture, urbanism, and integrated studio practices; courses may also include advanced math and visual studies.

Periodic programs are offered during morning / afternoon hours during weekdays and weekends for youth interested in exploring architecture through a specific topic of interest such as skyscrapers, bridges, green buildings, model building, and neighborhood design. Additionally, some organizations offer youth and family walking tours of neighborhoods and districts within unique and varied architecture.

Mentorship programs allow individuals to enroll in extensive after-school program that are offered by primary and secondary schools, universities, and/or non-profit organizations. One-time K-12 workshops explore a variety of design skills and subjects, high school programs can prepare a young person to actively pursue the profession in a higher education institution, and pre-college exploratory programs can expose youth to basic architecture curriculum.

The extra-curricular programs parents invest in can greatly influence a young person’s awareness and interest in architecture. Preliminary research reveals 5 extra-curricular opportunities. These programs are offered by primary and secondary schools, universities, and/or non-profit organizations. One-time K-12 workshops explore a variety of design skills and subjects, high school programs can prepare a young person to actively pursue the profession in a higher education institution, and pre-college exploratory programs can expose youth to basic architecture curriculum.
Mainstream films have primarily portrayed an architect as white and male. In a sampling of movies from the last 80 years, only 2 movies both released in the 1990’s feature one black male and one white female. The appeal of an architect as a main character rose in the 1990’s early 2000’s. This trend continues with TV shows, the most iconic being the character Mike Brady (white male) as the widowed architect in the TV classic Brady Bunch and more recently the character Ted Mosby (white male) in the TV sitcom How I Met Your Mother.
If the architecture profession wishes to attract more youth of color to the field, it must first understand what young people currently know about architects, architecture, and the profession and to also identify how those impressions were formed. The J. Max Bond Center (JMBC) recognizes that perceptions are influenced by many factors including friends, parents, school faculty and staff, popular culture, and personal experiences; however there is currently little to no data that documents how young people come to choose or not chose, architecture as a profession. JMBC’s forthcoming survey efforts aim to provide some of this data.

Survey and engagement activities will take place in approximately a dozen New York City public schools throughout all 5 New York City boroughs that represent a diverse cross-section of populations and communities. The aim is to collect a robust collection of comparative data that will allow JMBC to identify and quantify the factors that hinder or prevent young people of color, particularly African-American and Hispanic/Latino youth, from considering architecture as a potential career path. JMBC will develop partnerships with willing New York City public schools and identify best opportunities for engaging students. The surveys are designed as sets of casual and fun engagements that will allow JMBC to acquire insightful information and to provide a moment to expose young people to architecture in an interactive and positive setting.

Engagement activities seek to obtain insights about 4 specific questions: 1) What do people know about architecture and architects? 2) How are perceptions about architects and architecture influenced? 3) What reasons encourage or discourage an individual from exploring architecture as a career and 4) What skills do people think architects need to do their work? We believe these four foundational questions will provide informative evidence to better understand the current diversity challenges and barriers the architecture profession faces. We will engage the following populations in our survey work:

**YOUTH**
- Elementary School (2nd - 4th Grade)
- Middle School (7th Grade)
- High School (9th / 10th Grade)

**YOUNG ADULTS**
- Undergraduate and Graduate freshmen enrolled in architecture programs
- Graduating individuals from pre-professional and professional degree programs
- Recent graduates (less than 5 years) from pre-professional and professional architecture degree programs

**ADULTS**
- Middle/High School Faculty
- Middle/High School Guidance Counselors
- Middly/High School Parents
- Higher Education Advisors

This chapter provides a preview to survey questions and the variety of age-appropriate methods we seek to use to administer the surveys.
SAMPLE SURVEY QUESTIONS: WHAT IS ARCHITECTURE?

1. What is architecture?
2. What is landscape architecture?
3. What is urban design?
4. What is sustainability?
5. What is your favorite piece of architecture and why?
6. What is your least favorite piece of architecture and why?
7. What does an architect do?
8. Do you personally know any architects?
9. What kind of projects do they work on?
10. Do you know any African-American or Hispanic architects?

DO PEOPLE UNDERSTAND THE DIFFERENCES?

Do people know these disciplines are all related to architecture?

What reactions to the built environment inform a person’s understanding about what architects do?

HAVE PEOPLE EVER SPOKEN TO AN ACTUAL ARCHITECT?

Does this influence the perception people have about who is able to participate in the profession?

WHAT DO YOUNG PEOPLE KNOW ABOUT ARCHITECTS AND ARCHITECTURE?

The scope and role of an architect in today’s developmental context has increasingly become more integrated with the fields of landscape architecture, urban design, and sustainability. However, it is unclear if young people are aware of each of these design disciplines and whether or not they hold any biases or pre-conceived notions about architects and their professional work. The survey work is designed to help understand what people know about architects and architecture.

The survey questions will be cohort-specific and will help JMBC gauge the range of inputs that have underpinned beliefs and perceptions about architects and the profession.

SAMPLE SURVEY FORMATS

ELEMENTARY SCHOOL YOUTH: Simple visual and interactive activities to be conducted in supervised small group settings (i.e. collage, drawing assignments). Exercises to be followed by short discussion and presentation by JMBC.

MIDDLE / HIGH SCHOOL YOUTH: Interactive hands-on activities that may include social media platforms such as Instagram and Tumblr that will allow students to express their thoughts with specific real-world photographic examples. Exercises to be followed by short discussion and presentation by JMBC.

COLLEGE / RECENT ARCHITECTURE GRADUATES: Brief online surveys to record their former and present beliefs about architecture and the profession. JMBC will conduct follow-up interviews if survey participant is willing to discuss further.

PARENTS / FACULTY / STAFF: Brief interviews and surveys during pre-existing school events (PTA meetings, orientations) with simple presentation and discussion if time allows; voluntary online survey to be disseminated if participant consents.

INCLUSION IN ARCHITECTURE
SAMPLE SURVEY QUESTIONS:
WHAT INFLUENCES AN UNDERSTANDING ABOUT ARCHITECTURE?

1. Have you ever asked an adult about architecture or asked what architects do? If so, who? What did they say?
2. What architecture or related courses have you taken at your school?
3. Do any of your classes discuss architecture, architects, art or artists, and engineers? If so what do you remember about these topics?
4. Have any of your classes featured guest speakers that are architects? If so, what were your impressions of that talk? What do you remember about the discussion?
5. Does your school host career fairs, college fairs, invite college recruiters, or host events that feature architects/architecture programs?
6. What architecture or related after-school program have you participated in?
7. What books, magazines, movies, videos, or TV shows have you seen that feature architects?

How are class topics, discussions, and coursework influencing a student's opinion about the architecture profession?

Are adults presenting an accurate description of the architecture profession?

Are students ever exposed to architecture professionals? What types of architecture programs do students engage in outside of school?

How is popular culture and media representing the architecture profession?

ARE PERCEPTIONS ABOUT ARCHITECTS AND ARCHITECTURE INFLUENCED?

The specific platforms in which young people can be exposed to architecture and architects are wide and varied. Young people’s understanding about the architecture profession are influenced many ways; they hear comments from friends and family; they absorb advice from school faculty and staff; they engage in various career explorations programs; they see and observe spaces and places during vacations and in their day-to-day life; and they are bombarded with a diverse range of messaging from social and mass-media. The survey will collect quantitative data to understand how a person’s perception of the architecture profession is shaped.

INCLUSION IN ARCHITECTURE

ELEMENARY SCHOOL YOUTH: Portable table-top or floor “gameboard” activity with large visual and tactile pieces to engage students with a fun series of questions.

MIDDLE / HIGH SCHOOL YOUTH: Dot survey activity that will identify the sources that influence their impressions about the architecture profession. Activity to be followed by a short discussion.

COLLEGE / RECENT GRADUATES: Brief paper and/or online surveys depending on the setting/event which these individuals are encountered. JMBC will conduct follow-up interviews if survey participant is willing to discuss further.

PARENTS / FACULTY / STAFF: Dot survey activity to obtain qualitative data for trends we observe in dot surveys conducted with primary and secondary level aged youth.
SAMPLE SURVEY QUESTIONS: ENCOURAGEMENTS AND DISCOURAGEMENTS

1. Are you interested in pursuing a career? If so, would you consider architecture as a career? Why or Why not?
2. Has anyone ever encouraged you to pursue architecture? Who? What were their reasons?
3. Has anyone ever discouraged you from pursuing architecture? Who? What reason did they give you?
4. What degree majors and/or careers have people encouraged you to pursue? What reasons did they give?
5. Who do you primarily discuss career-related questions with?
6. Have you ever reached out to professionals in a particular field with specific questions?
7. Do you know what the process of becoming an architect requires?
8. How much money do you think an architect makes?

WHAT FACTORS ARE ENCOURAGING AND DISCOURAGING YOUNG PEOPLE FROM PURSUING ARCHITECTURE?

Many young architects can describe what first influenced them to pursue an education in architecture. Similarly, they will share the forces that have attempted to discourage their participation in the field. This portion of the survey will 1) identify what voices are most prominent in the decisions of young people; and 2) record the specific beliefs and/or myths that are being conveyed about the profession.

This survey will help JMBC better understand trends and stereotypes that are held about the profession to create exposure programs to better confront the negative influences.

SAMPLE SURVEY FORMATS

MIDDLE / HIGH SCHOOL YOUTH: A quick and fun multiple-choice survey or group activity that can capture how prevalent specific myths and/or beliefs about architects or the architecture profession are in the minds of middle and high school aged youth.

COLLEGE / RECENT GRADUATES: A brief fill-in-the-blank and multiple-choice survey to understand 1) what impressions they were given and/or believed prior to entering an architectural degree program, 2) how their impressions have evolved, confirmed, and/or debunked through their career as a student and/or young professional.

PARENTS / FACULTY / STAFF: Brief fill-in-the-blank and multiple-choice paper surveys followed by a short one-on-one conversation; a more informal online survey will substitute if scheduling does not allow for in-person discussion.
SAMPLE SURVEY QUESTIONS:
SKILLS AND STRENGTHS

1. Has anyone ever told you what you are good at doing? If so, what did they say?

2. What skills do you have and know you are good at?

3. What are your favorite classes in school, regardless of your grades? What qualities do you like the most about these classes?

4. What creative activities do you participate in? Which, if any, do you enjoy the most? Which do you enjoy the least? Why?

5. What are your hobbies and interests?

Do young people acknowledge their own skills and strengths?

What classes/activities do young people enjoy the most and are they aware how those classes/activities apply to career related decisions?

How are young people cultivating their interests and skills?

WHAT SKILLS DO YOUNG PEOPLE THINK ARCHITECTS NEED TO DO THEIR WORK?

There are many skills that aid an individual in becoming an architect, however some skills, like math and drawing, have been known to be overemphasized. Consequently these pre-conceived biases about the skills required to validate a person’s ability to pursue the profession can often become a barrier for young people who may unnecessarily disqualify themselves pursuing this career.

To empower and encourage young people to have more confidence in their decisions about career choices, the objectives of the skills assessment portion of the survey is to 1) assist young people to first acknowledge the skills they possess that may related to the design field; 2) to identify which skills young people perceive architects must have to succeed; and 3) to expose young people to an accurate sample of skills that will better inform their decisions about pursuing architecture or its allied disciplines.

SAMPLE SURVEY FORMATS

ELEMENTARY / MIDDLE / HIGH SCHOOL YOUTH: A visual identification and dot activity that will allow students to recognize their skill strengths and to highlight the skills they believe architects need to be successful.

COLLEGE / RECENT GRADUATES: A brief fill-in-the-blank and multiple-choice survey to understand how skill sets and skills expectations have evolved since that individual started and/or completed their architecture education.

PARENTS / FACULTY / STAFF: A succinct multiple choice activity that will allow adults to identify the skills they think students and/or their child need to qualify to be a successful architect. Survey will followed by a short group discussion that will review responses in comparison to the skills JMBP will present as the qualifying skillsets for an architect and its peer disciplines.
Diversity and inclusion are values the architecture profession considers important, however, it is still unable to attract large populations of color to the field. Because of this challenge, JMBC began this research to investigate the factors that may be contributing to this reality.

The following sections represent a summary of key findings that may be discouraging youth of color from pursuing the field of architecture. Additionally, this chapter will highlight future research and survey efforts that will expand and confirm the range of challenges the profession faces to attract more African-American and Hispanic/Latinos into the architecture discipline.

A. STATE OF THE PROFESSION

1. Representation
   a. Less than 2% of all licensed / registered architects are African-American and less than 8% are Hispanic/Latino
   b. Concentrations of African-American architects only in a few cities, mostly east and west coasts
   c. A 1999/2000 survey conducted by the University of Cincinnati’s Directory of African-American Architects indicate trends that the number of African-American owned firms are rising
   d. Same survey conducted by the Directory of African-American architects reveals that 47% of African-Americans architects polled indicate they work in firms owned by 100% African-Americans

Further Investigations:
JMBC seeks to conduct survey and outreach efforts amongst African-American architects and African-American owned architecture firms to 1) better understand the reasoning behind specific geographic concentrations of African-American architects; 2) to investigate if there are correlations between firm ownership (by race) and its ability to attract larger numbers of employees of color and 3) to identify the obstacles, if any, that may hinder architects of color from elevating their rank and status within professional firms.

JMBC also seeks to uncover more data about Hispanic / Latino architects. To-date, data is extremely limited for this population.

2. Earnings
   a. Average architecture salaries, unless in a position of senior management and ownership, are low and comparable to other service industry salaries, that may require minimal or no college education
   b. Starting architecture salaries are lower than allied disciplines. Average starting salaries for structural engineers are almost 18% higher than architects, civil engineers 44%, and 51% for structural engineers
   c. Starting salaries for lawyers and doctors are at least 2x more than architects
   d. The majority of African-American architects polled in a 1999/2000 survey by the University of Cincinnati’s Directory of African-American Architects reveals that they earn between $50,001 and $100,000

CONCLUSIONS
INCLUSION IN ARCHITECTURE
STATE OF THE PROFESSION

Further Investigations: JMBC forthcoming surveys will seek to understand how salary price points influences an individual’s career choices and/or their advice to others about pursuing the architecture profession.

3. Becoming a Professional
   a. Becoming a licensed architect requires an 11-15 year investment that includes education, professional experience, and completion of licensure exams
   b. An independent professional practice requires a license
      i. Average of 4.5-6 years of professional experience to fulfill eligibility requirements for licensure
      ii. Approximately $2,200 of costs and fees associated with internship and registration exams
      iii. A minimum of $2,000 of additional certification exams
   c. Architecture firms are providing less financial assistance for employees who wish to obtain NCARB certification to practice in other states

Further Investigations: JMBC survey efforts will gather data that will help identify the factors (if any) that influence a student’s decision to attend schools with peers and faculty of similar race and ethnicities

B. STATE OF THE ACADEMY
   1. College Entry Requirements
      a. Ivy League schools and select New York State and HBCUs tend to admit students who score strongly on the 3 SAT divisions (math, critical reading, and writing). Ivy Leagues admit student who score 700 or higher; NY State schools Cooper Union, Rensselaer Polytechnic Institute attract students who score between 600-700, and Howard has a large percentage of its students scoring between 500-600
      b. According to annual studies conducted by the National Center For Fair and Open Testing, the only correlation SAT scores have with an individual is their family income (Reference: www.fairtest.org)
      c. According to the article “Validity of High School Grades in Predicting Student Success Beyond the Freshman Year” by Saul Geiser and Maria Veronica Santelices from the Center for Studies in Higher Education at UC Berkeley, state three conclusions based on an analyses of high school grades from college prep course, SAT scores, undergraduate grades, and graduation rates from 80,000 University of California (UC) students in 2003: 1) high school GPA is the best predictor of four year college outcomes for all academic disciplines, campuses, and freshman cohorts in UC systems; 2) the predictive strength of high school grades increases after the freshman year of college, and actually explains a greater proportion of four year undergraduate performance than of first grade years, and 3) when used in admissions, GPA has less adverse impact on low-income and underrepresented minority students than standardized tests. (Article: High School Grades Outperform SAT)
      d. The majority of Ivy League schools generally admit students who achieve very high grade point averages (3.75+); However GPA scores of admitted students in NY States Schools and HBCUs offering architecture programs are similar, ranging a score between 2.5-3.24

Further Investigations: JMBC will seek data that will identify how many youth of color are denied admittance into architecture programs, and from that pool of denied applicants, compare their SAT and GPA scores to reveal the percentage of students of color with strong GPA’s that may have been unfairly judged in their capacity to perform well in an architecture program

2. Peer Representation / Enrollment into Architecture Programs
   a. Only 21% of total student enrollment in architecture programs across the nation are African-American and Hispanic/Latino
   b. Less than 6% of total student enrollment in architecture programs in all 120 architecture institutions are African-American and approximately 16% are Hispanic/Latino
   c. In the 113 architecture institutions that are not Historically Black Colleges and Universities (HBCU) only 3.8% of all students are African-American and only 15.3% are Hispanic/Latino
   d. In the 7 Historically Black Colleges and Universities (HBCU) that offer architecture programs 76.7% of its total student enrollment are African-American, and only 3.4% of Hispanic/Latino
   e. African-American architecture students enrolled in HBCUs accounts for 37.5% of all African-American students enrolled architecture programs across the United States
   f. Out of all students enrolling into pre-professional architecture programs only 7.3% are African-American and only 15.7% of Hispanic / Latino
   g. Out of all students enrolling into the professional architecture programs only 5.1% are African-American and 14.6% Hispanic/Latino

Further Investigations: JMBC will gather qualitative data that will help identify the factors (if any) that influence students’ decision to attend schools with peers and faculty of similar race and ethnicities

3. College Admissions and Graduation Rates
   a. Between admission into architecture programs and
graduation. 2012 data reveals that 53.5% of African-American architecture students will be lost, and 37.1% Hispanic/Latino architecture students will be lost, however the architecture academy will only lose 18.8% students of all other races.

b. Pre-professional architecture programs in all architecture institutions lose approximately 64% of its African-American students and 37% of its Hispanic/Latino students.

c. Pre-professional architecture programs in Historically Black Colleges and Universities (HBCU) are losing 81% of its African-American students and 58% of its Hispanic/Latino population.

d. Professional architecture programs in all architecture schools are losing 48% of its African-American students and 39% of its Hispanic/Latino students.

e. Professional architecture programs in Historically Black Colleges and Universities (HBCU) are losing 38% of its African-American students.

f. The number of African-American architecture students graduating from HBCUs is declining.

Further Investigations
Future research will examine attrition rates more accurately by tracking enrollment and graduation numbers of one entire cohort of students entering architecture programs at the same time rather than speculating enrollment and graduation figures from same year averages.

4. Time and Cost of Education

a. An individual who pursues a 4-year undergraduate degree can expect to spend a minimum of 6 years to obtain a professional degree in architecture (graduate school required).

b. An architecture degree could cost an individual between $38,536 - $229,864 depending if the program is within a private or public institution, and if the student enrolling resides in-state or out-of-state.

c. Out-of-state students who choose to enroll in public institutions will expect to pay 2 times more tuition than in-state students.

d. Students who choose to enroll in private institutions will pay up to 5 times more tuition.

Further Investigations
Future surveys will identify the factors the influence a student’s choice decision between a 4 and 5-year architecture program and investigate if there are any noticeable differences between educational offerings in relation to tuition costs.

5. Few Faculty of Color

a. Out of 6,064 architecture faculty, only 32% are women. The probability of students encountering a female architecture faculty member is 1 out of 14.

b. 3% of all architecture faculty are African-American. The probability of student encountering an African-American architecture faculty member is only 1 in 174.

c. 8% of all architecture faculty are Hispanic / Latino. The probability of students encountering a Hispanic / Latino architecture faculty member is 1 in 58.

Further Investigations
Future surveys will identify how a lack of African-American and Hispanic/Latino faculty influence student’s understanding about architecture and the profession.

B. YOUTH EXPOSURE

1. Representation from Population of Color

a. Most architect characters in film are white and male, depicting very few woman and people of color.

Further Investigations
Forthcoming research seek to identify current popular culture platforms and mediums that influence the impressions of young people the most.

2. Exposure Opportunities

a. Youth are minimally exposed to architects through standard school programming such as career fairs and professional guest presentations in classrooms.

b. After-school and summer programs, sponsored primarily by non-profit organizations and universities, provide the most specific exposure to architecture, but usually requires a fee to participate.

c. Specialized high-schools provide more advanced courses in architecture and design, but these schools require a rigorous admission and selection process.

d. Students who choose to attend vocational schools will be exposed to specific skillsets regarding architecture and construction, but may be limited to only the technical aspects of the profession and not the qualitative components of the design process.

Further Investigations
Future survey efforts will engage students within New York City schools and document how youth currently understand the field of architecture and the particular messages that resonate with them. Additionally, further investigation will identify New York City based exploratory architecture programs from K-12 youth and explore the range of costs and scholarships offered to support participation in these programs. JMB studies also seek to understand enrollment and demographic statistics of students who enroll in specialize schools, the recruitment efforts that steer enrollment, and to identify course-offering differences between conventional New York City high-schools and specialized high schools.