

2015

# INCLUSION IN ARCHITECTURE

JMBC

The City College  
of New York

# CREDITS

JMBC

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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# RESEARCH INTRODUCTION



# 01 OVERVIEW

“**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.

# STATE OF THE PROFESSION



## 02 OVERVIEW

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.

# A CALL TO ACTION



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).

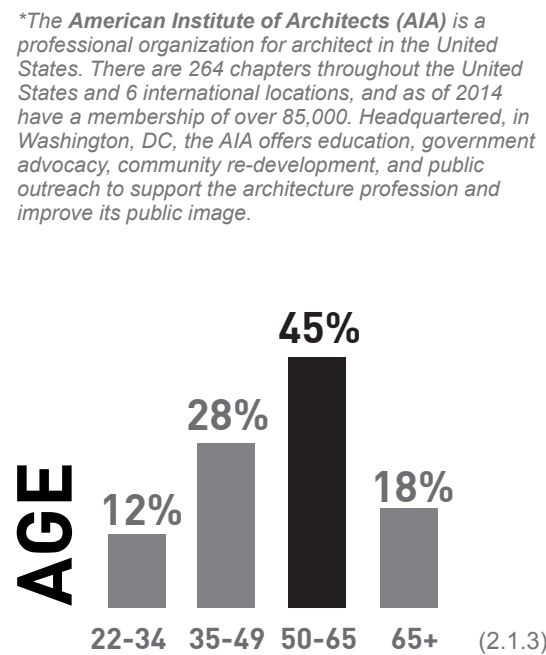
Some major issues here must consider how “elite” minorities who have “beat the odds” to enter the field, provide pipelines of support to bring in others after them. Also of importance is an understanding of the challenges that Blacks and Hispanics/Latinos in architectural practice face with getting exposure 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.

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#### SOURCES:

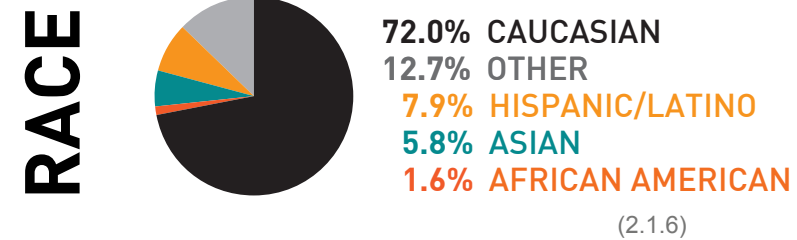
- 1) Anonymous. 2012. STEM Gap Widens for Minorities. The National Journal. Retrieved May 7, 2012 from <http://www.nationaljournal.com/thenextamerica/workforce/stem-gap-widens-for-minorities-20121212>
- 2) Khan, E. M. (1992). Renewed Hope For Black Architects. The New York Times. April 9, 1992.
- 3) Mitchell, M. L. (2002). *The Crisis of the African-American Architect: Conflicting Cultures of Architecture and (Black) Power*. iUniverse: Bloomington, Indiana, USA.
- 4) Travis, J. (1991). *African American Architect in Current Practice*. Princeton Architectural Press: Princeton, NJ.

**1 0 5 , 8 4 7**  
 LICENSED ARCHITECTS IN THE US  
 ( **8 3 , 0 0 0** AMERICAN INSTITUTE  
 OF ARCHITECTS  
 MEMBERS ) (2.1.1)



**1,694**  
 AFRICAN  
 AMERICAN  
 ARCHITECTS (2.1.4)

**8,362**  
 HISPANIC  
 LATINO  
 ARCHITECTS (2.1.5)



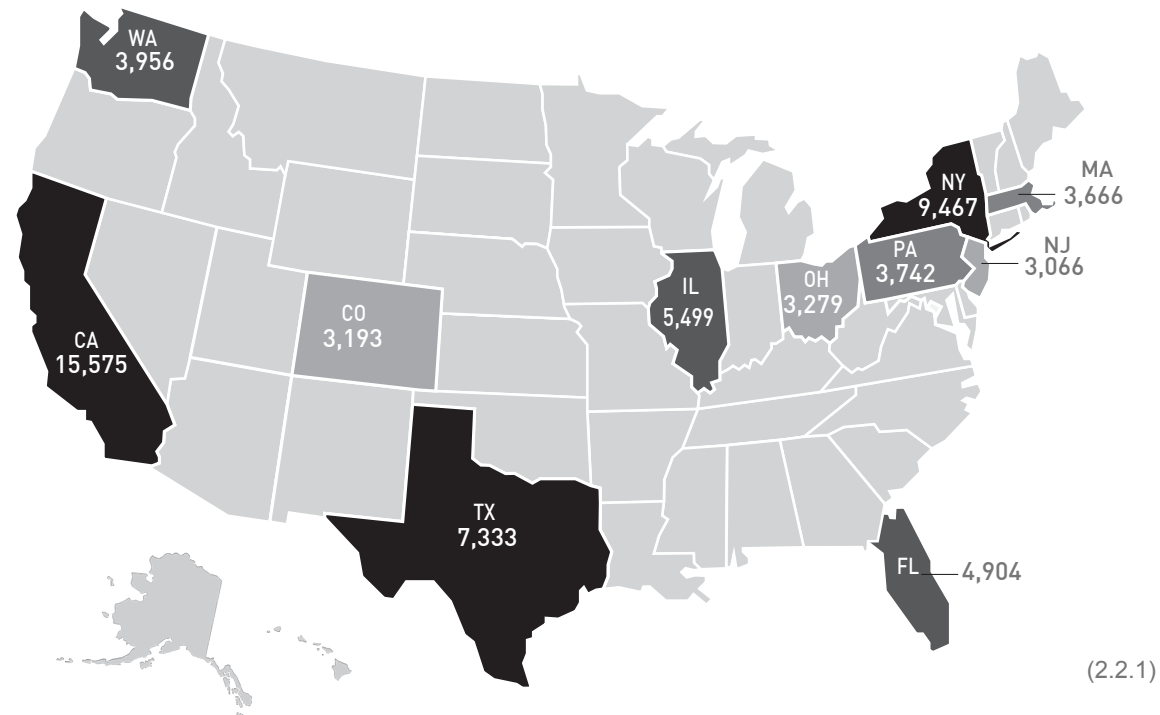
# WHO IS PRACTICING ARCHITECTURE?

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.

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

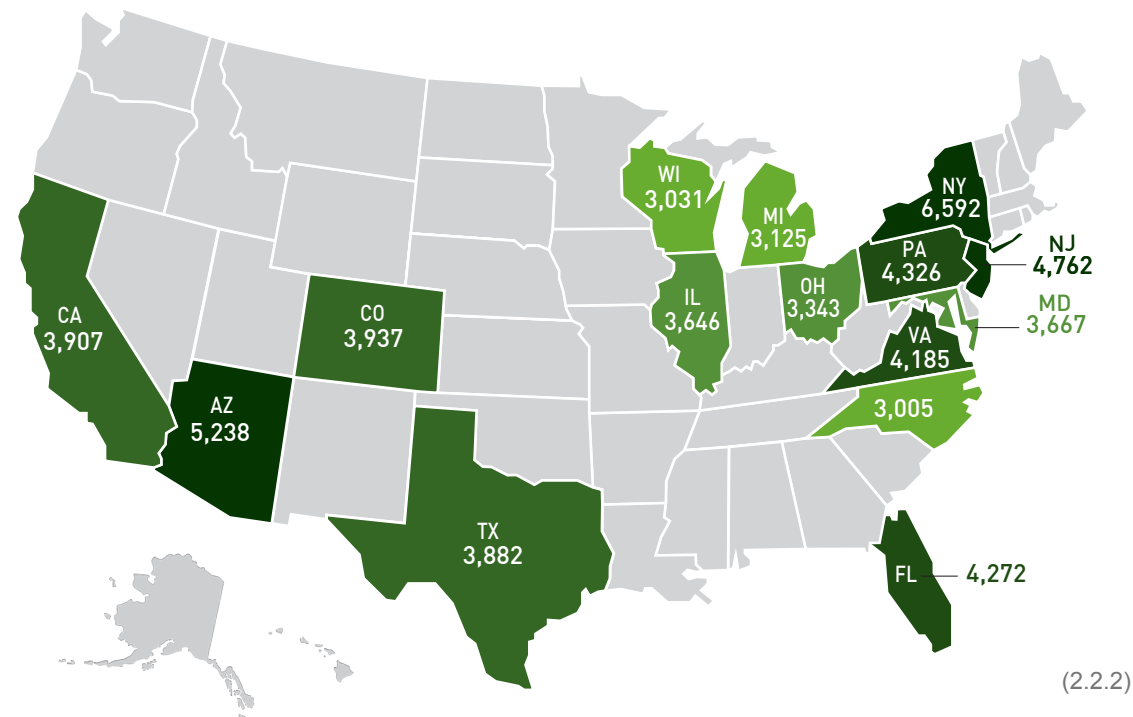
(2.1): American Institute of Architects. "Facts, Figures, and the Profession." AIA.org. 2012. Web. 29 April 2014. (2.1.2) National Council of Architectural Registration Boards. "NCARB by the Numbers (2012)." Ncarb.com. May 2012. Web. 29 April 2014. (2.1.3-6) Bureau of Labor Statistics. "Household Data Annual Averages." bls.gov. 2013. Web. 29 April 2014

STATES WITH >3,000 LICENSED ARCHITECTS (2011)



(2.2.1)

STATES WITH >3,000 \*RECIPROCAL ARCHITECT REGISTRATIONS (2011)



(2.2.2)

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	3,667
11. Illinois	3,646
12. Ohio	3,343
13. Michigan	3,125
14. Wisconsin	3,031
15. North Carolina	3,005

# WHERE

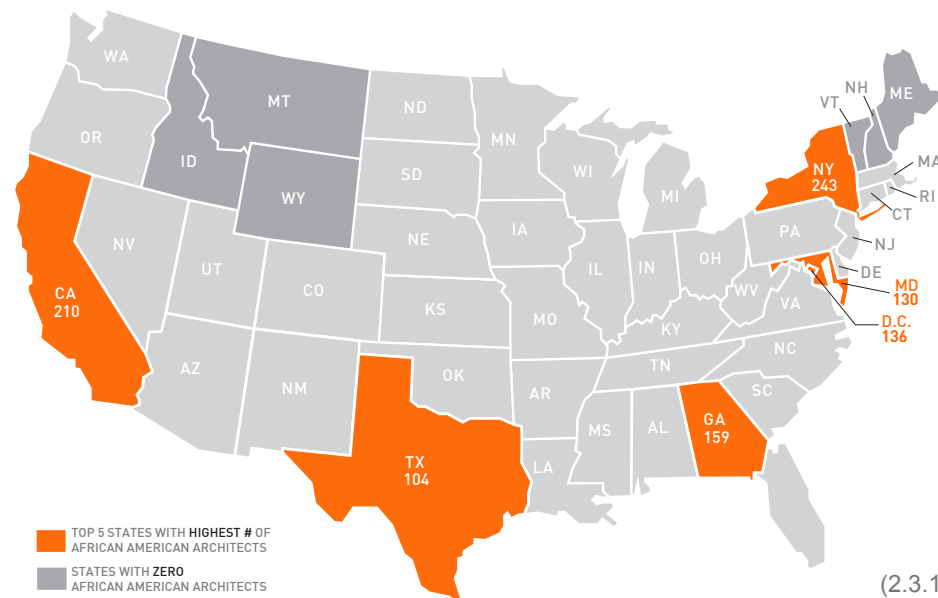
## DO ARCHITECTS TEND TO GET LICENSED?

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.

\*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.



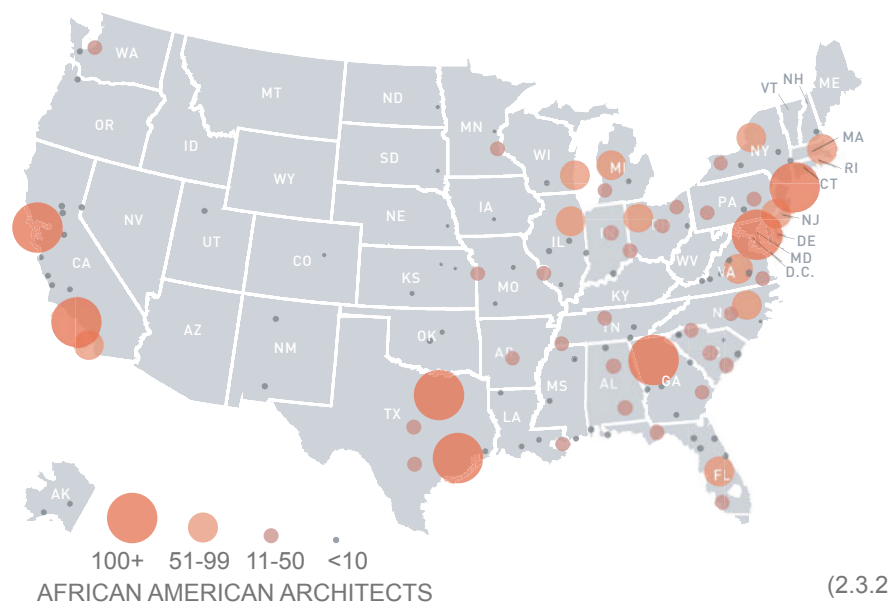
TOP FIVE STATES WITH MOST AND LEAST NUMBER OF LICENSED AFRICAN AMERICAN ARCHITECTS



(2.3.1)

STATE	AFRICAN AMERICAN ARCHITECTS	RESIDENT ARCHITECTS
NY	243	9,707
CA	210	16,191
GA	159	2,404
D.C.	136	699
MD	130	1,995
TX	104	8,427
FL	95	4,491
IL	95	5,306
NJ	73	3,096
MI	72	2,570
VA	70	2,790
OH	63	2,650
NC	59	2,248
PA	43	3,653
MO	34	2,055
MA	32	3,715
AL	31	901
TN	21	1,514
WA	21	3,866
LA	19	1,213
IN	18	1,056
MN	18	1,947
CT	17	1,514
SC	15	1,066
CO	13	3,256
AZ	10	2,164
NV	10	530
AK	7	495
KS	7	936
WI	7	1,727
KY	6	718
MS	5	364
OK	4	763
NE	3	546
NM	3	712
OR	3	1,654
AK	2	257
DE	2	118
UT	2	827
WV	2	100
HI	1	1,027
IA	1	1,106
ND	1	154
RI	1	310
SD	1	111
ID	0	491
ME	0	425
MT	0	441
NH	0	311
VT	0	289
WY	0	136

CITIES WITH LICENSED AFRICAN AMERICAN ARCHITECTS



(2.3.2)

CITIES 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

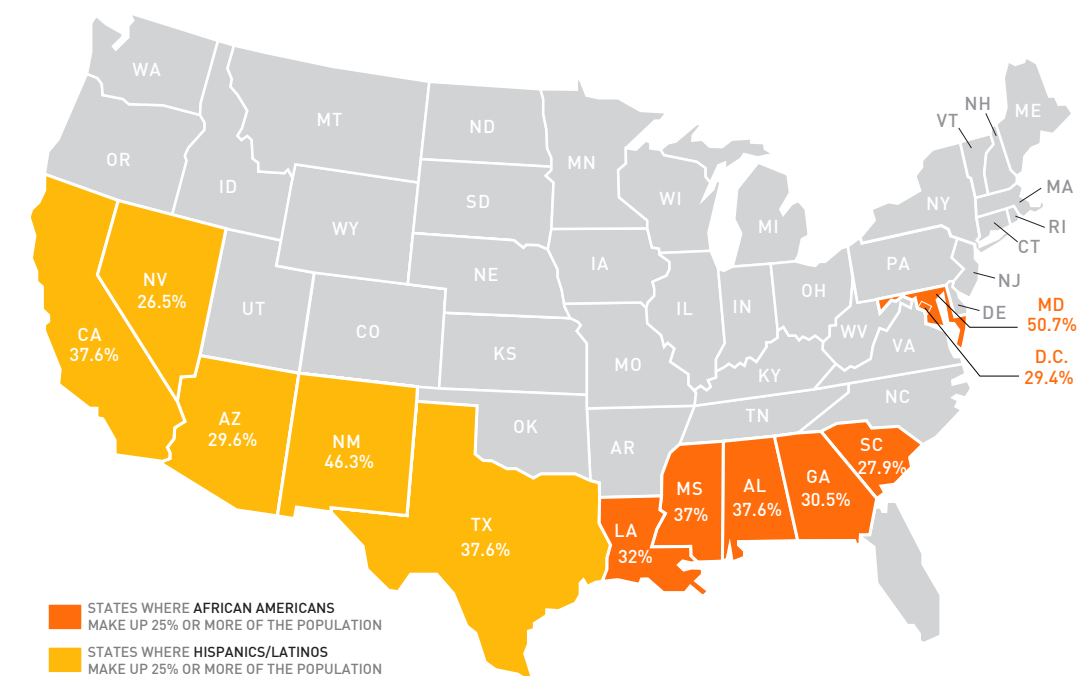
(2.3.3)

# 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-suscribe 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



(2.3.4)

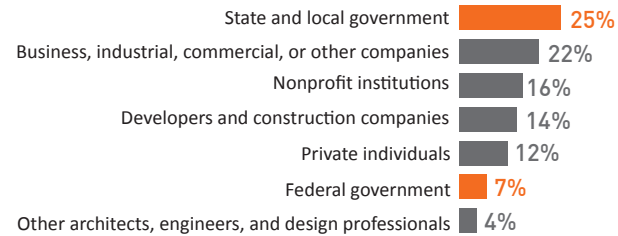
(2.3.1-3) Directory of African American Architects . "Directory of African American Architects." University of Cincinnati. Web. 29 April 2014. National Council of Architectural Registration Boards. "NCARB's 2013 Survey of Registered Architects." Ncarb.com. 30 December 2013. Web. 29 April 2014. (2.3.3) United States Census Bureau. "Race and Hispanic or Latino: 2010 - United States -- Places with 50,000 or More Population by State." U.S. Department of Commerce. Web. 29 April 2014.

**17,500** ARCHITECTURE FIRMS IN 2011 (2.4.1) → **24% DECREASE** IN TOTAL # OF FIRMS FROM 2009 - 2011 (2.4.2)

**73%** OF ARCHITECTS PRACTICE IN FIRMS\* (2.4.3)  
\*INCLUDES SOLE PRACTITIONERS AND MULTIDISCIPLINARY FIRMS WITH ARCHITECTURE AS LEAD DISCIPLINE

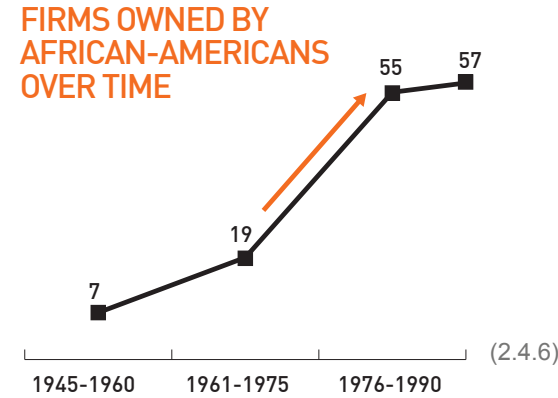
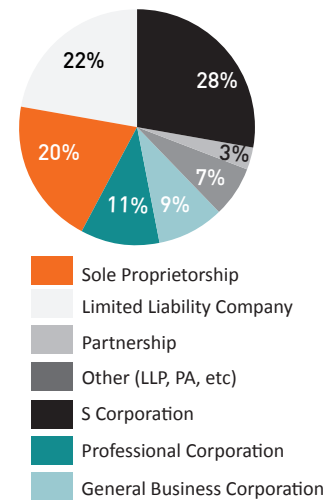
**20%** OF ARCHITECTS ARE SELF EMPLOYED (2.4.4)

**FIRM BILLINGS**  
\*AS REPORTED BY AIA MEMBERSHIP

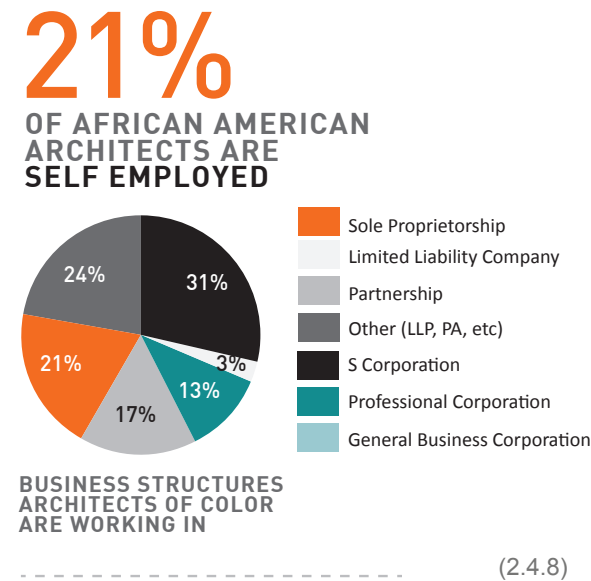


**32%** OF ALL ARCHITECTURE FIRM BILLINGS ARE FROM PUBLIC SECTOR CLIENTS (2.4.5)

**BUSINESS STRUCTURES ARCHITECTS ARE WORKING IN**



**66%** OF AFRICAN AMERICAN ARCHITECTS PRIVATE IN FIRMS (2.4.7)

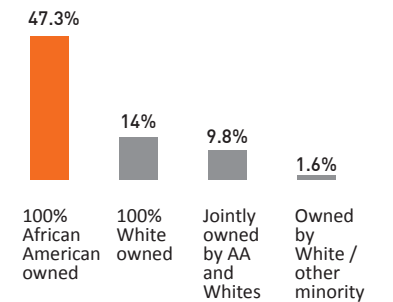


**19%** OF AFRICAN-AMERICAN ARCHITECTS REPORT THEY ARE PRIMARILY WORKING ON PUBLIC SECTOR PROJECTS (2.4.9)

**HOW ARE ARCHITECTS PRACTICING?**

The majority of architects, 93%, are working in the private sector in architecture firms or are self-employed. The majority of African-American architects, 87% are also working in the private sector in architecture firms or are self-employed. Firm billings, as reported by the 2012 American Institute of Architects (AIA) survey report *The Business of Architecture* 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 public sector projects.

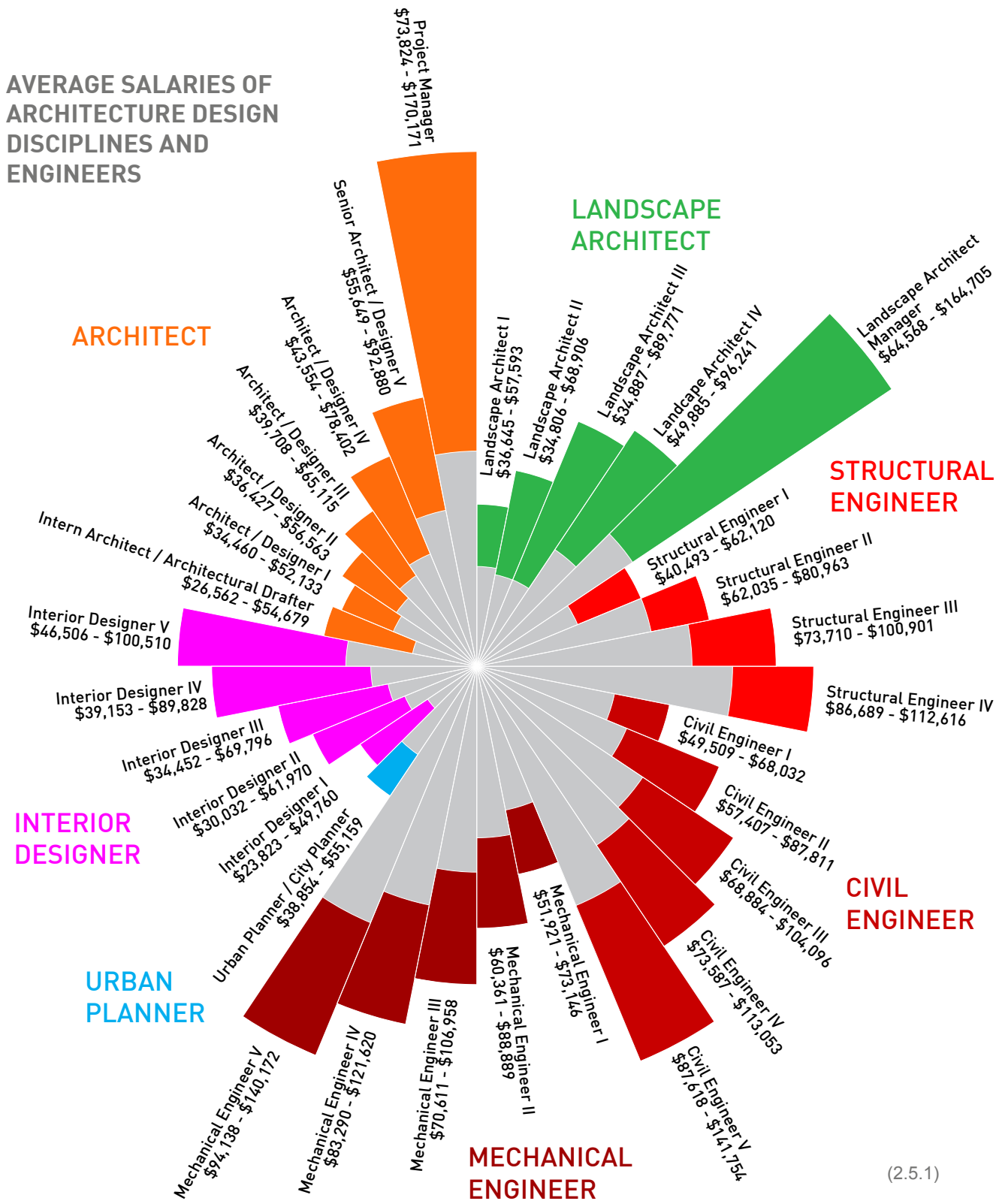
**WHO DO ARCHITECTS OF COLOR WORK FOR?**



**47.3%** OF AFRICAN AMERICAN ARCHITECTS WORK IN FIRMS OWNED BY 100% AFRICAN AMERICANS (2.4.10)

(2.4.1-2,5) American Institute of Architecture. "Facts and Figures: Architects and the Construction Industry." aia.org. 2012. Web. 29 April 2014  
 (2.4.3-4) "The Business of Architecture: 2012 AIA Survey Report on Firm Characteristics." 2012. PDF.  
 (2.4.6-11) Directory of African American Architects. "African American Architects Survey 1999/2000." University of Cincinnati. Web. 8 May 2014

**AVERAGE SALARIES OF ARCHITECTURE DESIGN DISCIPLINES AND ENGINEERS**



(2.5.1)

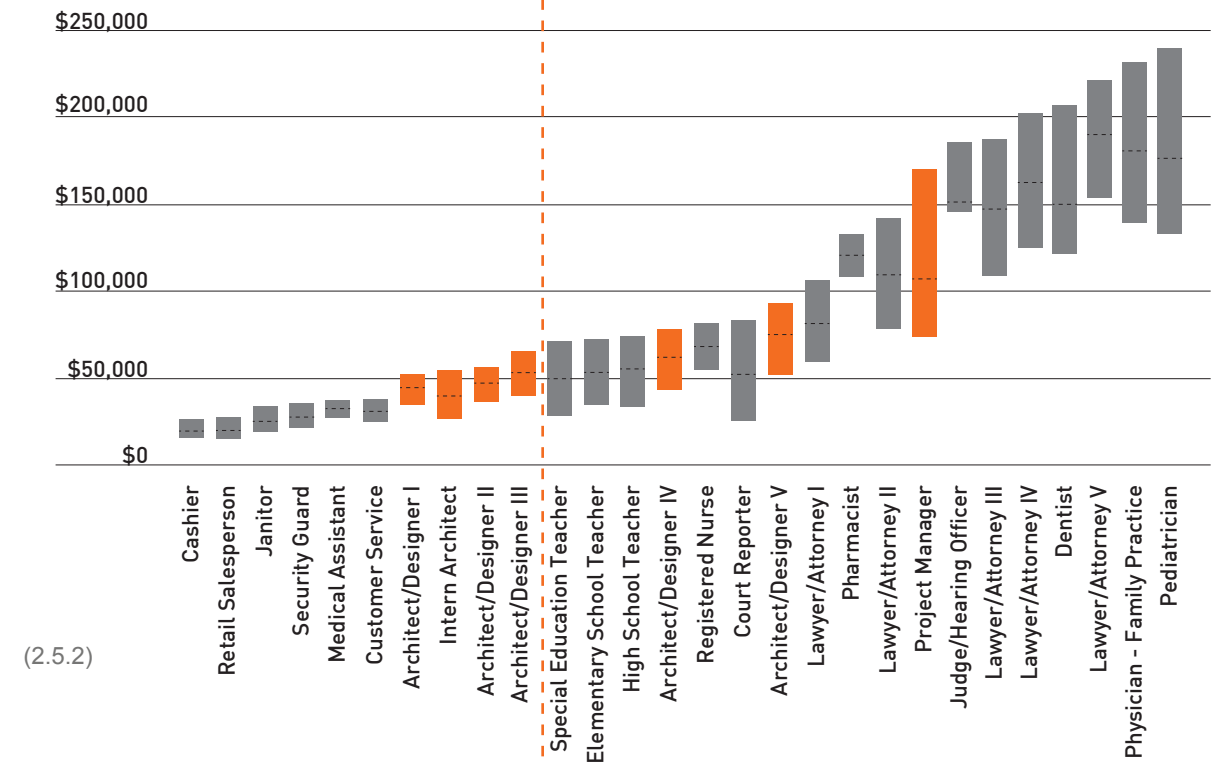
(2.5.1-2) Salary.com. "US Salary Wizard." Salary.com. Web. 10 March 2014.

# HOW MUCH MONEY ARE ARCHITECTS MAKING?

**ENTRY-LEVEL ARCHITECT SALARIES FALL WITHIN THE RANGE OF OTHER SERVICE SECTORS THAT REQUIRE LITTLE TO NO COLLEGE EDUCATION**

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.

## SALARIES OF ARCHITECTS AND OTHER SERVICE SECTOR INDUSTRIES



(2.5.2)

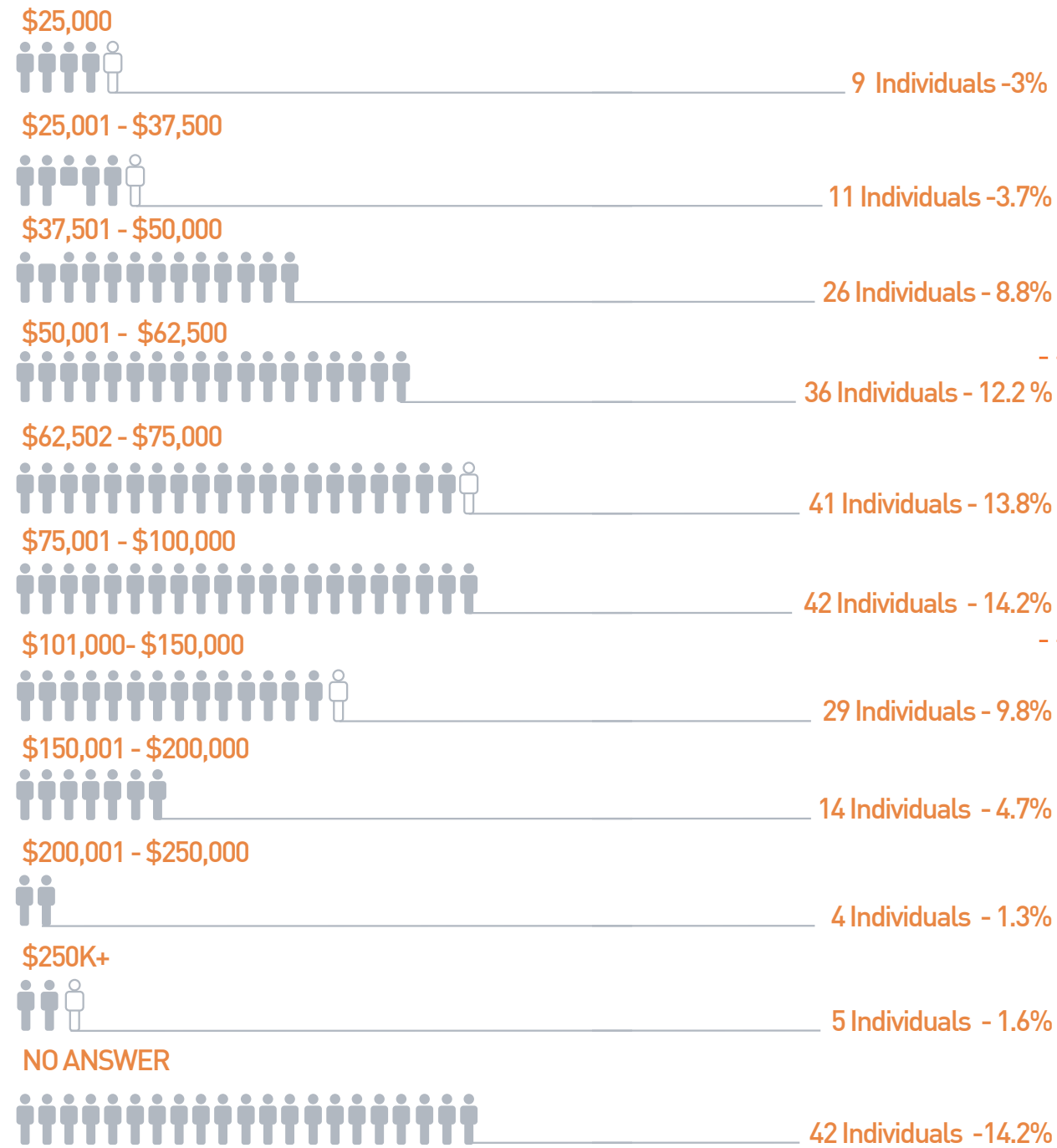
# HOW MUCH

## MONEY ARE ARCHITECTS OF COLOR MAKING?

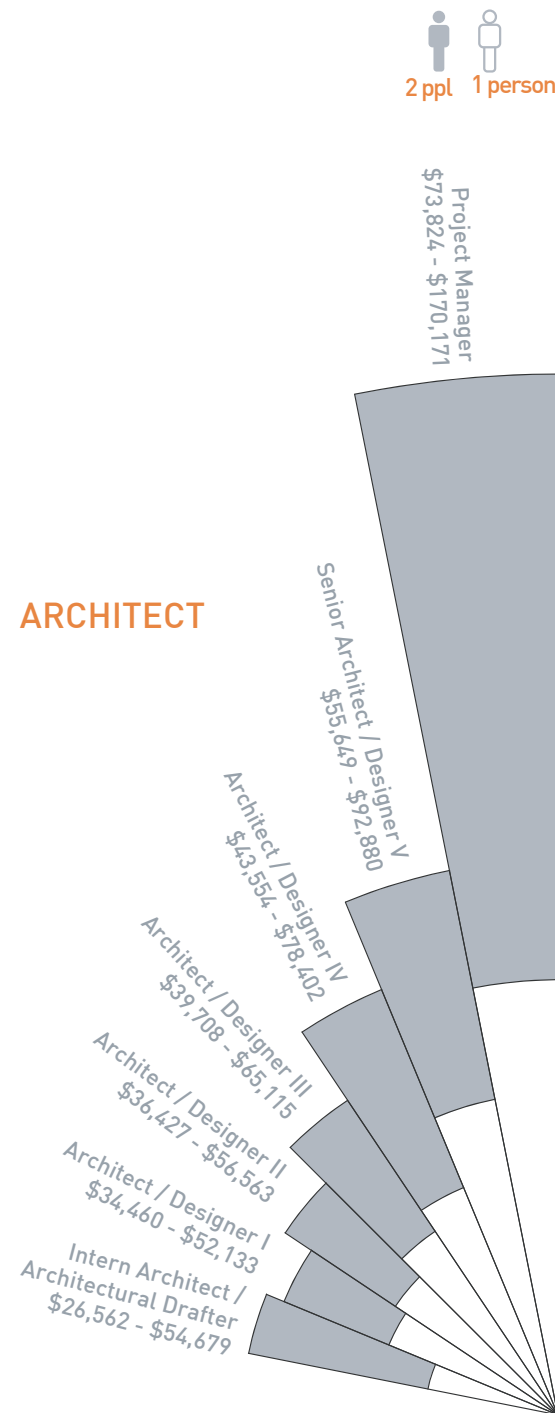
According to a survey conducted by the Directory of African-American Architects in 2000, many architects of color are earning between \$50,001 - \$100,000. However, the salary statistics for African-American architects represented in the adjacent graphic are based on a very small survey sampling of approximately 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).

**HIGHER PERCENTAGES OF ARCHITECTS OF COLOR ARE EARNING BETWEEN \$50,001 - \$100,000**

### SALARIES OF ARCHITECTS OF COLOR REPORTED IN 2000 SURVEY



(2.6.2)

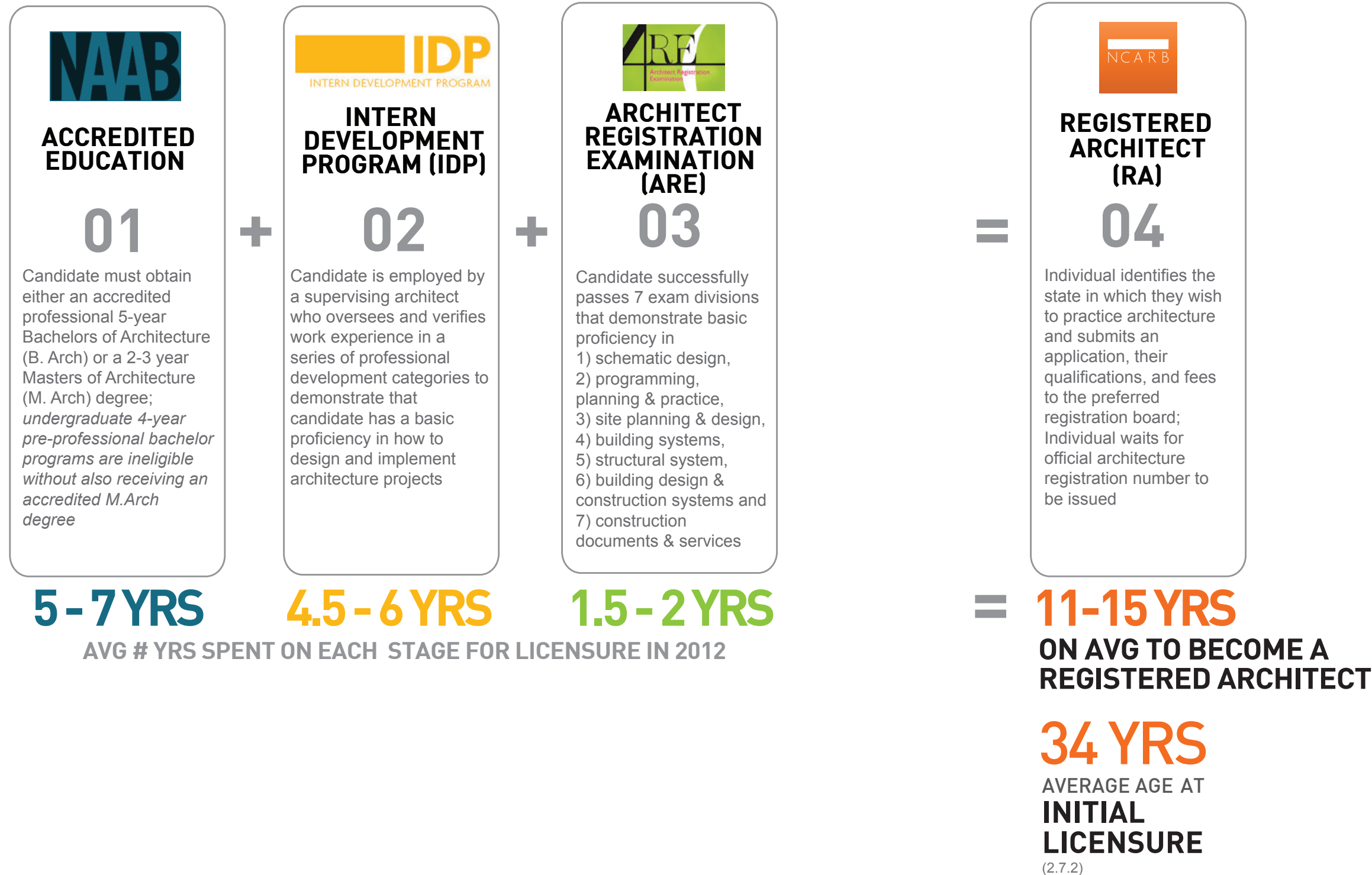


(2.6.1)

(2.6.1) Salary.com. "US Salary Wizard." Salary.com. Web. 10 March 2014.

(2.6.2) Directory of African American Architects. "African American Architects Survey 1999/2000." University of Cincinnati. Web. 8 May 2014.

## PROCESS TO BECOME A REGISTERED ARCHITECT



(2.7.1)

(2.7.2)

# HOW LONG

## DOES IT TAKE TO BECOME A LICENSED ARCHITECT?

An individual typically invests at least 11-15 years to becoming a registered architect, an architect that holds a current license to practice architecture, also known as a "licensed" architect. The process to becoming a registered architect includes 4 steps: 1) obtaining an accredited education, 2) internship training under a supervising architect, 3) the successful completion of 7 licensing exams, and 4) gaining final approvals with a state architecture licensure board.

A student can begin their educational training 1) directly as an undergraduate student enrolled in a professional 5-year degree program at an accredited institution, which automatically grants eligibility to begin a licensure process, or 2) begin with a 4-year pre-professional architecture degree or any 4-year degree and then accompany it with a mandatory professional 2-3 year program that grants a Masters of Architecture degree that will qualify an individual to pursue the licensure process.

The lengthiest and perhaps the most unpredictable component of licensure is the "Internship Development Program (IDP)" phase. Every office provides diverse work experiences and it is up to the candidate and their supervising architect to manage a balanced workload to fulfill licensure requirements in a timely manner. Additionally an individual's ability to fund costs associated to licensing fees and exams also influence how long it will take to obtain licensure.

The National Council of Architectural Registration Boards (NCARB) is aware of this lengthy process and has begun modifying licensure requirements and as a result has begun to observe the average age at licensure decline in recent years.

25

(2.7.1-2) National Council of Architectural Registration Boards. "NCARB by the Numbers (2013)." Ncarb.com. May 2013. Web. 29 April 2014.

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



COLLEGE EDUCATION

INTERN DEVELOPMENT PROGRAM (IDP)

ARCHITECT REGISTRATION EXAMINATION

AVG # YRS TO BECOME A REGISTERED ARCHITECT

### PROFESSIONAL PROGRAM

B. ARCH	5	4.5	1.5	11
M. ARCH	2-3	5	1.5	12
BACHELORS	M.ARCH			

### PRE-PROFESSIONAL PROGRAM

B.S or B.A ARCH	4	5.5	2	11.5
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(2.8.1)

# HOW LONG


## DOES IT TAKE TO BECOME A LICENSED ARCHITECT BY DEGREE PROGRAM?

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.

(2.8.1) National Council of Architectural Registration Boards. "NCARB by the Numbers (2012)." Ncarb.com. May 2012. Web. 29 April 2014.


## EDUCATION COSTS

## PROFESSIONAL COSTS



**ACCREDITED EDUCATION**

**01**



**INTERN DEVELOPMENT PROGRAM (IDP)**

**02**



**ARCHITECT REGISTRATION EXAMINATION (ARE)**

**03**



**REGISTERED ARCHITECT (RA)**

**04**

**\$38,536 - \$200,572.50**  
B. ARCH (5 YR TOTAL)

OR

**\$45,752 - \$120,337**  
B.S ARCH or B.A ARCH (4 YR TOTAL)  
+  
**\$21,131.14 - \$109,527.54**  
M. ARCH (2-3 YR TOTAL)

**\$350** INITIAL APPLICATION FEE (ONE-TIME)

+

**\$75** ANNUAL RENEWAL FEE

x **5** AVG # YRS FOR IDP

**\$210** PER DIVISION

x **7** DIVISIONS

ONE-TIME LICENSE FEE FOR STATES WITH MOST LICENSED AFRICAN AMERICAN ARCHITECTS

**\$38,536 - \$229,864**

(2.9.1)

+

**\$ 725** TOTAL AVG COST FOR IDP

(2.9.2)

**+ \$1,470**

(2.9.3)

**+ \$0 - \$377**

(2.9.4)

**= \$40,731 - \$232,436**

**ESTIMATED COST RANGE FOR INITIAL LICENSURE**

# 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.

(2.9.1) Association of Collegiate Schools of Architecture (ACSA); Design Intelligence. "Architecture Tuition & Fees 2012-2013" Print.  
(2.9.2) National Council of Architectural Registration Boards. "NCARB Fees." Ncarb.com. Web. 29 April 2014.  
(2.9.3 / 2.9.4) National Council of Architectural Registration Boards. "Registration Board Licensing Requirements." Ncarb.com. Web. 29 April 2014.

## PROFESSIONAL DEVELOPMENT, POST INITIAL LICENSURE COSTS



### LICENSURE MAINTENANCE

05

Most states also require some form of continuing education to maintain a license.



### NCARB CERTIFICATE

06

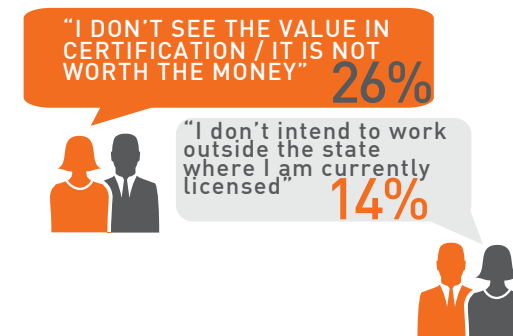
Facilitates reciprocal registration among all 54 NCARB Member Boards, 11 CA jurisdictions, and can be used to support an application for registration in other countries.

## \$ VARIES

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.

<b>\$0 - 1,500</b>	INITIAL CERTIFICATE APPLICATION
<b>\$225</b>	ANNUAL RENEWAL
<b>\$400</b>	TRANSMITTAL X EACH DESIRED REGISTRATION BOARD
<b>+</b>	
<b>\$2,125</b>	ESTIMATED COST OF CERTIFICATION (2.10.1)

REASON YOU HAVE **NOT APPLIED** FOR NCARB CERTIFICATION?



REASON YOU HAVE **NOT RENEWED** YOUR NCARB CERTIFICATION?



# 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.

(a) National Council of Architectural Registration Boards. "Continuing Education Requirements by State." Ncarb.org. 2014. 27 May 2014.  
 (b) National Council of Architectural Registration Boards. "Certification Overview." Ncarb.org. 2014. 21 May 2014.

(2.10.1) National Council of Architectural Registration Boards. "NCARB Fees." Ncarb.com. Web. 29 April 2014; National Council of Architectural Registration Boards. "Registration Board Licensing Requirements." Ncarb.com. Web. 29 April 2014.

(2.10.2) National Council of Architecture Registration Boards. "NCARB by the Numbers (2012)." Ncarb.org. May 2012. Web 29 April 2014





**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.

[www.noma.net](http://www.noma.net)



**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.

[www.arquitectoschicago.org](http://www.arquitectoschicago.org)



**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.

[www.obd.org](http://www.obd.org)



**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.

[www.aia.org/diversity](http://www.aia.org/diversity)

# HOW ARE PROFESSIONALS OF COLOR SUPPORTED?

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

1. The National Organization of Minority Architects (NOMA), founded in 1971, work 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, practioners 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.

# STATE OF THE ACADEMY

## 03 OVERVIEW



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.

# MINORITY PARTICIPATION



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 reports on Minorities in Higher Education for over two decades. The data is somewhat promising as it illustrates a consistent yearly increase in the both the percentage of minorities with high school diplomas, or the equivalent, and

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 20.2 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, 7% were Hispanics, and 1% were Native Americans (in contrast to 83% 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.

Todd Brown  
Environmental Psychology, Ph.D Candidate  
CUNY Graduate Center

#### SOURCES:

- 1) Reskin, B. & Charles, C.Z. (1999). "Now You See 'Em, Now You Don't: Race, Ethnicity, and Gender in Labor Market Research." Pp.380 - 407 in *Latinas and African American Women in Labor Markets*, edited by Irene Brown. New York: Russell Sage.
- 2) Hodo, T. L. (2009). "Voices from Within: The Academic Experiences of Minority Scholars at a Midwest Research University". *e.polis* Vol. 3 Fall/Winter 2009
- 3) Liao, Y., Bang, D., Cosgrove, S., Dulin, R., Harris Z., Stewart, A., et al. (2011). *Surveillance of Health Status in Minority Communities — Racial and Ethnic Approaches to Community Health Across the U.S. (REACH U.S.) Risk Factor Survey*, United States, 2009. *Surveillance Summaries*. May 20, 2011 / 60(SS06);1-41;
- 4) Kim, Y. M. (2012). *Minorities in Higher Education: Twenty-Fourth Status Report 2011 Supplement*. American Council on Education.;
- 5) Tan, D. L. (2002). *Majors In Science, Technology, Engineering, And Mathematics: Gender And Ethnic Differences In Persistence And Graduation*. Report from The University of Oklahoma Department of Educational Leadership and Policy Studies

# OF INSTITUTIONS AND PROGRAMS OFFERING ARCHITECTURE PROGRAMS (2011-2012)

**120** INSTITUTIONS

**230** ARCHITECTURE PROGRAMS  
**151** PROFESSIONAL PROGRAMS  
**79** PRE-PROFESSIONAL PROGRAMS (3.1.1)

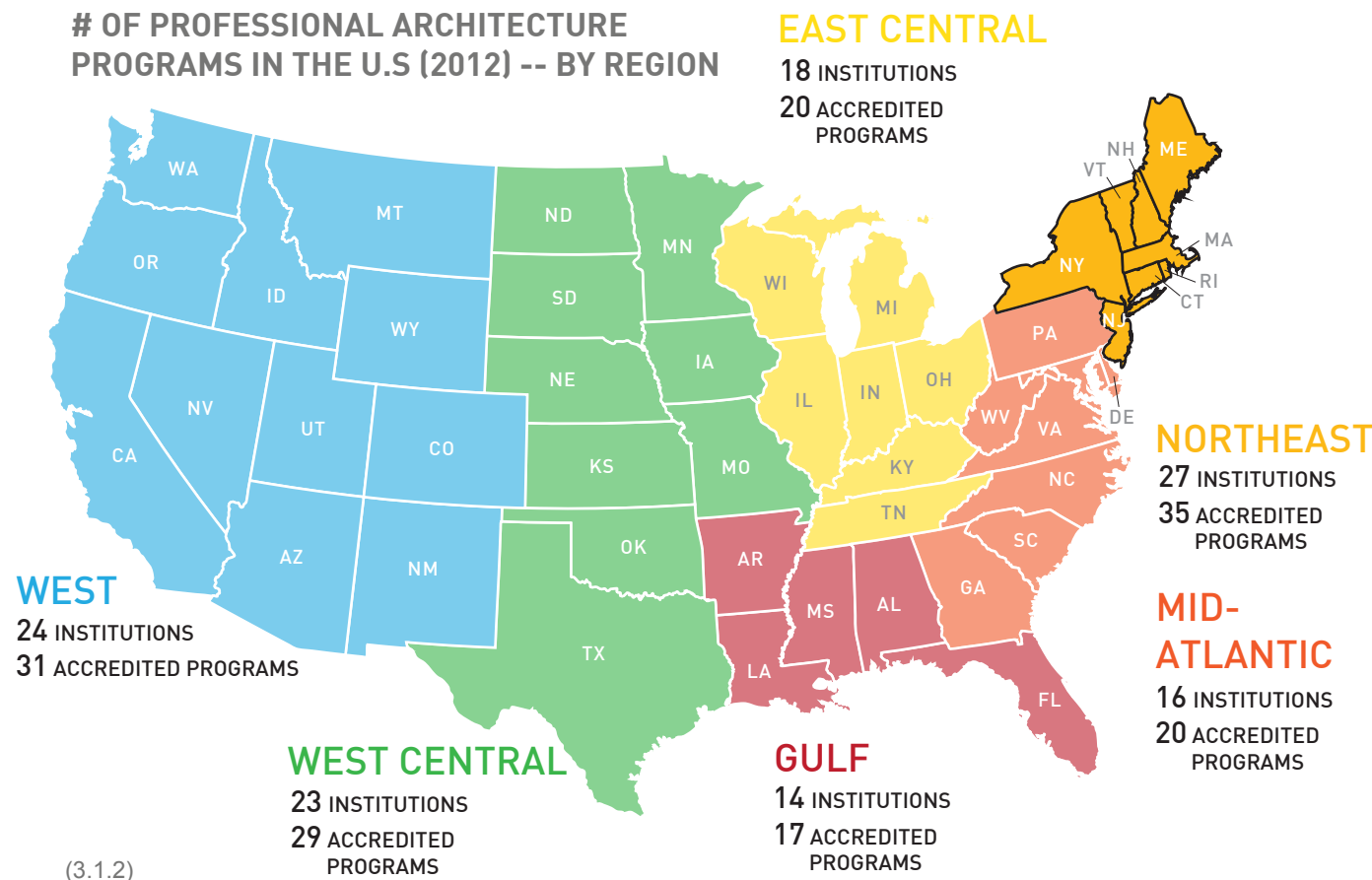
**120** INSTITUTIONS  
**7** HBCUs  
**WITH 8** ACCREDITED PROGRAMS (3.1.3)

# WHERE

## CAN YOU STUDY ARCHITECTURE?

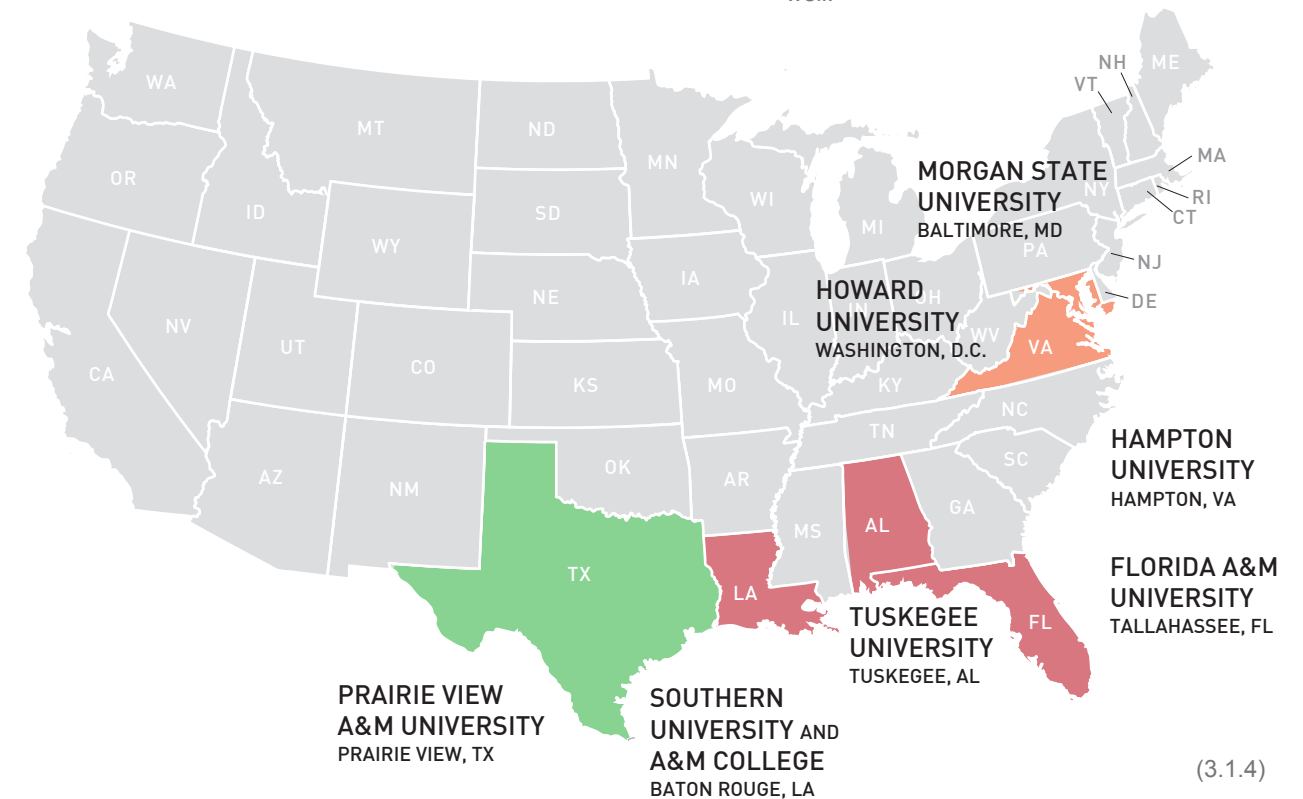
There are 120 institutions that offer professional degree programs (Bachelors of Architecture and Masters of Architecture) and pre-professional programs (Bachelors of Art in Architectural Studies and Bachelors of Science in Architecture). The signature difference between a pre-professional and professional 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.

# OF PROFESSIONAL ARCHITECTURE PROGRAMS IN THE U.S (2012) -- BY REGION



(3.1.2)

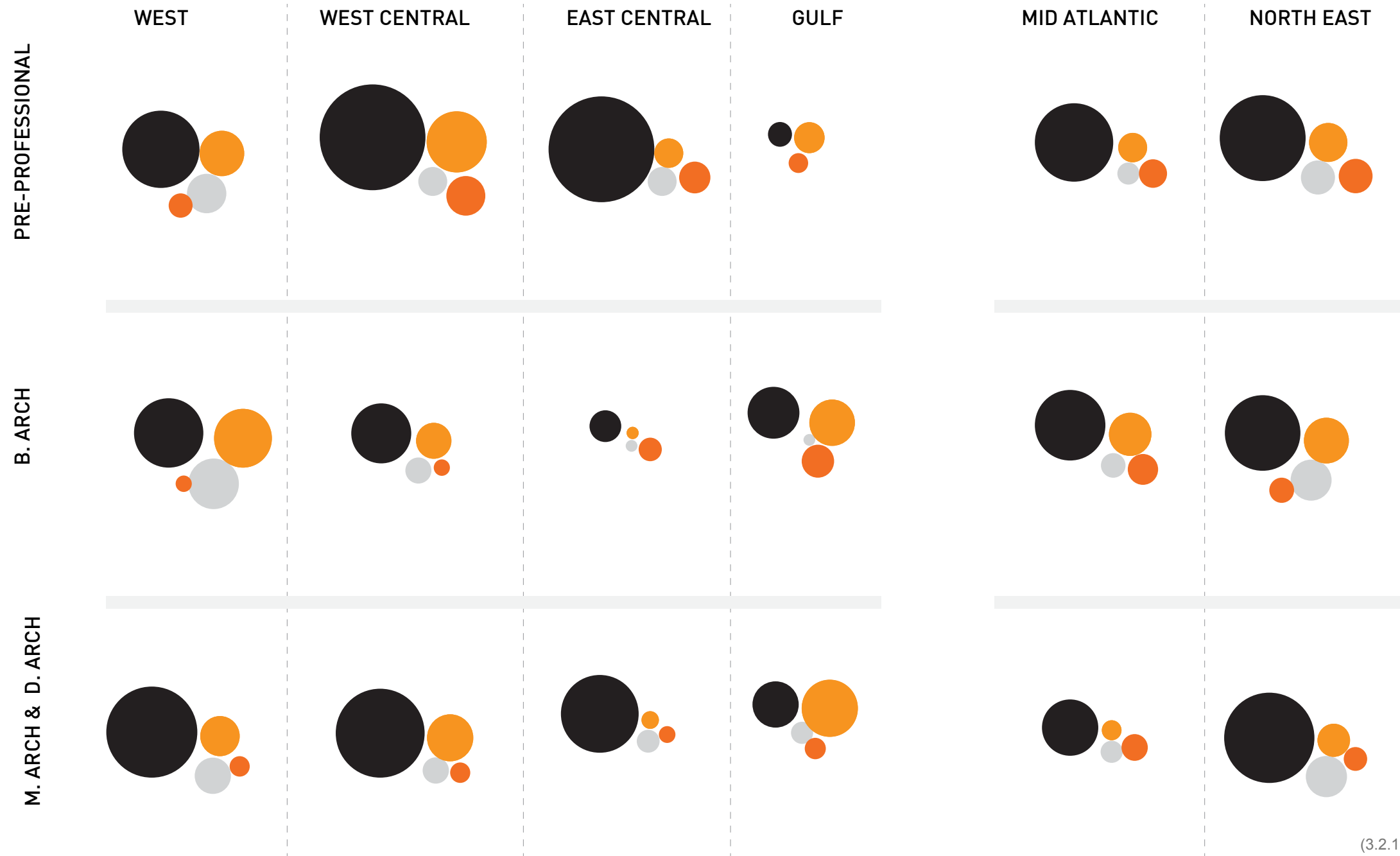
HISTORICALLY BLACK COLLEGES AND UNIVERSITIES IN THE U.S WITH ARCHITECTURE PROGRAMS (2012)



(3.1.4)

(3.1.1) The National Architectural Accrediting Board, Inc. "2012 Report on Accreditation in Architecture Education." 2012. PDF. (3.1.2) Lian Chang, ACSA Director of Research and Information. (3.1.3) HBCU Connect. "HBCU College Listings." [HBCUConnect.com](http://HBCUConnect.com). 2013. Web. 29 April 2014. (3.1.4) U.S. News. "Historically Black Colleges and Universities Ranking." [USNews.com](http://USNews.com). 2014. Web. 29 April 2014.

ETHNICITY OF ENTERING STUDENTS BY REGION (2012 - 2013)



# WHERE

## ARE STUDENTS ENROLLING INTO ARCHITECTURE SCHOOLS?

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.

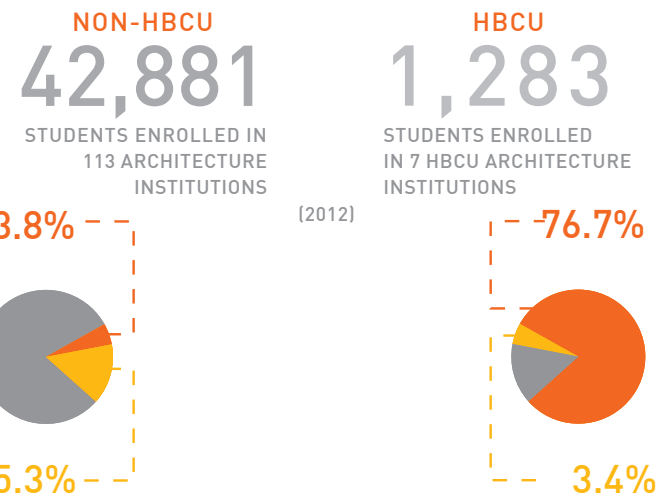
- AFRICAN AMERICAN
- HISPANIC
- WHITE
- ASIAN

(3.2.1)

(3.2.1) Association of Collegiate Schools of Architecture. "Head Count: Ethnicity of Entering Students By Region". www.acsa-arch.org. 2014. Web. 29 April 2014

44,144

STUDENTS ENROLLED IN ARCHITECTURE SCHOOLS (2012)



1641  
AFRICAN AMERICAN STUDENTS

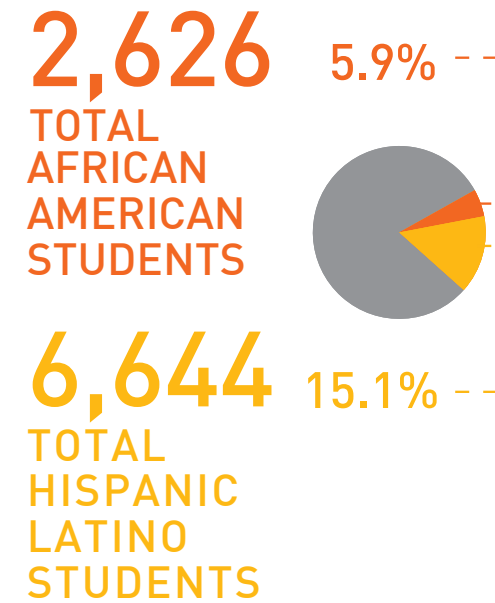
6600  
HISPANIC LATINO STUDENTS

985  
AFRICAN AMERICAN STUDENTS

44  
HISPANIC LATINO STUDENTS

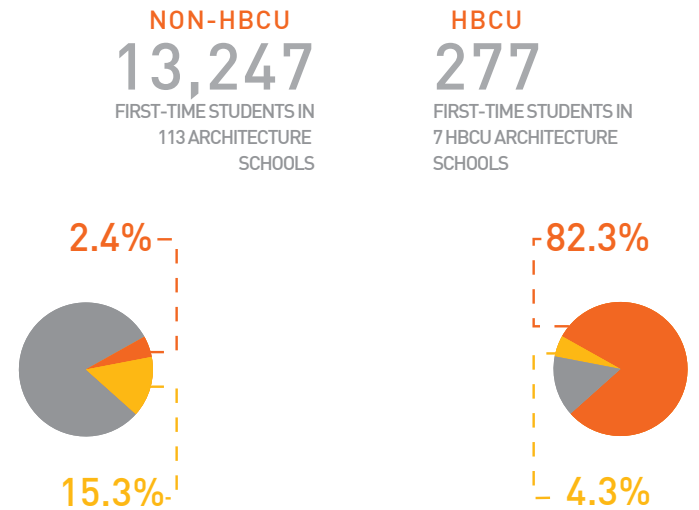
# WHO IS ENROLLING?

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.



13,524

FIRST YEAR ENROLLMENT (2012)



323  
AFRICAN AMERICAN STUDENTS

2029  
HISPANIC LATINO STUDENTS

228  
AFRICAN AMERICAN STUDENTS

12  
HISPANIC LATINO STUDENTS

(3.3.1)

(3.3.1) The National Architectural Accrediting Board, Inc. "2012 Report on Accreditation in Architecture Education." 2012. PDF.

# 44,144

STUDENTS ENROLLED IN ARCHITECTURE SCHOOLS IN 2012

PRE-PROFESSIONAL PROGRAMS

# 17,294

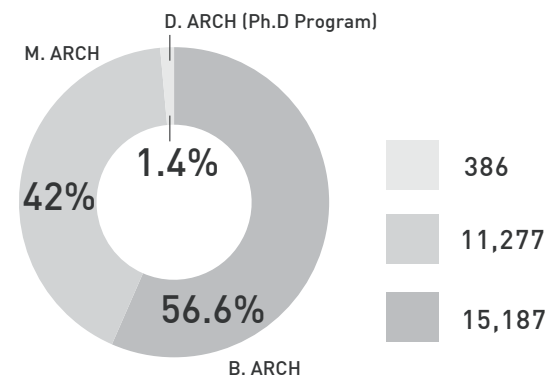
STUDENTS ENROLLED IN 2012

B. SCIENCE IN ARCHITECTURE  
B. ARTS IN ARCHITECTURE

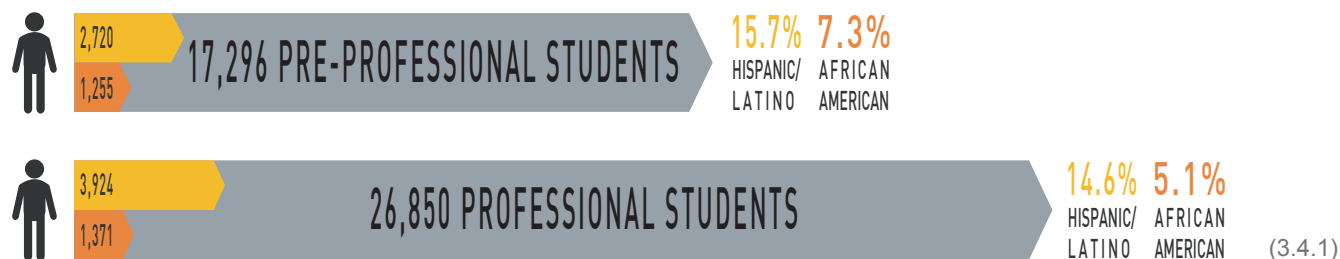
PROFESSIONAL PROGRAMS

# 26,850

STUDENTS ENROLLED IN 2012



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



# WHAT

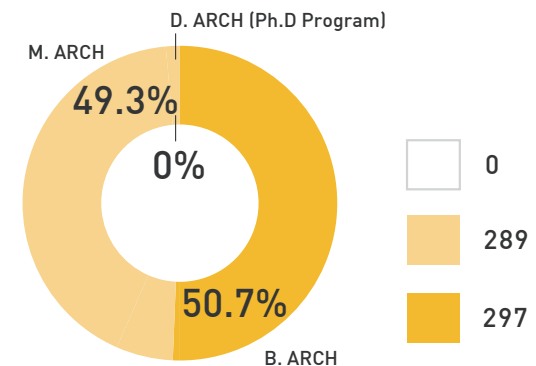
## PROGRAMS ARE STUDENTS ENROLLING INTO?

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.

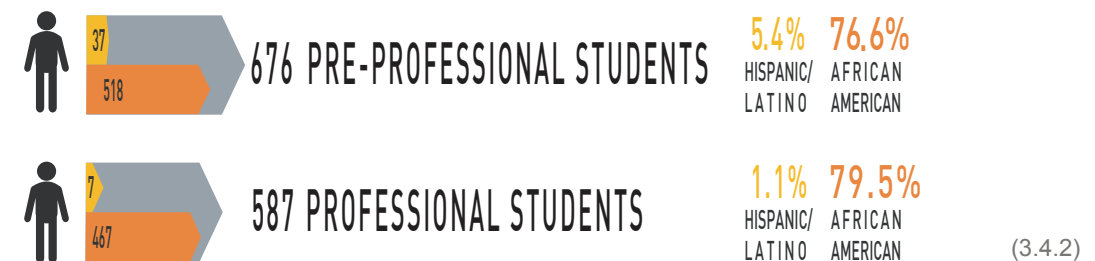
HBCU PROFESSIONAL PROGRAMS

# 587

STUDENTS ENROLLED IN 2012

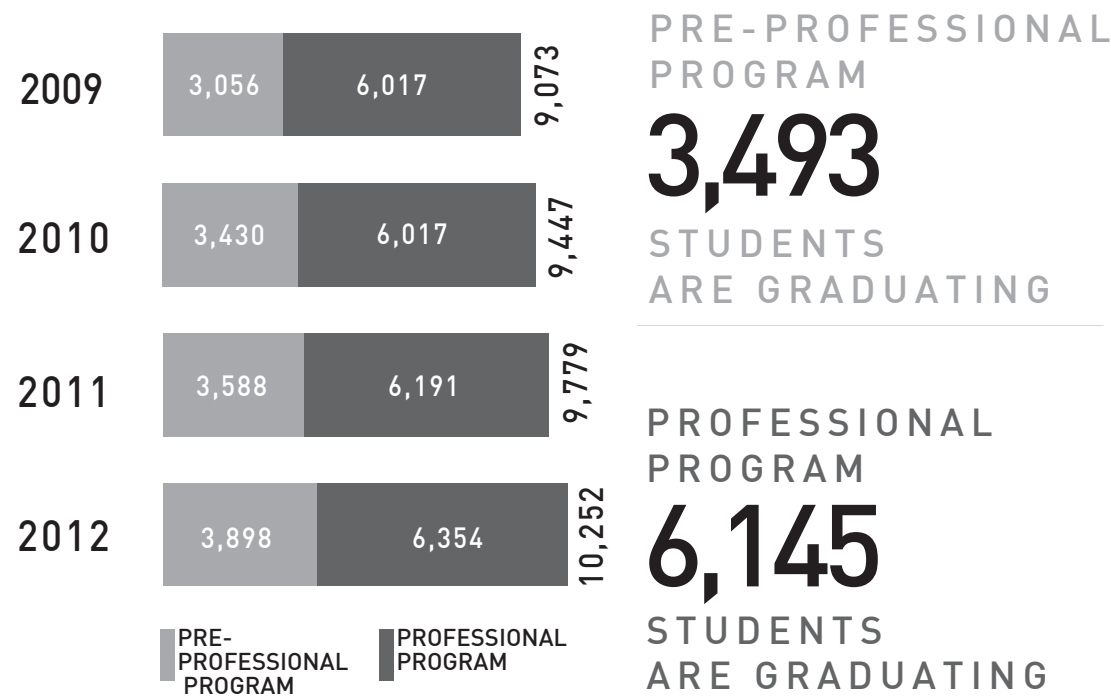


HISPANIC/LATINO & AFRICAN AMERICAN STUDENTS ENROLLED IN HBCU PRE-PROFESSIONAL AND PROFESSIONAL PROGRAMS IN 2012

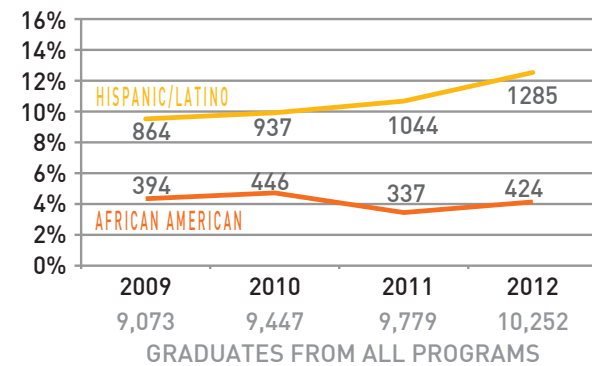


ON AVERAGE  
**9,638**

STUDENTS GRADUATE EACH YEAR  
FROM ALL ARCHITECTURE PROGRAMS



**AFRICAN AMERICAN & HISPANIC/LATINO GRADUATION RATES (2009-2012)**



ON AVERAGE  
**~50%**  
OF AFRICAN-AMERICAN ARCHITECTURE STUDENTS GRADUATE FROM THE 7 HBCUs

(3.5.1)

# WHO IS GRADUATING?

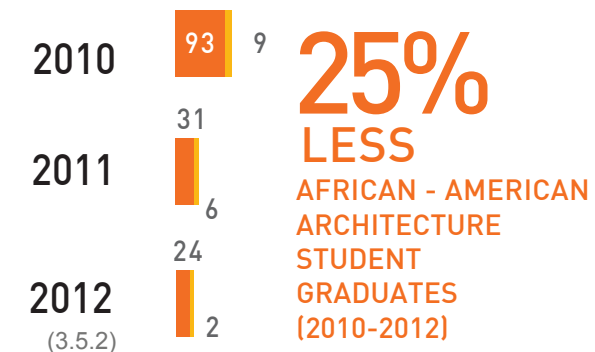
Between 2009 and 2012, an average of 9,638 students graduated from pre-professional and accredited professional architecture programs. An average of 3,493 students are graduating each year from pre-professional programs, and 6,145 students from accredited professional programs. Larger volumes of students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

**HBCU GRADUATION COUNTS**



**HBCU AFRICAN AMERICAN & HISPANIC/LATINO GRADUATION RATES (2010-2012)**



(3.5.2)

(3.5.1-2) The National Architectural Accrediting Board, Inc. "2009 Report on Accreditation in Architecture Education." 2009. PDF; "2010 Report on Accreditation in Architecture Education." 2010. PDF; "2011 Report on Accreditation in Architecture Education." 2011. PDF; "2012 Report on Accreditation in Architecture Education." 2012. PDF.



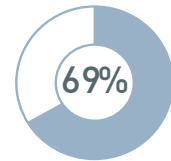
ALL PRE-PROFESSIONAL PROGRAMS

5,282

AVERAGE FIRST-YEAR ENROLLMENT PER YEAR FROM 2010-2012

3,638

AVERAGE GRADUATES PER YEAR FROM 2010-2012



STUDENTS RETAINED

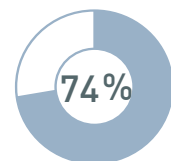
ALL PROFESSIONAL PROGRAMS

8,360

AVERAGE FIRST-YEAR ENROLLMENT PER YEAR FROM 2010-2012

6,187

AVERAGE GRADUATES PER YEAR FROM 2010-2012



STUDENTS RETAINED

HBCUs

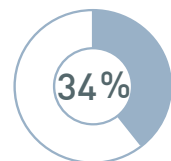
PRE-PROFESSIONAL PROGRAMS

219

AVERAGE FIRST-YEAR ENROLLMENT PER YEAR FROM 2010-2012

76

AVERAGE GRADUATES PER YEAR FROM 2010-2012



STUDENTS RETAINED

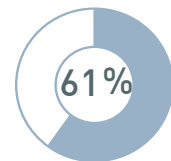
PROFESSIONAL PROGRAMS

207

AVERAGE FIRST-YEAR ENROLLMENT PER YEAR FROM 2010-2012

126

AVERAGE GRADUATES PER YEAR FROM 2010-2012



STUDENTS RETAINED

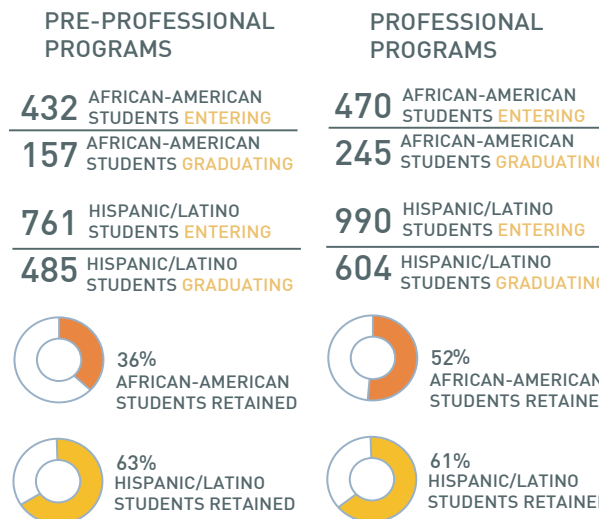
(3.6.1)

# HOW MANY STUDENTS ARE ARCHITECTURE PROGRAMS RETAINING?

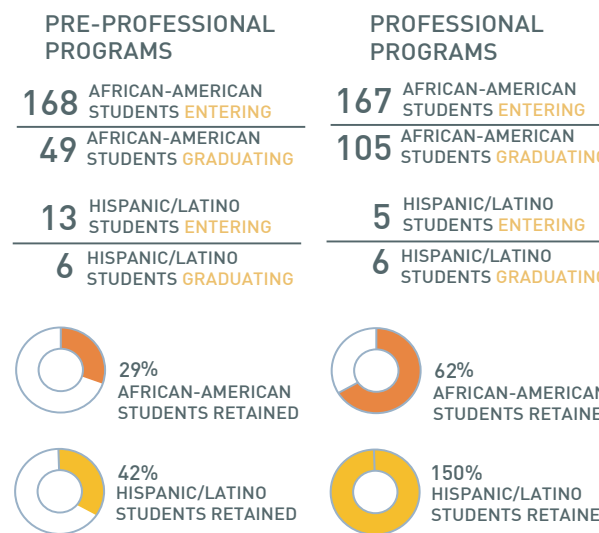
Enrollment and graduation statistics between the years of 2010 and 2012 reported by the National Architectural Accrediting Board (NAAB) reveal that pre-professional and professional programs retain 69% and 74% of its students, respectively. However, within historically black college and universities (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.

# OF AFRICAN-AMERICAN & HISPANIC / LATINOS ENTERING AND GRADUATING FROM ALL ARCHITECTURE PROGRAMS (2010-2012)



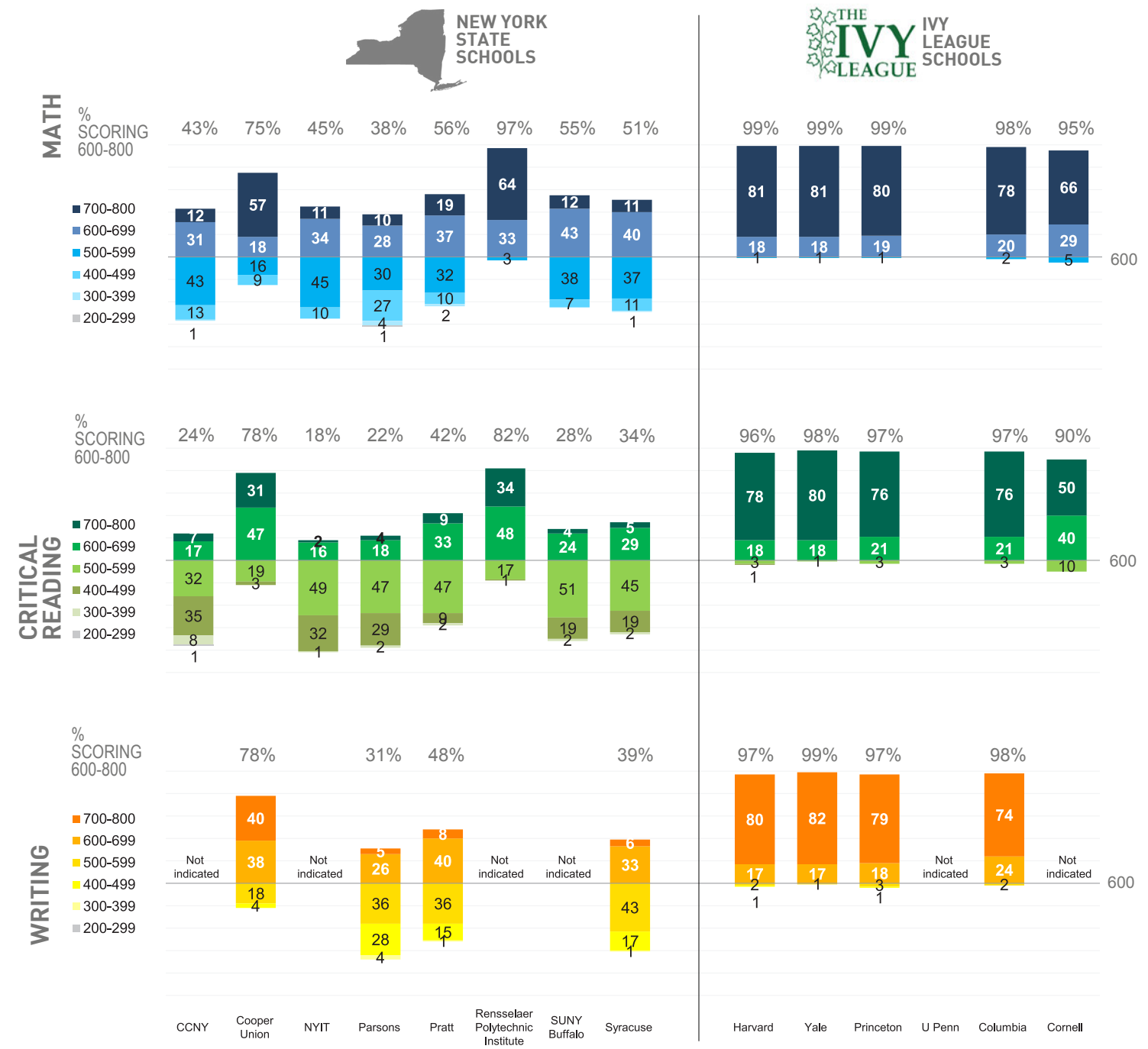
# OF AFRICAN-AMERICAN & HISPANIC / LATINOS ENTERING AND GRADUATING FROM HBCU ARCHITECTURE PROGRAMS (2010-2012)



(3.6.2)

(3.6.1-2) The National Architectural Accrediting Board, Inc. "2009 Report on Accreditation in Architecture Education." 2009. PDF; "2010 Report on Accreditation in Architecture Education." 2010. PDF; "2011 Report on Accreditation in Architecture Education." 2011. PDF; "2012 Report on Accreditation in Architecture Education." 2012. PDF.

SAT SCORES OF STUDENTS ENROLLED IN NEW YORK STATE SCHOOLS, IVY LEAGUE SCHOOLS AND HISTORICALLY BLACK COLLEGE AND UNIVERSITIES



# WHAT

## ARE AVERAGE SAT SCORES OF ADMITTED STUDENTS?

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.

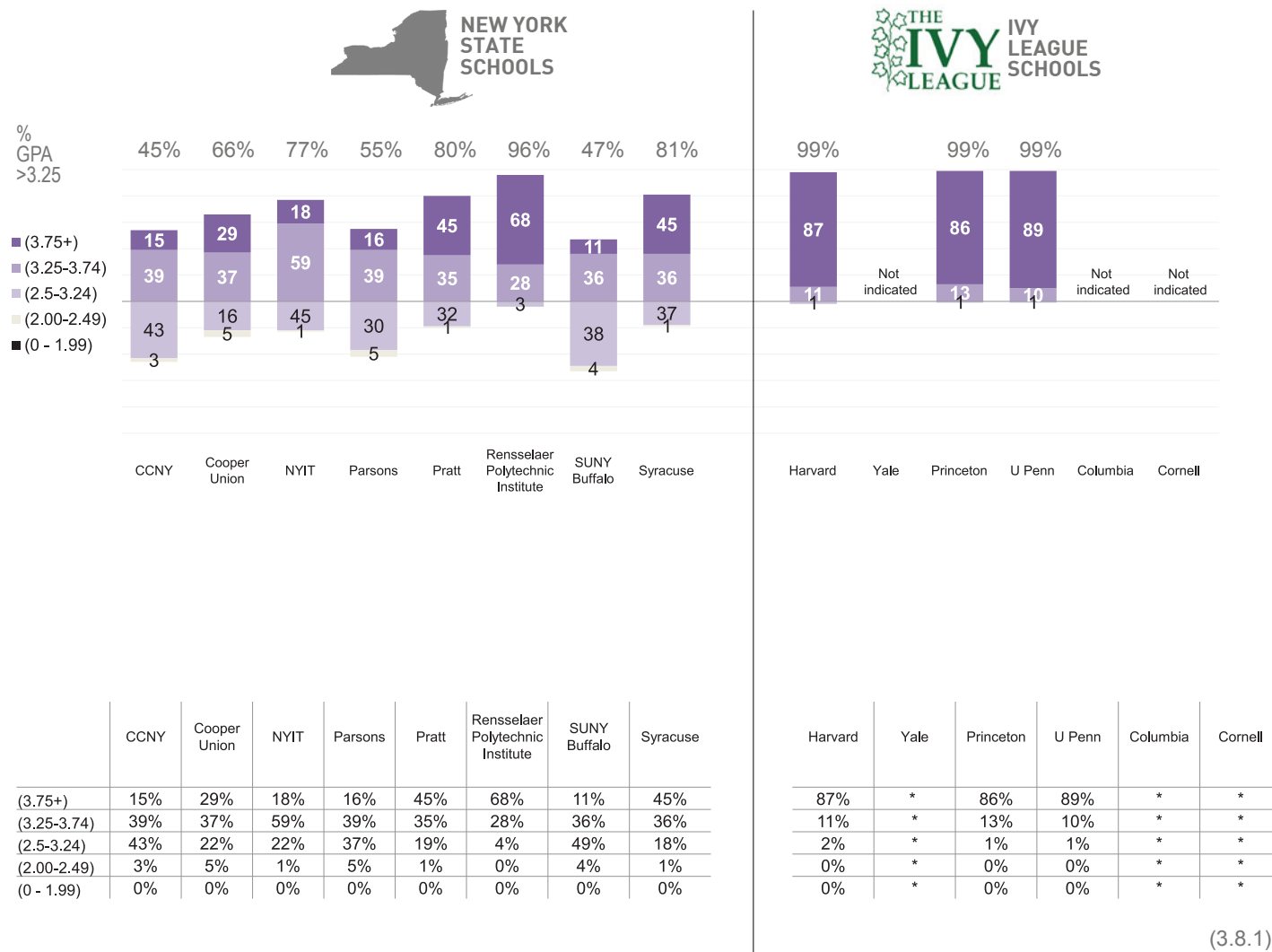
In the article "Test Scores Do Not Equal Merit: Executive Summary" reported by FairTest, an organization that places special emphasis on eliminating the racial, class, gender, and cultural barriers to equal opportunity posed by standardized tests, and preventing their damage to the quality of education, 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."

(3.7.1)

(3.7.2)

(3.7.1) The College Board. "Big Future: Find Colleges." Collegeboard.com. Web. 14 March 2014. (3.7.2) FairTest The National Center for Fair and Open Testing. "Test Scores Do Not Equal Merit." FairTest.org. August 2007. Web. 2 May 2014.

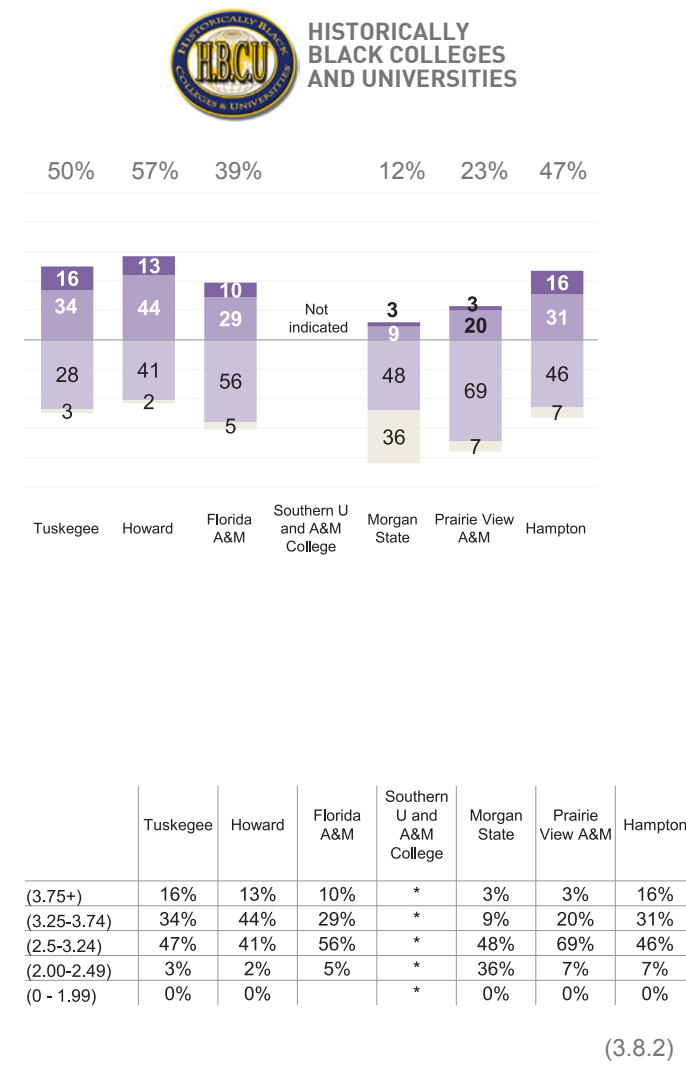
**GRADE POINT AVERAGES (GPA) OF STUDENTS ENROLLED IN NEW YORK STATE SCHOOLS, IVY LEAGUE SCHOOLS AND HISTORICALLY BLACK COLLEGE AND UNIVERSITIES**



# WHAT

## ARE THE AVERAGE GPAs OF ADMITTED STUDENTS?

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. (Article: High School Grades Outperform SAT).

(3.8.1-2) The College Board. "Big Future: Find Colleges." Collegeboard.com. Web. 14 March 2014.

# HOW MUCH

## DOES ARCHITECTURE SCHOOL COST BY DEGREE PROGRAM?

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.

**PPP**  
PRE-PROFESSIONAL PROGRAM  
**PATH 01**  
4-Year Degree B.Science / B. Arts in Architecture  
This path allows students to receive a degree in architecture, but does not qualify as education required for licensure.

**B. ARCH**  
PROFESSIONAL PROGRAM  
**PATH 02**  
5-Year Degree Bachelors of Architecture  
This path allows students to receive a professional degree in architecture that qualifies as the education required for licensure.

**M. ARCH**  
PROFESSIONAL PROGRAM  
**PATH 03**  
2- or 3-Year Degree Masters of Architecture  
This path allows students to receive a professional degree in architecture that qualifies as the education required for licensure.

Bachelor Pre-Professional Program Average Net Price Average -- By ACSA Region		
	Private	Public
East Central	\$26,859.20	\$15,757.36
Gulf	\$16,795.50	\$11,438.11
Mid-Atlantic	\$28,747.29	\$14,582.00
Northeast	\$26,916.38	\$12,711.50
Southwest	\$28,055.00	\$11,828.00
West	\$30,084.25	\$12,782.21
West Central	\$24,502.33	\$13,239.09
Grand Total	\$26,891.52	\$13,585.24

B. Arch Programs: Public and Private				
	Average of Total In-State Tuition		Average of Total Out-of State Tuition	
	Private	Public	Private	Public
East Central	\$40,114.50	\$7,757.00	\$40,114.50	\$20,953.25
Gulf	\$30,215.00	\$7,707.25	\$30,215.00	\$20,004.25
Mid-Atlantic	\$34,176.50	\$10,420.60	\$34,176.50	\$23,705.80
Northeast	\$33,111.13	\$10,249.50	\$33,116.13	\$19,554.50
West	\$34,783.80	\$8,988.75	\$34,783.80	\$23,641.25
West Central	\$37,292.00	\$9,137.20	\$37,292.00	\$22,797.60
Grand Total	\$34,248.41	\$9,004.17	\$34,250.23	\$22,084.21

M. Arch Programs: Public and Private				
	Average of Total In-State Tuition		Average of Total Out-of State Tuition	
	Private	Public	Private	Public
East Central	\$33,283.00	\$12,553.94	\$33,283.00	\$24,363.56
Gulf	\$30,043.00	\$11,298.00	\$30,043.00	\$25,116.00
Mid-Atlantic	\$33,087.50	\$12,867.56	\$33,087.50	\$23,929.44
Northeast	\$36,509.18	\$14,589.60	\$36,509.18	\$23,620.20
West	\$32,178.00	\$12,644.87	\$32,178.00	\$24,949.40
West Central	\$35,754.00	\$10,565.57	\$35,754.00	\$20,670.79
Grand Total	\$34,402.75	\$12,245.31	\$34,402.75	\$23,632.73

LOWEST B.ARCH TUITION

IN-STATE TUITION (2012-2013) ●

1. Cooper Union	\$1,700
2. Florida A&M University	\$5,270
3. City College of New York	\$5,759
4. Southern University and A&M College	\$5,810
5. University of North Carolina	\$5,953
6. Florida Atlantic University	\$5,987
7. Mississippi State University	\$6,523
8. California Polytechnic State University	\$6,814
9. Louisiana State University	\$6,989
10. Iowa State University	\$8,126

OUT-OF-STATE TUITION (2012-2013) ●

1. Cooper Union	\$1,700
2. City College of New York	\$11,969
3. Southern University and A&M College	\$13,132
4. Mississippi State University	\$16,087
5. Florida A&M University	\$17,210
6. University of Houston	\$17,820
7. University of North Carolina	\$18,482
8. California Polytechnic State University	\$18,718
9. Tuskegee University	\$19,210

LOWEST M.ARCH TUITION

IN-STATE TUITION (2012-2013) ●

1. University of Louisiana-Lafayette	\$6,160
2. University of North Carolina - Charlotte	\$6,428
3. University of Nevada - Las Vegas	\$7,071
4. Louisiana Tech University	\$7,228
5. Prairie View A&M University	\$7,356
6. Louisiana State University	\$7,921
7. Florida International University	\$7,977
8. California Polytechnic State University	\$8,026
9. University of Idaho	\$8,148

OUT-OF-STATE TUITION (2012-2013) ●

1. University of Louisiana-Lafayette	\$15,130
2. Prairie View A&M University	\$15,829
3. Clemson University	\$16,670
4. Texas A&M University	\$16,674
5. California Polytechnic -- Pomona	\$16,954
6. Florida International University	\$17,050
7. Texas Tech University	\$17,141
8. Louisiana Tech University	\$17,770
9. Hampton University	\$17,802

HIGHEST B.ARCH TUITION

IN-STATE / OUT-OF-STATE TUITION (2012-2013) ●

1. Carnegie Mellon University	\$45,760
2. Rensselaer Polytechnic Institute	\$44,650
3. University of Southern California	\$44,540
4. Cornell University	\$43,413
5. University of Notre Dame	\$42,971
6. Rhode Island School of Design	\$41,332
7. Pratt Institute	\$41,312
8. University of Miami	\$41,220
9. California College of the Arts	\$39,654

HIGHEST M.ARCH TUITION

IN-STATE / OUT-OF-STATE TUITION (2012-2013) ●

1. Columbia University	\$45,433
2. Tulane University	\$45,360
3. University of Southern California	\$44,564
4. University of Pennsylvania	\$44,248
5. Rensselaer Polytechnic University	\$44,201
6. Washington University in St. Louis	\$43,500
7. Cornell University	\$43,266
8. University of Notre Dame	\$42,815
9. Yale University	\$42,205

● Public Institutions  
 ● Private Institutions  
 Historically Black College / University (HBCU)

(3.10.1)

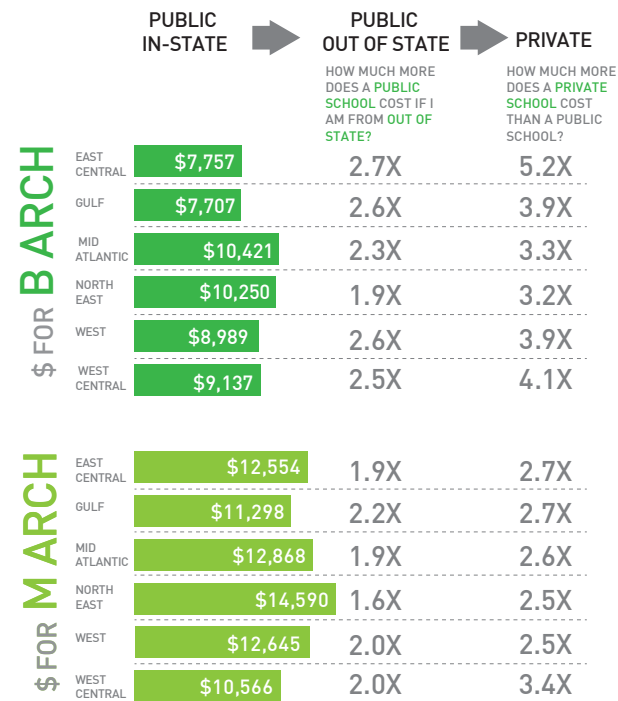
# HOW MUCH

## 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

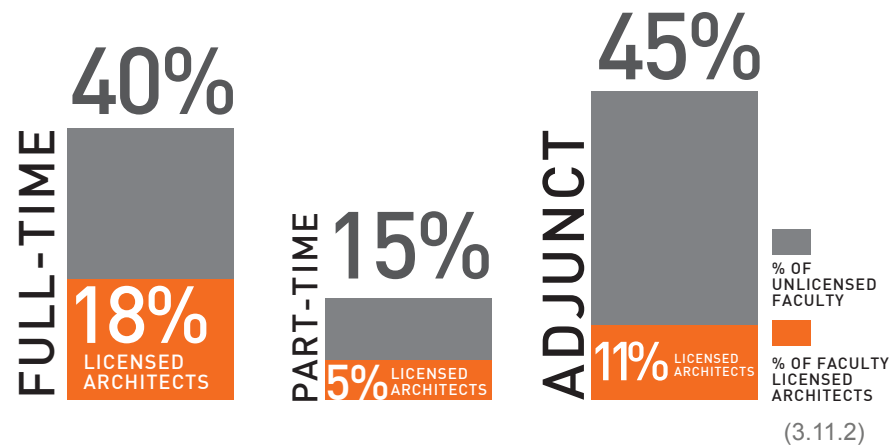


(3.10.2)

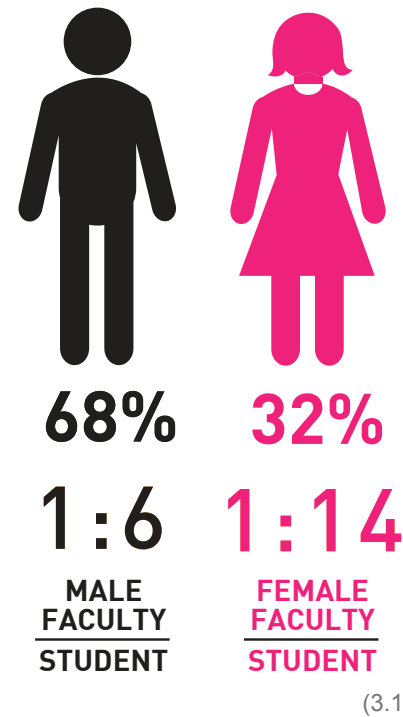
(3.10.1) Design Intelligence. "Architecture Tuition & Fees 2012-2013". Print.

**6,064** ARCHITECTURE FACULTY IN THE U.S. (2012) (3.11.1)

**2,082** OF ARCHITECT FACULTY ARE LICENSED ARCHITECTS



**FACULTY BY GENDER**



**154** AFRICAN AMERICAN ARCHITECTURE FACULTY (3.11.4)

AFRICAN-AMERICAN FACULTY : STUDENT

**1:174**

**463** HISPANIC ARCHITECTURE FACULTY (3.11.5)

HISPANIC FACULTY : STUDENT

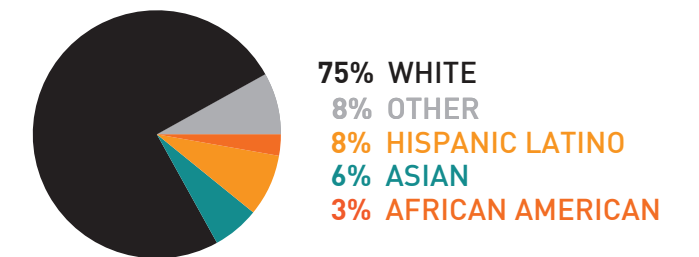
**1:58**

**WHO IS TEACHING?**

In 2012, there were 6,064 architecture full time, part-time, and adjunct faculty teaching in NAAB-accredited degree programs 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 519 or 8% are Hispanic / Latino.

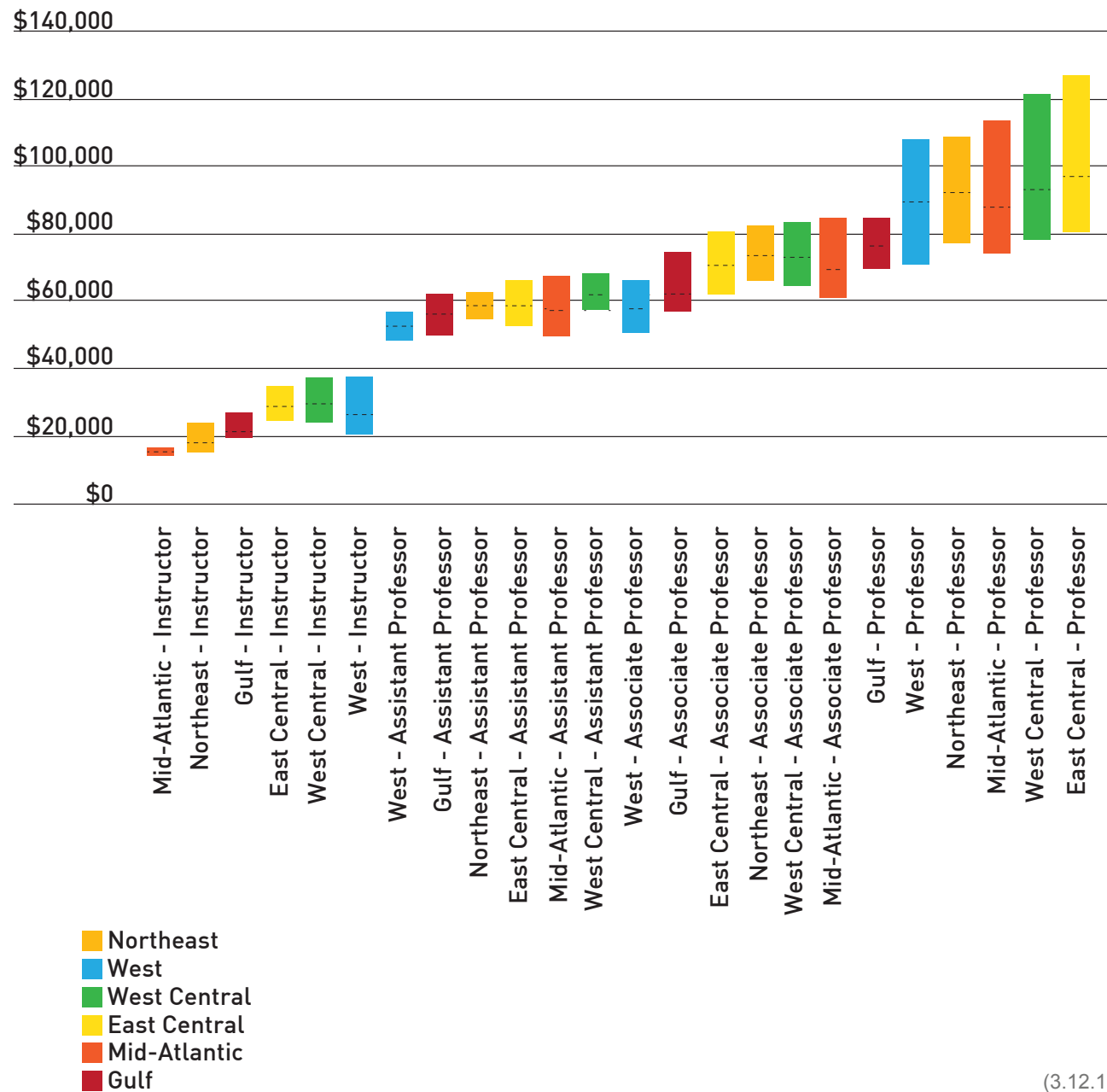
Architecture students are most likely to be taught by white male faculty, however female faculty hold a third of all architecture faculty positions. The opportunities for architecture students to be exposed to faculty of color are far more limited. Referencing 2012 student enrollment figures, the probability of a student encountering a Hispanic faculty member is 1 in 58, and 1 in 174 for an African-American instructor.

FACULTY RACE / ETHNICITY (2012) (3.11.6)



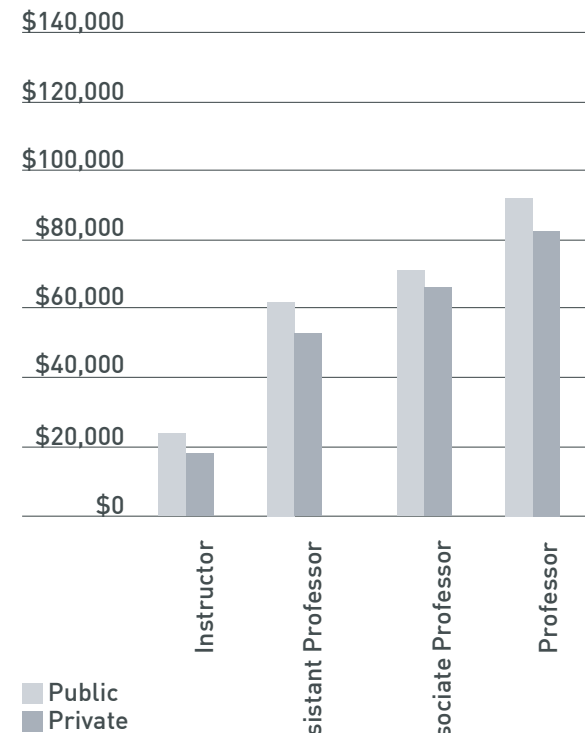
(3.11.1 & 3.11.4-6) The National Architectural Accrediting Board, Inc. "2012 Report on Accreditation in Architecture Education." 2012. PDF. (3.11.2-3) Association of Collegiate Schools of Architecture. "Careers." acsa-arch.org. Web. 2 May 2014; Anthony, Kathryn H.. Designing for diversity: gender, race, and ethnicity in the architectural profession. Urbana: University of Illinois Press, 2001. Print.

**AVERAGE ARCHITECTURE FACULTY SALARIES PER ASSOCIATION OF COLLEGIATE SCHOOL OF ARCHITECTURE (ACSA) REGIONS - 2013**



(3.12.1)

**AVERAGE ARCHITECTURE FACULTY SALARIES IN PRIVATE AND PUBLIC INSTITUTIONS - 2013**



**TOTAL All ACSA Regions—Public (2013)**

Faculty Type	Minimum	Maximum	Average	Univ. Avg.
Professor	\$80,849	\$117,200	\$95,688	\$91,805
Assoc. Prof.	\$62,820	\$81,502	\$70,508	\$68,116
Assist. Prof.	\$56,308	\$66,852	\$60,998	\$59,684
Instructor	\$22,865	\$31,674	\$26,148	\$24,248

**TOTAL All ACSA Regions—Private**

Faculty Type	Minimum	Maximum	Average	Univ. Avg.
Professor	\$67,853	\$102,955	\$82,208	\$82,403
Assoc. Prof.	\$57,552	\$74,458	\$64,881	\$59,894
Assist. Prof.	\$47,261	\$59,134	\$53,048	\$53,033
Instructor	\$15,289	\$28,128	\$19,780	\$31,727

# HOW MUCH

## MONEY DO ARCHITECTURE FACULTY MAKE?

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 EXPOSURE

# 04 OVERVIEW

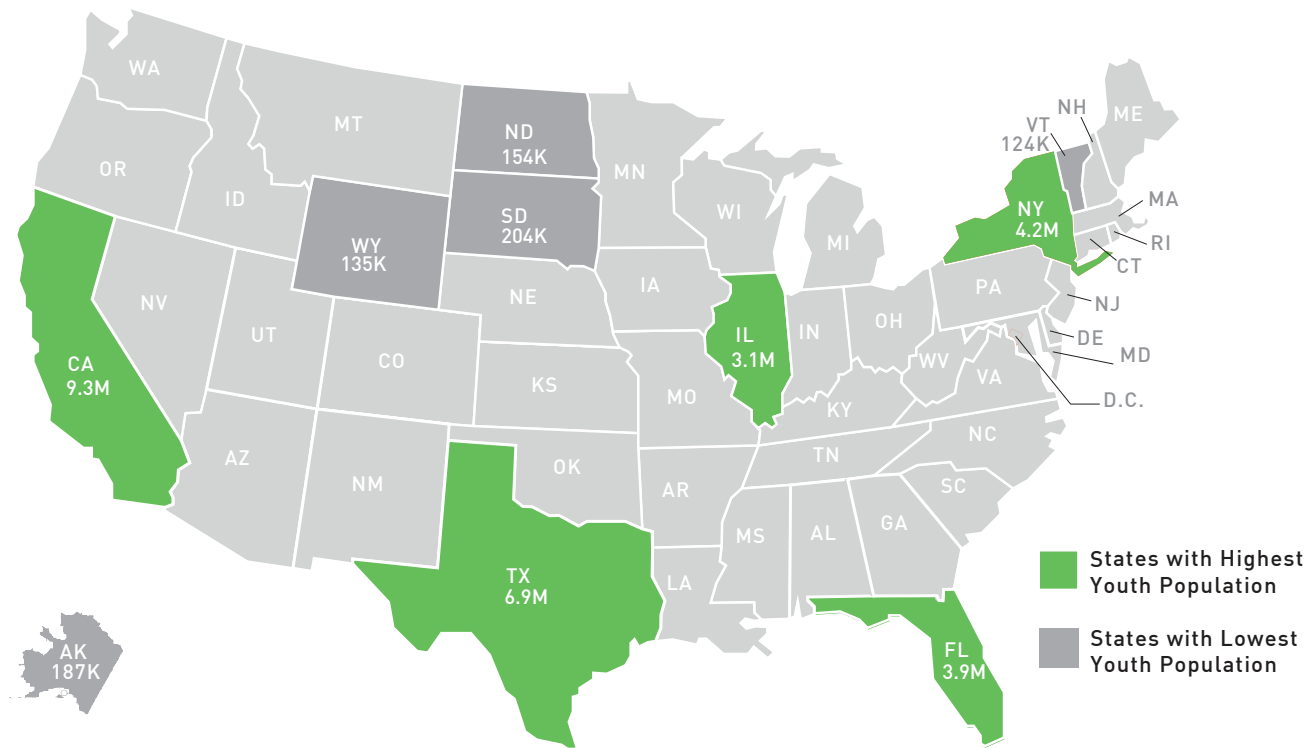


Youth in the United States encounter the work of architects each and every day. Architecture shapes the physical environment they experience and it influences their perceptions of people, places, and the communities that envelope them. The low numbers of professionals and students in the profession represented 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.



**75 MILLION**  
PEOPLE UNDER AGE OF 18 (2010)



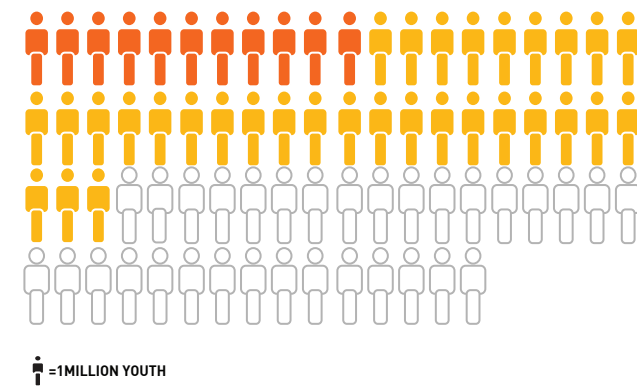
**43 MILLION**

AFRICAN-AMERICAN AND  
HISPANIC/LATINO  
YOUTH UNDER THE AGE OF 18  
(2010)

**58%**

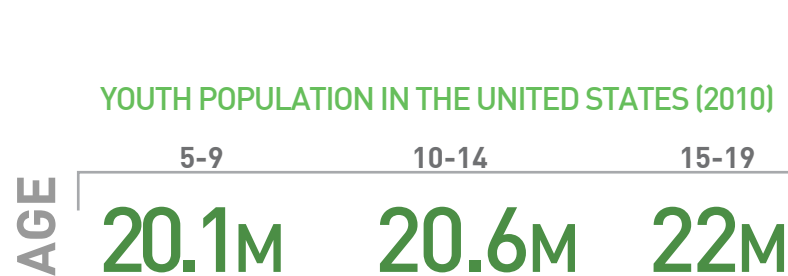
OF YOUTH IN THE UNITED STATES  
ARE AFRICAN-AMERICAN AND  
HISPANIC/LATINO (2010)

**11M** AFRICAN AMERICANS **32M** HISPANIC/LATINOS

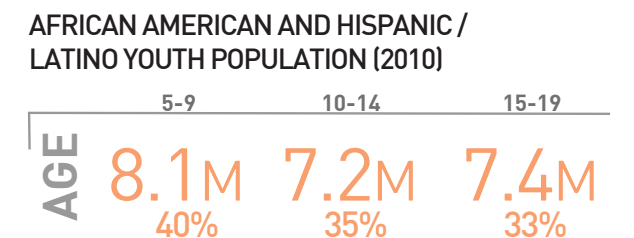


**HOW MANY**  
YOUNG PEOPLE ARE THERE IN  
THE UNITED STATES?

There are 75 million young people under the age of 18 in the United States. 58% of all young people in 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.



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



01



## COURSE TOPICS

Generally, students will be exposed to cities and places during their studies, history or literature, but the topic of architecture or architects may not be discussed specifically. Students who take a particular interest in design related fields may elect to enroll in courses aligned with architecture skills like drafting, computer-aided design (CAD), graphic design, fabrication, or woodshop.

02



## IN-CLASS GUEST PRESENTATIONS

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.

03



## CAREER FAIR

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.

04



## SPECIALIZED HIGH SCHOOLS

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.

05



## VOCATIONAL SCHOOLS

Students may choose an alternative high school education that focuses on a career and technical education (CTE) curriculum that will provide them with skills for specific trades, or practitioner positions in careers like architecture, engineering, nursing etc.

# WHAT

## TYPES OF IN-SCHOOL CURRICULUM EXPOSE YOUNG PEOPLE TO ARCHITECTURE?

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.



*Drafting class at United Community Center (UCC) Middle School; Milwaukee, Wisconsin*

01



## AFTER-SCHOOL PROGRAMS

Cities often have K-12 arts and architecture organizations who advocate and expose young people, to design through a variety after-school programs during the late afternoon / early evenings. These programs typically occur Monday through Friday and consist of 2-3 sessions and focus on introducing young people to the vocabulary of design through a set of interactive activities and discussions.

02



## MENTORSHIP PROGRAMS

Mentorship programs allow individuals to enroll in extensive after-school program that integrate students with industry professionals to work on team projects in “real-world” settings. These mentorship programs usually provide advanced networking opportunities and sometimes college scholarship assistance that will help sustain a young person’s interest and pursuit of the profession.

03



## WEEKDAY / WEEKEND PROGRAMS

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.

04



## SUMMER EXPLORATORY PROGRAMS

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.

05



## COLLEGE-PREP PROGRAMS

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.

# WHAT

## TYPES OF EXTRA-CURRICULAR PROGRAMS EXPOSE YOUNG PEOPLE TO ARCHITECTURE?

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.



High school students visit the J. Max Bond Center during their 2012 “College Now” summer architecture program sponsored by The City College of New York and hosted inside CCNY Spitzer School of Architecture

1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
<p>THE BLACK CAT (1934)</p>	<p>MRS MINIVER (1942)</p>	<p>12 ANGRY MEN (1957)</p>	<p>THE WORLD OF SUZIE WONG (1960)</p>	<p>DON'T LOOK NOW (1973)</p>	<p>3 MEN AND A BABY (1987)</p>	<p>JUNGLE FEVER (1991)</p>	<p>INTERSECTION (1994)</p>	<p>LOVE ACTUALLY (2003)</p>	<p>TO ROME WITH LOVE (2012)</p>
<p>PETER IBBETSON (1935)</p>	<p>DEAD OF NIGHT (1945)</p>		<p>STRANGERS WHEN WE MEET (1960)</p>	<p>DEATH WISH (1974)</p>	<p>THE BELLY OF AN ARCHITECT (1987)</p>	<p>HOUSE SITTER (1992)</p>	<p>ONE FINE DAY (1996)</p>	<p>THE BUTTERFLY EFFECT (2004)</p>	
	<p>THE FOUNTAINHEAD (1949)</p>		<p>TWO FOR THE ROAD (1967)</p>	<p>THE TOWERING INFERNO (1974)</p>		<p>FEARLESS (1993)</p>	<p>HEAVEN (1998)</p>	<p>THE LAKE HOUSE (2006)</p>	
						<p>INDECENT PROPOSAL (1993)</p>	<p>THREE TO TANGO (1999)</p>	<p>CLICK (2006)</p>	
						<p>SLEEPLESS IN SEATTLE (1993)</p>		<p>IT'S COMPLICATED (2009)</p>	

**MAJORITY OF ARCHITECTS ARE PORTRAYED AS 30-40 YR OLD WHITE MALES**

**ARCHITECTS BECAME MORE PROMINENT IN FILM IN THE 90s**

# HOW HAS POPULAR CULTURE REPRESENTED ARCHITECTS IN FILM?

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.

**ONLY TWO FILMS PORTRAY AN AFRICAN AMERICAN OR FEMALE ARCHITECT**

(4.3.1)

(4.3.1) The Wonder Sphere. "Architects in Movies: A Definitive List." wondersphere.blogspot.com. 10 August 2009. Web. 2 May 2014 Outside Left. "Top Ten Movie Architects." outsideleft.com. Web. 2 May 2014

# SURVEY INSTRUMENTS



# 05 OVERVIEW

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 choose, 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
- Middle/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?

Do people understand the differences?

Do people know these disciplines are all related to architecture?

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?

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

8. Do you personally know any architects?
9. What kind of projects do they work on?

Have people ever spoken to an actual architect?

10. Do you know any African-American or Hispanic architects?

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

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\*A collage activity with high-school young women attending a CCNY STEAM women's leadership conference. Students were asked to identify from a collection of images what they believed to be the work of architects

# 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.

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## 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.

## SAMPLE SURVEY QUESTIONS: WHAT INFLUENCES AN UNDERSTANDING ABOUT ARCHITECTURE?

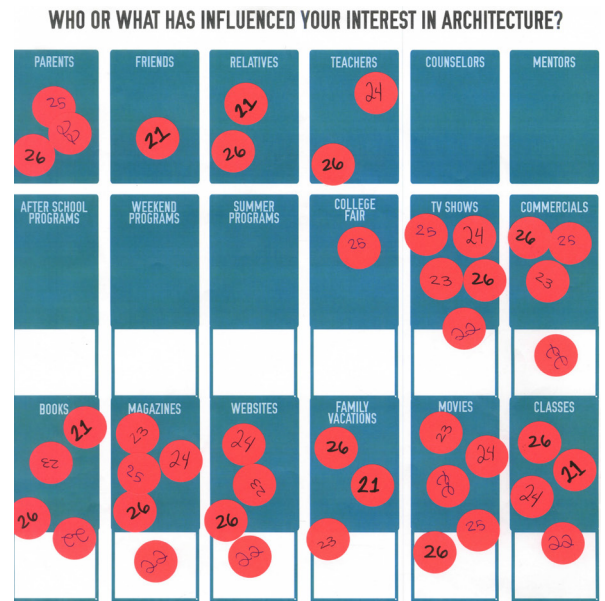
1. Have you ever asked an adult about architecture or asked what architects do? If so, who? What did they say?
2. What architecture or related courses have you taken at your school?
3. Do any of your classes discuss architecture, architects, art or artists, and engineers? If so what do you remember about 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?

Are adults presenting an accurate description of the architecture profession?

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



\*A dot survey activity with high-school young women attending a CCNY STEAM women's leadership conference. Students were asked to identify the sources that have influenced their thoughts about architects and architecture.

## HOW 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.

### SAMPLE SURVEY FORMATS

- ELEMENTARY 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?

Are young people interested in pursuing architecture as a career?

What positive and/or negative reasons are supporting young peoples decisions to pursue or not to pursue?

Are young people interacting with people in the profession?

Do people understand the process of becoming an architect?



A scene from TV show sitcom The Brady Bunch. father, Mike Brady, an architect, talking to his son Greg Brady

# 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?



\*A visual identification and dot activity conducted with high-school young women attending a CCNY STEAM women's leadership conference that would allow them to identify skills they were strong at (circle), and then isolate which skills they thought architects particularly needed to succeed.

# 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 JMBC will present as the qualifying skillsets for an architect and its peer disciplines.

# CONCLUSIONS



## INCLUSION IN ARCHITECTURE

Diversity and inclusion are values the architecture profession consider 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 reasonings 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

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 costs if an individual desires to practice out-of-state
- 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 gauge interest levels of graduating architecture students who wish to pursue architecture licensure and/or their decisions and reasonings for exploring other career options.*

*Survey efforts will also collect data to understand the impact of organizations such as AIA, NOMA, and Arquitectos to support and maintain African-American and Hispanic/Latino interest in the architecture field amongst populations of color.*

### 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](http://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 year grades, 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 a student's 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

# CONCLUSIONS

- 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
- Pre-professional architecture programs in all architecture institutions lose approximately 64% of its African-American students and 37% of its Hispanic/Latino students
  - 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
  - Professional architecture programs in all architecture schools are losing 48% of its African-American students and 39% of its Hispanic/Latino students
  - Professional architecture programs in Historically Black Colleges and Universities (HBCU) are losing 38% of its African-American students
  - 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

- 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)
- 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
- Out-of-state students who choose to enroll in public institutions will expect to pay 2 times more tuition than in-state students
- Students who choose to enroll in private institutions will pay up to 5 times more tuition

#### Further Investigations

*Future surveys will identify the factors that 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

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

- 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

- Youth are minimally exposed to architects through standard school programming such as career fairs and professional guest presentations in classrooms
- 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
- Specialized high-schools provide more advanced courses in architecture and design, but these schools require a rigorous admission and

selection process

- 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. JMBC 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*