Professional Qualifications Committee

California Architects Board

July 14, 2015
Sacramento, California

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

NOTICE OF MEETING
PROFESSIONAL QUALIFICATIONS COMMITTEE

July 14, 2015
10:00 a.m. to 2:00 p.m.
Department of Consumer Affairs – 1747 North Market Boulevard
Hearing Room (Room 186)
Sacramento, CA 95834

The California Architects Board will hold a Professional Qualifications (PQ) Committee meeting, as noted above and via telephone conference at the following location:

Glenn Gall
John B. Hynes Veterans Memorial Convention Center
900 Boylston Street - South Lobby
Boston, MA 02115

Action may be taken on any item on the agenda. The time and order of agenda items are subject to change at the discretion of the Chair and may be taken out of order. The meeting will be adjourned upon completion of the agenda, which may be at a time earlier or later than posted in this notice. In accordance with the Bagley-Keene Open Meeting Act, all meetings of the PQ Committee are open to the public.

The meeting is accessible to the physically disabled. A person who needs a disability-related accommodation or modification to participate in the meeting may contact Marccus Reinhardt at (916) 575-7212 or marccus.reinhardt@dca.ca.gov. Providing your request at least five business days before the meeting will help to ensure availability of the requested accommodation.

The notice and agenda for this meeting and other meetings of the Board can be found on the Board's website: cab.ca.gov. For further information regarding this agenda, please contact Marccus Reinhardt at (916) 575-7212.

AGENDA

A. Call to Order/Roll Call

B. Review and Approve PQ Committee October 30, 2014 Summary Report

C. Discuss and Possible Action on 2015–2016 Strategic Plan Objective to Collaborate with California's National Architectural Accrediting Board Accredited Programs at Schools and the National Council of Architectural Registration Boards (NCARB) to Establish and Promote an "Accelerated Path to Architectural Licensure"

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(Continued on Reverse)

D. Discuss and Possible Action on 2015–2016 Strategic Plan Objective to Conduct a Review of Architect Registration Examination (ARE) and Linkage Study to Meet Requirements of Business and Professions Code Section 139 and Department of Consumer Affairs Policy on Licensure Examination Validation and Identify Areas of California Practice for Which the ARE and California Supplemental Examination (CSE) are Appropriate for Assessing Candidate Competency, Thus Ensuring a Valid and Defensible Examination Process

E. Discuss and Possible Action on 2015–2016 Strategic Plan Objective to Reclassify CSE Item Bank Based Upon Results of 2014 Occupational Analysis (OA) in Order to Ensure Item Content Reflects Critical Tasks and Knowledge Related to Newly-Licensed Architects as Identified by the OA and to Maintain Relevance with Contemporary Practice

F. Discuss and Possible Action on 2015–2016 Strategic Plan Objective to Conduct Review of ARE Testing Environment in Order to Ensure Security and Efficiency

G. Discuss and Possible Action on 2015–2016 Strategic Plan Objective to Evaluate the Profession in Order to Identify Entry Barriers for Diverse Groups

H. NCARB
   1. Discuss and Possible Action on Resolution 2015-01 Regarding Alternative for Certification of Broadly Experienced Architects
   2. Discuss and Possible Action on Resolution 2015-02 Regarding Alternative for Certification of Foreign Architects
   3. Discuss and Possible Action on NCARB Initiative of a Path for Professionals with Qualified Experience Beyond Five Years

Government Code section 11125.7 provides the opportunity for the public to address each agenda item during discussion or consideration by the Board prior to the Board taking any action on said item. Members of the public will be provided appropriate opportunities to comment on any issue before the Board, but the Board President may, at his or her discretion, apportion available time among those who wish to speak. Individuals may appear before the Board to discuss items not on the agenda; however, the Board can neither discuss nor take official action on these items at the time of the same meeting [Government Code sections 11125 and 11125.7(a)].

Protection of the public shall be the highest priority for the Board in exercising its licensing, regulatory, and disciplinary functions. Whenever the protection of the public is inconsistent with other interests sought to be promoted, the protection of the public shall be paramount. (Business and Professions Code section 5510.15)

CALL TO ORDER – ROLL CALL – ESTABLISHMENT OF A QUORUM

Roll is called by the Committee Chair or, in their absence, by the Committee Vice Chair or another Committee Member.

Committee Roster

Pasqual Gutierrez, Chair

Tian Feng, Vice Chair

Jon Alan Baker

Raymond Cheng

Allan Cooper

Betsey Dougherty

Glenn Gall

Ebony Lewis

Kirk Miller

Paul Neel

Stephanie Silkwood

Barry Wasserman

Barry Williams

REVIEW AND APPROVE PQ COMMITTEE OCTOBER 30, 2014 SUMMARY REPORT

The Committee is asked to review and approve the attached Summary Report for its October 30, 2014 meeting.

Attachment
PQ Committee October 30, 2014 Summary Report

Edmund G. Brown Jr.
GOVERNOR

CALIFORNIA ARCHITECTS BOARD

PUBLIC PROTECTION THROUGH EXAMINATION, LICENSURE, AND REGULATION

SUMMARY REPORT

PROFESSIONAL QUALIFICATIONS COMMITTEE MEETING

October 30, 2014

Sacramento, CA and Teleconference at Various Locations

Committee Members Present
Jon Baker, Chair (present at 10:10 a.m.)
Pasqual Gutierrez, Vice Chair
Betsey Dougherty (present at 10:04 a.m.)
Glenn Gall
Kirk Miller
Paul Neel
Stephanie Silkwood
Barry Wasserman

Committee Members Absent
Raymond Cheng
Allan Cooper

Guests
Stan Braden, KTGY Group
Dennis Danahay, Danahay Architects
Ben Kasdan, Young Architects Forum Director for Southern California, American Institute of Architects, California Council

Board Staff
Doug McCauley, Executive Officer
Marccus Reinhardt, Program Manager, Examination/Licensing Unit
Trish Rodriguez, Program Manager, Landscape Architects Technical Committee (LATC)
Lily Dong, Supplemental Examination Analyst
Jeffrey Olguin, Continuing Education Program Analyst
Timothy Rodda, Examination/Licensing Analyst
Douglas Truong, Special Projects Analyst, LATC

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DRAFT

Committee Vice Chair Pasqual Gutierrez called the Professional Qualifications (PQ) Committee meeting to order at 10:03 a.m.

A. REVIEW AND APPROVE THE APRIL 9, 2014, PQ COMMITTEE SUMMARY REPORT

The PQ Committee reviewed the April 9, 2014 meeting Summary Report. Mr. Gutierrez requested an edit to page five, amending the first paragraph to read that the Task Force has not received any proposals.

Glenn Gall made a motion to approve the April 9, 2014 PQ Committee meeting Summary Report with an amendment to page five.

Betsey Dougherty seconded the motion.

The motion passed 8-0.

B. UPDATE AND POSSIBLE ACTION ON 2014 STRATEGIC PLAN OBJECTIVE TO MONITOR, ANALYZE, AND ENCOURAGE INITIATIVES FOR SCHOOLS OF ARCHITECTURE THAT PROMOTE CURRICULUM IN HEALTH, SAFETY, AND WELFARE, AND ADDITIONAL PATH TO LICENSURE VIA CAB LIAISONS, AND COLLABORATE WITH SCHOOLS, AS WELL AS THE BOARD, IN A SERIES OF SUMMITS ON PRACTICE-BASED EDUCATION

Doug McCauley introduced this item and provided a brief background on this Strategic Plan objective. He advised that Mr. Gutierrez serves on the National Council of Architectural Boards' (NCARB) Licensure Task Force (LTF), which is charged with examining additional pathways to licensure. Mr. McCauley explained that he and Mr. Gutierrez discussed the potential for a school of architecture in Sacramento, possible models, and how the school could affect licensure requirements. He added that NCARB simultaneously began researching the potential of streamlining licensure components, and convened the LTF to analyze the issue. Mr. McCauley indicated that this is the most significant effort the Board has undertaken in the past 20 years. He informed that there is no shortage of licensing methodologies to analyze as potential models, including those used by other nations. Mr. Gutierrez informed the Committee on the work related to this issue being conducted by NCARB.

Mr. Gutierrez stated a Request for Information and Interest (RFI&I) was distributed to all National Architectural Accrediting Board (NAAB) accredited schools of architecture in September with a due date of October 31, 2014. He stated seven submissions have been received, including one California school. Mr. Gutierrez explained that a subcommittee within the LTF is reviewing the submissions and will provide a report at the November 14-15, 2014 LTF meeting with a purpose of developing the content necessary for best determining communication and content packaging of a Request for Proposal (RFP) scheduled for distribution in January 2015. He indicated that feedback has suggested that clarification is needed in communicating to schools the proposed pathway is an additional pathway to licensure and not a replacement of the current methods. Kirk Miller expressed support for the work being done and believes this is a positive step forward.

Stephanie Silkwood asked if the Board would maintain an eight-year experience requirement. Mr. McCauley responded hypothetically there may be multiple pathways with different requirements – for instance a traditional (eight-year) pathway and a new integrative pathway. He added that there are a number of related issues to be considered, such as what happens if a candidate leaves the specific school program or state. He also stated that no other state board has indicated whether it will be reducing the eligibility point for the Architect Registration Examination (ARE). Ms. Silkwood expressed concern that there may be unintended consequences to the quality of candidate experience through the Intern Development Program (IDP). Jon Baker advised candidates would still need to work with firms to complete IDP; however, he is concerned schools may create a program to satisfy IDP hours separate from firms. He added that NCARB will be scrutinizing proposals in order to maintain the rigor of licensing. Mr. Gutierrez confirmed this and added that NCARB wants to maintain the integrity of education, experience and examination, and not displace actual work experience and knowledge learning.

Barry Wasserman opined academia will not want to lessen the credibility or strength of the academic programs, and the employment community will want to see holistic graduates. He also opined that multiple tracks may need to be developed and expressed concern there may be two levels of school created through this process. Mr. Baker asked for confirmation that schools will continue to be required to meet NAAB accreditation standards. Mr. Gutierrez confirmed this and added that candidates will also need to meet IDP and ARE criteria, in addition to the Board's requirements. He stated the Board's involvement with the proposal is to modify the eligibility point at which candidates may begin taking the ARE.

Mr. Gutierrez noted a discrepancy between the Board's Supporting Position Statement that was included in the Committee meeting packet and what was approved at the Board's September 10, 2014 meeting. He advised that the statement as presented indicates the Board "will" establish an earlier entry point, but clarified that the previous Board-approved statement implied only consideration of the concept, if appropriate. Mr. Baker commented that NCARB is supportive of allowing early ARE testing while attending school.

Mr. Baker asked what the next step in the process will be for NCARB. Mr. Gutierrez responded that after schools have submitted their respective response to the RFI&I an RFP will be developed. He added that when the RFP has been developed, the Board should analyze it with respect to California requirements and discuss potential implications.

C. UPDATE AND POSSIBLE ACTION ON 2014 STRATEGIC PLAN OBJECTIVE TO CONDUCT AN OCCUPATIONAL ANALYSIS OF THE PRACTICE OF ARCHITECTURE IN CALIFORNIA, REVIEW OF THE NATIONAL EXAMINATION (ARE), AND LINKAGE STUDY TO DETERMINE APPROPRIATE CONTENT FOR ONGOING CALIFORNIA SUPPLEMENTAL EXAMINATION (CSE) DEVELOPMENT

Marccus Reinhardt presented an update on the Board's Occupational Analysis (OA) and explained the survey as part of the OA was sent to a sampling of practicing architects in July 2014. He stated the results were received and analyzed by the Office of Professional Examination Services (OPES), which then met with subject matter experts (SME) who further analyzed the results ultimately leading to the development of a draft 2014 CSE Test Plan. He also stated that a validation report is being prepared by OPES and will be completed in early November. He added that a presentation

will be provided to the Board at its December 10-11, 2014 meeting. Mr. Reinhardt advised that Board staff and OPES are collaborating with NCARB on conducting a review of the ARE and the related psychometric process used to develop it. He added the final 2014 CSE Test Plan should be available in the second quarter of 2015.

Mr. McCauley mentioned that input from four focus groups consisting of architects and individuals from the design/construction-related professions was used in developing the OA survey. Mr. Gall inquired if owner and client feedback was included in the results of the focus group sessions. Mr. McCauley responded that NCARB focus group data regarding those parties will be used as there was insufficient time to survey those groups. He added that those additional focus groups will be included in a future OA.

D. PUBLIC COMMENT

Stan Braden stated the topic of licensure upon graduation is interesting, and he feels the program will allow people to more quickly become licensed. Mr. Braden inquired if the profession is losing architects. In response, Mr. Baker emphasized that the new NCARB program is an additional pathway, and will not replace existing programs/pathways. He agreed there is concern regarding the length of time to become licensed, and opined that students may find this discouraging. Ms. Silkwood encouraged Committee members to review *NCARB by the Numbers*, which contains information about the licensure process and profession.

Mr. Gutierrez offered what the overarching conversation was during the first meeting of the LTF meeting; he stated that perhaps the duration in timeline from graduation to licensure was extended because of the encumbrances in the process. He added that the LTF discussed whether the encumbrances could be examined and streamlined into a more efficient process that would not degrade or diminish the integrity of the criterion.

Mr. McCauley informed the Committee that the “three E’s” (education, experience, and examination) were not going to change and that all of the rigor in the licensing process would still remain. He added that even if a school had a program that guaranteed a candidate receiving licensure at the eight-year point, that it would be a significant improvement over what we have now where it takes on average approximately 12 years to receive licensure.

Betsey Dougherty made a motion to adjourn the PQ Committee meeting.

Paul Neel seconded the motion.

The motion passed 8-0.

The meeting adjourned at 11:07 a.m.

DISCUSS AND POSSIBLE ACTION ON 2015-2016 STRATEGIC PLAN OBJECTIVE TO COLLABORATE WITH CALIFORNIA'S NAAB ACCREDITED PROGRAMS AND NCARB TO ESTABLISH AND PROMOTE AN "ACCELERATED PATH TO ARCHITECTURAL LICENSURE"

The Board's 2015-2016 Strategic Plan contains an objective assigned to the Professional Qualifications Committee (PQ) to collaborate with California's National Architectural Accrediting Board (NAAB) programs and the National Council of Architectural Registration Boards (NCARB) to establish and promote an "accelerated path to architectural licensure."

NCARB began its exploration of an accelerated pathway to architectural licensing upon graduation in September 2013 when it convened its Licensure Task Force (LTF). The NCARB Board of Directors tasked the LTF with analyzing each essential component of licensure (education, experience, and examination) as a basis for exploring a potential new pathway and determining where there may be overlap and opportunities for realization of efficiencies. The LTF has met several times since it was convened with the next meeting scheduled for August 2-3, 2015.

The Board, at its February 26, 2014 meeting, discussed an additional path to licensure model that would integrate the experience (Intern Development Program) and examination (Architect Registration Examination) components into a degree program, culminating with eligibility for licensure at graduation. The Board invited representatives from each of the NAAB-accredited programs in California to discuss the model. More specifically, the Board was provided with overviews of such a model and reports from school representatives on their respective efforts to promote licensure. Discussion also took place with regard to NCARB's efforts and its exploration into the development of a potential framework for an accelerated path to architectural licensure model.

PQ, at its April 9, 2014, meeting made a recommendation requesting staff continue researching strategic initiatives for accelerated pathways that was approved by the Board at its June 12, 2014 meeting. In the interim, NCARB announced on May 30, 2014 its endorsement of the concept for an accelerated, structured path. The additional path would integrate the internship and examination requirements into the professional degree program, thereby positioning graduates to become licensees.

Subsequent to the June Board meeting, PQ Chair Pasqual Gutierrez developed the attached "Additional Path to Licensure Supporting Position Statement," which was subsequently approved by the Board at its September 10, 2014 meeting and presented to the LTF. The approval came one day after NCARB released its Request for Interest & Information (RFI&I) (attached) on September 9, 2014 to NAAB-accredited programs requesting information in order to assess the interest level and readiness to design and develop an integrated path leading to an accelerated path to licensure.

The RFI&I, with a deadline for submission of a response to NCARB by October 31, 2014, was the first step in a two-part process that was followed by a formal Request for Proposal (RFP) (attached) released on January 23, 2015 with a deadline of June 1, 2015. In August/September 2015, NCARB will advise Member Boards which submittals are aligned with the goal of positioning students for success with an integrated path to licensure.

The Board invited representatives from each of the NAAB-accredited programs to its March 12, 2015 meeting to provide a report on their respective efforts to develop an integrative academic program. Dean Norman Millar and Undergraduate Chair Marc Neveu provided the Board with a detailed presentation that outlined two curricula Woodbury University is considering implementing. Graduate Architecture Program Chair, Kurt Hunker, presented NewSchool of Architecture and Design's vision for an integrative academic program; four-year and six-year programs were outlined.

The Board further demonstrated its support for the schools that were responding to the NCARB RFP that was due on June 1, 2015, by providing letters of support to accompany the respective response from each interested school. NCARB has stated that an announcement of the initial qualified programs is planned for August/September 2015.

Additionally, the Board, at its June 10, 2015 meeting amended its Supporting Position Statement to better convey its support of the concept and intent by refining the language and to clarify the Board's intent to specify an earlier eligibility point for candidates to begin taking divisions of the national examination. Staff is continuing to monitor California accredited and non-accredited schools, and NCARB for the ongoing status of current initiatives and any new ones.

PQ is asked to discuss this objective and provide any direction or input to the Board.

<u>Attachments</u>

1. Additional Path to Licensure Supporting Position Statement, Amended by the Board on June 10, 2015
2. NCARB Request for Interest & Information
3. NCARB Request for Proposal

CALIFORNIA ARCHITECTS BOARD
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Additional Path to Licensure

Supporting Position Statement

California's examination and licensure requirements are more flexible than most other jurisdictions. Obtaining a license in California involves requirements that can be met in multiple ways with several possible entry points. Although each candidate's path to licensure may differ, all candidates will complete the process with the necessary knowledge, skills, and ability to be a licensed architect who practices in a way that protects the health, safety, and welfare of Californians.

The California Architects Board supports and encourages California schools of architecture to participate in formulating integrated curriculums of education, experience, and examination that promote licensure. The Board will monitor and analyze, for alignment, participating school proposals and the National Council of Architectural Registration Boards' initiative with the intent to establish an earlier entry point of eligibility to begin taking the Architect Registration Examination.

Adopted by the Board on September 10, 2014
Amended by the Board on December 10, 2014
Amended by the Board on March 12, 2015
Amended by the Board on June 10, 2015

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NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS

NON-BINDING

REQUEST FOR INTEREST & INFORMATION for an Integrated Path to Licensure at Graduation

Contact Information
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Date of Issue: September 9, 2014
Response Due Date: October 31, 2014

Contents

Non-Binding Request for Interest & Information 3
Purpose 3
Background 4
Overview 5
NCARB Mission Statement 5
NCARB Vision Statement 5
Schedule 6
RFI&I 6
RFP 6
Request for Interest 7
A. School Information 7
B. Statement of Interest 7
C. Executive Summary 7
D. Current Program Description & Statistics 7
E. Participation and Support of Other Entities 7
Request for Information 8
Statement of Confidentiality 8
Commitment to Fairness and Transparency 8

Non-Binding Request for Interest & Information

for an

Integrated Path to Licensure at Graduation

Purpose

The purpose of this Request for Interest & Information (RFI&I) is to request and collect information from NAAB-accredited programs and to assess interest level and readiness to design and develop an integrated path leading to licensure at graduation encompassing the NCARB requirements of education, experience, and examination.

Individual academic institutions in collaboration with a licensing board will determine a variety of approaches as long as the specifications of the NAAB-accredited program (NAAB 2014 Conditions for Accreditation), the completion of the Intern Development Program (IDP 2.0), and passing the Architect Registration Examination® (ARE® 5.0) prior to graduation are met. The alignment and sequence of those elements will be left to the discretion of the participating schools. The Licensure Task Force is seeking a wide variety of responses that provide a structured, yet flexible framework for students to complete the program and achieve licensure concurrent with graduation.

NCARB is aware that participation in such an integrated path may require sufficient time for a program to develop its approach, and may also require a licensing board to adjust its governing rules or laws to sanction successful candidates for initial and/or reciprocal licensure. Therefore, the RFI&I is the first step of a two-phase process that will be followed by a formal Request for Proposal (RFP).

Responses to this RFI&I are due by October 31, 2014. Your response to the RFI&I is not mandatory; however, it will help us better gauge the level of interest in the program and will be advantageous to a successful proposal. Once the RFI&I responses are compiled, reviewed, and evaluated, NCARB will provide feedback to each program in order to strengthen their future proposal. Your input will also help us produce and release a more responsive RFP.

The RFP, issued in January 2015, will remain open for approximately five months until June 1, 2015, to maximize the opportunity for participation and response. NCARB will announce the results and notify the programs selected to move forward in September 2015.

All institutions offering a NAAB-accredited program are invited to respond to the RFI&I and the RFP. Those programs that are in candidacy status are also included. Institutions offering multiple programs are invited to submit one proposal for each degree path. Only those institutions that successfully integrate the education, experience, and examination criteria will be selected to move forward. There is no limit to the number of successful institutions qualified during the initial round.

Background

The paths to architectural licensure, with their elements of education, experience, and examination, can be enhanced as the profession and its preparatory tools evolve. Accordingly, in 2013, NCARB formed a Licensure Task Force (LTF), led by NCARB immediate Past-President Ronald B. Blitch, FAIA, FACHA, NCARB and composed of representatives of our Member Boards, the Board of Directors, the emerging professional community including interns and recently licensed architects, educators, and the collateral organizations (ACSA, AIA, AIAS, and NAAB).

The composition of the Task Force is reflective of a diverse geographic and demographic perspective and is committed to pursuing an integrated pathway that integrates and enhances the education, experience, and examination components of licensure and requires a collaborative partnership between institutions offering NAAB-accredited programs, licensing boards, students, and firms.

Overview

The National Council of Architectural Registration Boards ("NCARB") is a not-for-profit corporation 501(c)(6) comprising the legally constituted architectural registration boards of the 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands as its members. Each state and territory in the United States has a governmental authority that registers and regulates architects. Typically, the authority is vested in a State Board of Architecture comprised of architects and lay persons appointed to the board by the governor of the state. The state boards formulate the rules and policies of NCARB and elect NCARB's officers and directors. The only members of NCARB are these boards of architecture.

NCARB Mission Statement

The National Council of Architectural Registration Boards protects the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects.

NCARB Vision Statement

NCARB is a diverse, high-performing team consisting of the Board, volunteers, and staff working in concert with our Member Boards to fulfill our mission. NCARB is universally recognized as the global leader of architectural regulation through its exemplary standards, credentialing requirements and reciprocal licensure processes, and consummate customer service. To that end, our strategic goals are:

- Facilitate Licensure: NCARB programs are catalysts for the early pursuit, achievement, and ongoing maintenance of professional licensure.

- Foster Collaboration: NCARB's collaboration with collateral and related organizations leads to a sustained, action-oriented dialogue to identify and address significant issues that impact the profession and the health, safety, and welfare of the public.

- Centralize Credential Data: Active and ongoing participation by Member Boards in NCARB's information systems provides the preferred platform for interns and architects to efficiently manage their credentials.

Schedule

The following schedule has been developed to promote an efficient process. Final dates may need to be adjusted depending on the number of responses and proposals received.

RFI&I

RFI&I Issued	September 9, 2014
Question & Answer Period (via e-mail)	September 22-26, 2014
RFI&I Responses due (via e-mail)	October 31, 2014
Announcement of Responses	December 2014

RFP

RFP Issued	January 7, 2015
Question & Answer Period #1	February 2015
Question & Answer Period #2	April 2015
Proposals due (via e-mail)	June 1, 2015
Announcement and Notification	September 2015

If you are unable to meet the deadlines associated with the initial round of submissions, a revolving schedule of future opportunities to submit proposals will be published at a later date.

Request for Interest

Schools that are interested in receiving the RFP in January 2015 are encouraged to submit a response to this RFI&I containing the following information:

A. School Information

a. Name of Institution
b. Contact Person
c. Mailing Address
d. Email
e. Telephone

B. Statement of Interest

- Include a brief statement that you are interested in the concept of Licensure at Graduation and that you intend to submit a Proposal for consideration.

C. Executive Summary

- Provide a 1-2 page overview describing your intended approach and framework of the program you will be designing, in both graphic and narrative form.
- Explain how education, IDP, and ARE will be integrated and preserved.
- Briefly identify why your program is uniquely positioned to advance this integrated path.

D. Current Program Description & Statistics

- Program Mission
- Operational Model (i.e. public, private, for profit, etc.)
- Professional degree programs offered (BArch, MArch, DArch)
- Average number of graduates per year per professional degree
- Size and composition of faculty (please identify the number of licensed, tenure, adjunct, non-continuing, full-time, and part-time members)

E. Participation and Support of Other Entities

- Acknowledge that strategic partnerships between the institution, licensing board, and firms/practitioners are required in your response. (Your future proposal will require the submission of evidence that these partnerships have been arranged.)

Request for Information

Your feedback is critical to the thorough review and evaluation of our concept of licensure at the point of graduation. Your comments and concerns are welcome as we continue to explore this integrated pathway.

- In addition to receiving your statement of interest, the Licensure Task Force would welcome your input on the draft structure of the formal Request for Proposals. The outline of the RFP is provided below. Your comments will help the Council produce and release a comprehensive and responsive RFP. The RFP will require at least the following items:

    - Current program introduction
    - Proposed program description (curriculum map & description)
    - Support from the institution
    - Support from the profession
    - Support from the licensing board
    - Program implementation timeline
    - NCARB Requirements for monitoring the success of programs
    - Evaluation criteria

- If your institution is <u>not</u> interested in submitting a response, the Licensure Task Force would be very interested in hearing your concerns. Your views will be openly and honestly considered during our analysis of the responses.

Statement of Confidentiality

All information contained in this request is confidential in nature. All recipients of this RFI&I agree that this information may only be used internally and may not be shared with individuals outside the institution to which it is addressed.

Commitment to Fairness and Transparency

The National Council of Architectural Registration Boards and its Licensure Task Force are committed to a fair, transparent, efficient, effective, and non-discriminatory evaluation process.

National Council of Architectural Registration Boards

REQUEST FOR PROPOSAL

for an Accelerated Path to Architectural Licensure

Contact Information:
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snutt@NCARB.org
202.879.0544

Date of Issue: January 23, 2015
Proposals Due: June 1, 2015
Submit to: LTF-RFP@NCARB.org

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TABLE OF CONTENTS

PREAMBLE **3**

INTRODUCTION **4**

SECTION I – GENERAL INFORMATION **8**

Overview 8

NCARB Mission 8

NCARB Vision 8

Schedule 9

Proposal Format & Deadline 9

Question Periods 9

Future Opportunities 9

Funding 9

NAAB Student Performance Criteria 10

Intern Development Program 10

ARE® 5.0 10

Internship Compensation 10

Modifying Laws and Rules 10

Statement of Fairness and Transparency 10

SECTION II – PROPOSAL REQUIREMENTS **11**

A. Program Contact Information 11

B. NAAB Accreditation 11

C. Current Program Introduction 11

D. Proposed Program Description 12

E. Engagement with Practitioners 13

F. Engagement with Licensing Board 13

SECTION III – PROGRAM EVALUATION **14**

A. Evaluation Criteria 14

B. Selection Process 14

C. NCARB Requirements for Monitoring Programs 14

APPENDICES & ADDITIONAL LINKS **14**

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PREAMBLE

Over the course of the past 100 years, the path to architectural licensure has advanced from requirements developed and implemented by each individual jurisdiction, to a series of regionally-accepted alliances, to national standards cultivated and facilitated by the National Council of Architectural Registration Boards (NCARB). The three components of initial licensure – education, experience, and examination – have matured into a set of structured standards accepted by all 54 U.S registration boards.

NCARB, along with its collateral organizations, is continuously reviewing, evaluating, and updating the requirements based on changes in the profession. We are honored to have convened a diverse group of current and aspiring architects -- including academics, regulators, leaders of national organizations, and non-architects interested in the public benefit -- to explore how the components of the path to licensure could be integrated, and thus accelerated, within the timeframe of receiving a degree from an accredited architecture program. This group, known as the NCARB Licensure Task Force (LTF)*, sought to exploit opportunities already in progress.*

Based on several years of programmatic and proposed regulatory changes initiated by NCARB, the licensure path has evolved from a strictly sequential one to a path that allows overlap at both ends: simultaneous pursuit of education and experience, and simultaneous pursuit of experience and examination. The feasibility of a complete overlap has been a topic of speculation for many years. Our unprecedented look at new opportunities to realign the licensure path is built upon decades of informal discussion, and upon a growing desire to support students whose focus and maturity would create interest in a concentrated model encompassing all current criteria for licensure. The work of the LTF also presumes a level of interest from the academy and an investment from the profession, along with support from jurisdictional licensing boards comprising the NCARB Membership. The LTF determined that the necessary redundancy of concepts contained in the education/experience/examination phases are truly exploitable, and if carefully leveraged could provide the foundation for a new, integrated model.

The decision of NCARB to endorse this exploration is significant, signaling that its mission of creating tools to protect the public does not need to be rigidly focused on how the tools are arranged in the toolbox. How the marketplace will receive licensed professionals at a younger age than the current average is for the marketplace to process and filter. Arguably, the architect's tradition of life-long learning and development will be jump-started and not derailed by this additional path.

The work of the LTF, and the issuance of this Request for Proposal*, has been deliberately pursued with the intent of moving the decades-old "what if" speculation from conversation to experimentation and represents NCARB's latest response to the ever-evolving pathways to licensure in support of a more diverse and inclusive profession. We will continue to encourage every architectural student to seriously consider licensure; for our part, we will continue to argue for removing unnecessary impediments and for introducing new incentives to make that goal more achievable without sacrificing the necessary rigor.*

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REQUEST FOR PROPOSAL
for an Accelerated Path to Architectural Licensure

INTRODUCTION

Integrated, Structured, Concentrated: An Accelerated Path to Architectural Licensure

The Licensure Components

The American model for licensing architects, referred to as the "path to licensure," has historically incorporated three key components: education, experience, and examination. The historic model of apprenticeship as the precursor to practice has evolved over time, establishing these three distinct components as baseline qualifiers for awarding a license through the offices of jurisdictional governments. *Education* serves to introduce the student to design thinking, basic historic and theoretical concepts, and the fundamentals of comprehensive design. *Experience* serves to provide the professional and business context for the aspiring architect, through paid internship and reporting of diverse hours of subject-specific activities under the supervision of licensed professionals. *Examination* affirms that the candidate, through a blend of education and experience, is manifesting the level of comprehension that demonstrates minimal competency to practice.

Over time, the regulatory aspects of these three components have evolved as well. Today, one can pursue experience through the Intern Development Program (IDP) simultaneous with education with reporting of experience allowed upon high school graduation. In most jurisdictions, one can commence taking divisions of the Architect Registration Examination® (ARE®) while still completing the requirements of the IDP. With concurrency available for education/experience, and experience/examination, the licensure path evolution now moves toward a complete integration of the education/experience/examination components.

Designing an Additional Path

In 2013, the National Council of Architectural Registration Boards established a Licensure Task Force (LTF) to explore the feasibility of a completely integrated path. This exploration necessitated inclusion of all aspects of the architecture profession including academics, interns, recently licensed architects, practitioners, licensing board members and executives, and leaders of the other "collateral" organizations (Association of Collegiate Schools of Architecture (ACSA), American Institute of Architects (AIA), American Institute of Architecture Students (AIAS), National Architectural Accrediting Board (NAAB)). The LTF established a goal of preserving the regulatory elements associated with accredited education, the IDP, and the ARE. The Task Force concluded that complimentary elements in each of those three areas could position an academic program to design a structured curriculum that completely integrates those three components. This conclusion was further validated through interviewing institutions whose graduation criteria already includes an experience pre-requisite.

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The work of the LTF resulted in issuance of a *Request for Interest & Information* (RFI&I) to deans and chairs of all NAAB accredited programs and candidate programs in the fall of 2014. The RFI&I indicated that in January 2015, NCARB would solicit proposals from accredited programs that could demonstrate full integration of the IDP criteria within an accredited curriculum and position the student to begin completing the ARE before graduation. Feedback from the RFI&I provided valuable observations from potential participants. The feedback also indicated that over 30 institutions expressed interest in participating in such an initiative.

Implementation through Facilitation, Coaching, and Partnership

The LTF believes that providing an opportunity for a subset of students to pursue an integrated, structured, and concentrated path to licensure adds new opportunity and value to the licensing process. It is also recognized that many students will prefer the traditional path to licensure, which in and of itself is also being streamlined. Institutions choosing to offer the additional, integrated path, may do so concurrent with the traditional path. This initiative is about providing choices for aspiring architects, and not about mandating academic practice. Excepting pre-graduation access to the examination, much of the integrated path concept could be initiated today in an *ad hoc* fashion. This concept can achieve success through a focused and sustained initiative. Thus, NCARB seeks to frame the approach and incorporate pre-graduation access to the ARE through the partnership and cooperation of interested accredited programs and jurisdictional licensing boards. With coaching and facilitation by NCARB, a new partnership between academia, practitioners, and regulators can yield a rich option for an accelerated path to licensure.

This partnership will require several elements to maximize success:

- Closer ties between the academy and jurisdictional licensing boards to commence the discussion regarding pre-graduation access to the ARE, with the added assistance of advocates within the academy and practitioners to address potential legislative impediments;
- A new dialogue between the academy and practitioners, designing a pipeline for students to obtain paid internships either near campus and/or via alumni networks in other locations. This will require a richer and more sustainable relationship between firms/practitioners and the academic institution given the intense rigor of obtaining IDP credit in a timely fashion;
- Re-establishment of an exam preparation culture, stimulated by a concentrated approach to examination.

These partnership activities can lead to some obvious and immediate benefits:

- A strengthened alumni relations component at architecture schools;
- Utilization of organizations such as the American Institute of Architects (AIA) and the American Institute of Architecture Students (AIAS) to organize focused efforts toward exam preparation and advocacy toward pre-graduation exam access.

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Value to the Student, the Academy, the Profession, and the Public

This initiative has the potential to deliver significant value to all parties, including the profession as well as the students and the institution. On the average, the current path to licensure layers over five years of pursuing IDP and over two years of completing the ARE on top of five to six years of accredited education. This perpetuates over seven years of lower wages and delays the ability to address student debt. The current ±12 year timeline from enrollment to licensure has a direct impact on diversity of licensees. The lag time to achieve licensure is believed to negatively impact those who began their path at a disadvantage based on demographics or economic station, or who are deterred by intervening circumstances.

The concentration and integration of education and experience arguably enhances each component, the classroom informing the workplace, and vice versa. The immediacy of this integrated experience should result in better preparation for the examination. As students move toward graduation, the new ARE 5.0 will be in place (effective late 2016). ARE 5.0 features six rather than seven divisions, with the new structure more closely reflecting the phases of practice. This evolution in examination is accompanied by an evolution in internship requirements, as NCARB implements a one-third reduction in required hours for completion of IDP effective July 1, 2015, contingent upon adoption by the individual licensing boards. This integrated approach has the prospect of creating a richer preparation for practice that is reinforced by a more contemporary exam.

Licensure preparation is under scrutiny in a variety of learned professions including law, medicine, and architecture. Those that pay tuition and fees (parents as well as students), those who regulate professional licensure, and the citizens who oversee the process through their governmental institutions and taxpayer dollars are all taking a fresh look at what is essential and what may be superfluous in the 21st century. Academic institutions are pressed to demonstrate the success rate of their graduates. The architectural profession desires a greater degree of sophistication and mastery of emerging technology. Renewed interest in design concepts and an improved economic landscape are pressuring firms to hire more talent. Placing individuals into the marketplace in their 20s rather than their 30s can only maximize career opportunities. In the end, the lifelong learning of the architect does not artificially start before or after licensure; rather, licensure positions one to move to the next level.

Setting Appropriate Expectations

A program that provides participation in an integrated path to licensure is not for every school or every student. NCARB anticipates that as in every new concept, there will be the early leaders followed by the wait-and-see observers who may choose to follow once the initial path is set. The Council also anticipates that participation will be an open-ended prospect, renewing annually as adjustments are made to the program and institutions take whatever time they need to develop an approach or become comfortable with the concept. Monitoring progress, tracking data, and sharing "best practices" will be essential. Success will be defined by those who move into architectural practice without the average of seven-plus years of post-graduation internship and examination, along with prolonged lower wages and delayed dreams. Additional success may come from discoveries made jointly by all partners regarding the viability of existing licensure elements, and by tracking how the future direction of licensure evolves.

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This is not about replacing the existing multiple paths to licensure, nor NCARB controlling the curriculum, nor mandating participation. Our hope is to further enhance the path to licensure and uphold the ideals of the profession by creating new opportunities and offering new alternatives.

NCARB welcomes your engagement, respects your comments, and seeks to maintain an ongoing dialogue with all who support the Council's strategic goal of facilitating licensure.

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SECTION I – GENERAL INFORMATION

Overview

The National Council of Architectural Registration Boards (NCARB) is a not for profit corporation 501(c)(6) comprising the legally constituted architectural registration boards of the 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands as its members. Each state and territory in the United States has a governmental authority that registers and regulates architects. Typically, the authority is vested in a State Board of Architecture comprised of architects and lay persons appointed to the board by the governor of the state. The state boards formulate the rules and policies of NCARB and elect NCARB's officers and directors. The only members of NCARB are these boards of architecture.

NCARB Mission

The National Council of Architectural Registration Boards protects the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects.

NCARB Vision

NCARB is a diverse, high-performing team consisting of the Board of Directors, volunteers, and staff working in concert with our Member Boards to fulfill our mission. NCARB is universally recognized as the global leader of architectural regulation through its exemplary standards, credentialing requirements and reciprocal licensure processes, and consummate customer service. To that end, our strategic goals are:

- Facilitate Licensure: NCARB programs are catalysts for the early pursuit, achievement, and ongoing maintenance of professional licensure.
- Foster Collaboration: NCARB's collaboration with collateral and related organizations leads to a sustained, action-oriented dialogue to identify and address significant issues that impact the profession and the health, safety, and welfare of the public.
- Centralize Credential Data: Active and ongoing participation by Member Boards in NCARB's information systems provides the preferred platform for interns and architects to efficiently manage their credentials.

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Schedule

RFP Issued to NAAB Programs	January 23, 2015
First Question Submissions due (via e-mail)	February 18, 2015
Responses to all Respondents (via e-mail)	March 4, 2015
Information Session at ACSA Annual Meeting	March 19, 2015
Second Question Submissions due	April 8, 2015
Responses to all Respondents	April 22, 2015
Due Date for Proposals (via e-mail)	June 1, 2015
Announcement of Proposals Received	June Annual Business Meeting
Review and Analysis Period	July/August 2015
Announcement of Initial Qualified Programs	August 2015

Proposal Format & Deadline

Proposals should be received no later than 5:00pm EDT, June 1, 2015 and should be delivered in PDF format via e-mail to LTF-RFP@NCARB.org. The file size shall not exceed 10MB. Include the name of the institution and the page number in the document's footer. Please clearly identify the University and name, title, address, telephone, and e-mail address of the primary individual responsible for the RFP. Incomplete proposals or proposals received after the deadline will not be considered in the initial round of submissions.

Question Periods

NCARB has scheduled two opportunities for programs to submit questions via e-mail. NCARB will review the questions and release written responses to all programs as close to the established schedule as possible. In addition, NCARB is working with ACSA to coordinate the logistics of hosting an information session at their Annual Meeting in March. NCARB is committed to providing continuous coaching and feedback sessions to all interested programs. Questions should be directed to Stephen Nutt, Sr. Architect and Advisor to the CEO, at snutt@ncarb.org.

Future Opportunities

Based on the success of this initiative, NCARB plans to develop a schedule for incorporating additional programs into the process. This revolving schedule will allow programs that may require additional resources and/or consideration the time necessary to submit a proposal in the future. This will also provide greater opportunity for NAAB-candidate programs to participate.

Funding

Creating a proposal for an integrated path to licensure is voluntary. NCARB is unable to provide any grants or funding for the development of proposals.

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NAAB Student Performance Criteria

The curriculum in your proposal should be based on the new Student Performance Criteria as published in *NAAB's 2014 Conditions for Accreditation*. The current *Conditions* may be found on the NAAB website at http://naab.org/accreditation/2014_Conditions.

Intern Development Program

The NCARB Board of Directors recently modified the requirements of the Intern Development Program, reducing the overall program to 3,740 core hours. All elective hours have been eliminated. It is important to review the *IDP Guidelines* to ensure your proposed program will provide students with the opportunity to satisfy the requirements of the new, streamlined IDP. Internship opportunities provided by your program must meet the current programmatic requirements for satisfying the core hours. New studios and related coursework developed to simulate or substitute for work experience do not qualify under the current work setting requirements of IDP and will not be accepted. Additional information may be found at http://www.ncarb.org/News-and-Events/News/2014/09-IDPStreamlineOverhaul.aspx.

ARE® 5.0

Based on NCARB's *2012 Practice Analysis of Architecture*, the Architect Registration Examination® has evolved in order to maintain its validity and reliability. Your proposal should integrate the new, six-division format of ARE 5.0 and identify appropriate opportunities for students to begin taking the exam. ARE 5.0 will be available in test centers in late 2016. Additional information may be found at http://www.ncarb.org/ARE/ARE5/ARE5-Divisions.aspx.

Internship Compensation

The American Institute of Architecture Students *Policy on Internship Compensation* supports the moral and legal requirements of fair compensation for interns in the work place. The AIA and the ACSA have both endorsed this policy. Therefore, firms and practitioners supporting your proposal are expected to comply with the conditions of the policy. Additional information may be found on the AIAS website at http://aias.org/internship-compensation-policy/.

Modifying Laws and Rules

Almost all jurisdictional licensing boards will be required to modify their current laws and/or board rules in order to allow pre-graduation access to the ARE. While each individual Board is responsible for enacting these changes, the influence of your institution and the grassroots support of practitioners in your jurisdiction will be key in affecting change. In order for you to better anticipate the changes required, NCARB has conducted preliminary investigations into each jurisdiction's legislation. A summary of the results of the jurisdiction-by-jurisdiction research and contact information for each licensing board is attached in the appendix. NCARB is fully committed to providing the resources necessary to assist licensing boards in their efforts to enact these changes.

Statement of Fairness and Transparency

NCARB and its Licensure Task Force are committed to a fair, transparent, efficient, effective, and non-discriminatory evaluation process.

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SECTION II – PROPOSAL REQUIREMENTS

A. Program Contact Information

Please provide contact information of the primary individual responsible for the RFP.

1. Name and title
2. Name of University and College/Department
3. Mailing address
4. Telephone and email address
5. Website link to the Department of Architecture
6. Please include the name of the institution and the page number in the document's footer.

B. NAAB Accreditation

Eligible programs must be currently accredited by the National Architectural Accrediting Board (NAAB) or be an official candidate for accreditation as recognized by the NAAB. Please indicate:

1. The date of your most recent accreditation visit
2. The term of your most recent accreditation
3. The date of your anticipated accreditation (candidate schools only)

C. Current Program Introduction

Please provide information about your current program, including but not limited to the following:

1. Mission of the architectural program (one page maximum)
2. Brief History of your program (one page maximum)
3. Identify the operational model of the University (public, private, for profit, etc.)
4. Provide a short description of the program(s) that will be impacted and the professional degree(s) granted (B.Arch, M.Arch, D.Arch). Graphic representations are encouraged.
5. Program statistics including student demographics (gender, nationality, etc.), faculty information, average graduating class size, and the student:faculty ratio.

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D. Proposed Program Description

Please provide a detailed overview of the proposed program, a map of the curriculum comparing the current program and the proposed program, and a timeline for approval and implementation of the proposed curriculum.

1. Overview
   a. How does the proposal fit the identity and mission of the academic institution?
   b. Briefly describe how your proposed program will integrate the experience (IDP) and examination (ARE 5.0) requirements for licensure.
   c. Explain how your proposed program will interface, complement, and operate concurrently with your current program.
   d. Please include a letter of support from the academic institution.

2. Provide a graphic representation of the curriculum for the proposed program with description and rationale.
   a. Identify NAAB Student Performance Criteria
   b. Identify and locate IDP competencies (3,740 core hours) within the curriculum
   c. Identify and locate the point of eligibility to access each division of ARE 5.0.
   d. Describe any additional adjustments to the proposed curriculum that might be necessary.

3. Identify significant milestones, benchmarks, and implementation timeline.
   a. Expected approval date of proposed program by the Institution.
   b. Projected capacity of proposed program per cohort.
   c. Anticipated date of first incoming cohort
   d. Anticipated date of first graduates
   e. Identify the anticipated duration of the proposed program (from entry into the program through completion of IDP and ARE.)

4. Additional Considerations
   a. Describe any additional mentorship/advising opportunities and commitments throughout the duration of the program.
   b. Describe any anticipated cost implications and related impacts to students; i.e., increases in tuition, potential impact on student loan repayment programs, etc.
   c. Identify any anticipated challenges that may impact the implementation of the program.
   d. Describe the marketing activities and promotion of the program to prospective students and participating firms.

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E. Engagement with Practitioners

The support of practitioners, firms, AIA components, and other entities is critical to the success of this program.

1. Describe your existing relationship, if any, with firms and practitioners that are currently engaged with your program.
2. Provide demonstration of support and commitment from firms and practitioners ready to participate in the program. Please include items such as how you will ensure placement of students within participating architectural practices and how you will ensure that intern architects working in a professional setting will be fairly compensated in accordance with the AIAS *Policy on Internship Compensation*.
3. Provide endorsement of AIA components or other professional associations to promote and support the program and to serve as a resource for students participating in the program.

F. Engagement with Licensing Board

It will be necessary to change/adjust state laws and/or board rules in order for this program to move forward. NCARB is fully committed to providing the support necessary to assist the Boards of Architecture in implementing these changes, however, a collaborative effort from all key stakeholders will be the key to success.

1. Describe how you will work with your licensing board to outline the necessary regulatory changes, identify anticipated regulatory challenges, and propose a related timeframe for implementing change.
2. Describe any legislative or other approvals necessary or desirable, such as review of or consent by the Board's supervisory body (Department of Consumer Protection, Department of Professional and Occupational Registration, Division of Professions and Occupations, State Board of Education, etc.) and explain how they will be achieved.
3. Please provide a statement of support of the proposed program from the licensing board.

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SECTION III – PROGRAM EVALUATION

A. Evaluation Criteria

NCARB's Licensure Task Force (composed of practitioners, NCARB Member Board representatives, and collateral representatives) will evaluate all proposals to ensure compliance with the following submission requirements:

1. Maintenance of the program's NAAB accreditation.
2. Integration of the 3,740 core hours of the IDP through internships and experiences that meet current requirements of IDP 2.0 and ensuring that students enrolled in the program complete IDP prior to graduation.
3. Ability to provide access to and administration of each division of the ARE 5.0 to enrolled students at least one time prior to graduation.

B. Selection Process

NCARB's LTF will evaluate all proposals and select programs for initial participation.

1. There is no limit to the number of programs qualified in the initial submission phase.
2. It is anticipated that programs will be notified of their advancement to the next phase of development in August 2015.
3. NCARB will only endorse those programs satisfying the evaluation criteria identified above.
4. NCARB will work with the successful programs to assist with the approval by the state registration board.

C. NCARB Requirements for Monitoring Programs

In order to monitor progress, each program will be asked to provide an annual update on the progress of the program for review. The update should include the following:

1. Program self-evaluation and Licensing Board update.
2. Firm participation update including information on mechanism used to place students in qualified internships.
3. Progress of students enrolled.
4. IDP Experience Reporting summaries.
5. ARE Pass Rates.
6. Program or curricular modifications or proposals to alter compliance with initial approval agreement.
7. Status of NAAB accreditation for the program.

APPENDICES & ADDITIONAL LINKS

Summary of ARE Eligibility Requirements by Jurisdiction
Licensing Board Executives Contact Information
NAAB: http://naab.org/accreditation/2014_Conditions
IDP: http://www.ncarb.org/en/Experience-Through-Internships/IDP2-Experience-Categories-Areas.aspx
ARE: http://www.ncarb.org/ARE/ARE5.aspx

Eligibility Requirements for the Architect Registration Examination by Jurisdiction

	JURISDICTION	EDUCATION				EXPERIENCE				OTHER		Notes
		Rule	Law	No Change	Does Not Address	Rule	Law	No Change	Does Not Address	Rule	Law	
Region ONE	Connecticut	1				1						
	Maine		1				1					
	Massachusetts	1						1			1	21 years of age in Law
	New Hampshire	1						1				
	Rhode Island		1						1		1	21 years of age in Law
	Vermont	1					1				1	18 years of age in Law
Region TWO	Delaware	1						1				
	District of Columbia	1							1			
	Maryland	1						1				
	New Jersey		1				1				1	18 years of age in Law
	New York	1				1						
	Pennsylvania	1				1						
	Virginia	1						1				
	West Virginia		1					1				
Region THREE	Alabama		1				1					
	Arkansas			1				1			1	21 years old in Law
	Florida				1				1			May be a Board Policy
	Georgia		1					1				
	Louisiana		1					1				
	Mississippi		1			1				1		
	North Carolina	1						1			1	18 years of age in Law
	Puerto Rico				1				1			
	South Carolina		1					1				
	Tennessee				1			1				
	Texas		1			1						
	Virgin Islands		1				1					
Region FOUR	Illinois	1				1						
	Indiana		1						1		1	18 years of age in Law
	Iowa	1						1		1		
	Kentucky		1			1						
	Michigan		1						1			
	Minnesota	1						1				
	Missouri		1				1				1	21 years of age in Law
	Ohio		1						1		1	18 years of age in Law
	Wisconsin	1				1				1		
Region FIVE	Kansas			1				1				May be a Board Policy
	Montana	1						1				
	Nebraska	1						1				
	North Dakota	1						1		1		18 years of age
	Oklahoma		1			1						
	South Dakota	1							1			
	Wyoming		1						1			
Region SIX	Alaska	1							1			
	Arizona	1				1						
	California	1						1				
	Colorado	1				1						
	Guam		1				1				1	
	Hawaii	1				1						
	Idaho		1					1		1		
	Nevada	1						1			1	21 years of age in Law
	New Mexico	1						1				
	Oregon	1						1				
	Utah	1							1	1		
	Washington		1				1					

As an example:

Connecticut requires a change to both the education and experience components of their rules to allow for pre-graduation access to the ARE.
Vermont will have to change a rule in their education component, a law in their experience component, and will have to address their age limit.
Arkansas requires no rule or law changes related to education or experience, but may have to address their age limit.

DISCUSS AND POSSIBLE ACTION ON 2015-2016 STRATEGIC PLAN OBJECTIVE TO CONDUCT A REVIEW OF ARE AND LINKAGE STUDY TO MEET REQUIREMENTS OF BPC 139 AND DCA POLICY ON LICENSURE EXAMINATION VALIDATION AND IDENTIFY AREAS OF CALIFORNIA PRACTICE FOR WHICH THE ARE AND CSE ARE APPROPRIATE FOR ASSESSING CANDIDATE COMPETENCY, THUS ENSURING A VALID AND DEFENSIBLE EXAMINATION PROCESS

The Board's 2015-2016 Strategic Plan contains an objective assigned to the Professional Qualifications Committee (PQ) to conduct a review of the ARE and Linkage Study to meet the requirements of Business and Professions Code (BPC) section 139 and the Department of Consumer Affairs (DCA) policy on licensure examination validation and identify areas of California practice for which the Architect Registration Examination (ARE) and California Supplemental Examination (CSE) are appropriate for assessing candidate competency, thus ensuring a valid and defensible examination process.

Licensing boards and bureaus within the DCA are required to ensure that examination programs being used in the California licensure process comply with psychometric and legal standards. To this end, the Board requested that DCA's Office of Professional Examination Services (OPES) complete a comprehensive review of the National Council of Architectural Registration Boards' (NCARB) examination program. The purpose of the OPES review was to evaluate the suitability of the ARE for continued use in California.

OPES received and reviewed ARE-related documents provided by NCARB. Follow-up teleconferences were held to clarify the procedures and practices used to validate and develop the ARE. A comprehensive evaluation of the documents was made to determine whether a) occupational analysis; b) examination development; c) passing scores; d) test administration; e) examination performance; and f) test security procedures met professional guidelines and technical standards. OPES found that the procedures used to establish and support the validity and defensibility of the ARE examination program components listed above meet professional guidelines and technical standards outlined in the *Standards for Educational and Psychological Testing* and BPC section 139.

OPES convened a panel of licensed California architects who served as subject matter experts (SME) to review the content of the divisions that comprises the ARE and to compare it with the description of practice for California architects as based on the *2014 California Architect Occupational Analysis*. The SMEs were selected by the Board based upon their geographic location, experience, and practice specialty.

The SMEs performed a comparison between the content areas of the ARE divisions (current version 4.0 [Attachment 1] and future version 5.0 [Attachment 2]) and the 2014 California Architect Description of Practice and concluded that the content measured by divisions of ARE 4.0 and ARE 5.0 are consistent in assessing the general knowledge required for entry-level architect practice in California.

The SMEs were also asked to correlate the job task and knowledge statements that comprise the 2014 Examination Outline for the CSE with the content of the ARE 4.0 and ARE 5.0 divisions. This correlation was performed to identify if there were areas of California architect practice not covered by ARE 4.0 or ARE 5.0.

The results of the Linkage Study indicate that there are areas of California architect practice not covered by either ARE 4.0 or ARE 5.0. These missing content areas were found to be covered within the four content areas as detailed in the Content Areas of the 2014 Architect CSE Plan (Attachment 3) of the CSE. The CSE Examination Plan specifies the job tasks and related knowledge tested by the CSE which a California architect is expected to have mastered at the time of licensure.

Raul Villanueva of OPES will provide the Committee with a brief presentation relative to this objective.

Attachments

1. Content Areas of the Architect Registration Examination Plan (ARE 4.0)
2. Content Areas of the Architect Registration Examination Plan (ARE 5.0)
3. Content Areas of the 2014 Architect California Supplemental Examination Plan

CONTENT AREAS OF THE ARCHITECT REGISTRATION EXAMINATION PLAN (ARE 4.0)

ARE Division Examination	Content of Division Sections	Subarea Weights per Section
I. Programing, Planning & Practice	Programming & Analysis	27-33%
	Environmental, Social, & Economic Issues	17-23%
	Codes & Regulations	11-17%
	Project & Practice Management	33-39%
II. Site Planning & Design	Principles	27-30%
	Environmental Issues	34-32%
	Codes & Regulations	18-26%
	Materials & Technology	16-20%
	Project & Practice Management	4-8%
III. Building Design & Construction Systems	Principles	27-33%
	Environmental Issues	6-9%
	Codes & Regulations	10-13%
	Materials & Technology	43-49%
	Project & Practice Management	4-7%
IV. Schematic Design		100%
V. Structural Systems	General Structures	50-54%
	Seismic Forces	18-22%
	Wind Forces	18-22%
	Lateral Forces	7-9%
VI. Building Systems	Codes & Regulations	6-9%
	Environmental Issues	9-11%
	Plumbing	10-15%
	HVAC	18-23%
	Electrical	10-15%
	Lighting	15-20%
	Specialties	18-23%
VII. Construction Documents & Services	Codes & Regulations	9-11%
	Environmental Issues	6-9%
	Construction Drawings & Project Manual	48-53%
	Project & Practice Management	30-35%

CONTENT AREAS OF THE ARCHITECT REGISTRATION EXAMINATION PLAN (ARE 5.0)

ARE Division Examination	Content of Division Sections	Subarea Weights per Section
I. Practice Management	Business Operations	20-26%
	Finances, Risk, & Development of Practice	29-35%
	Practice---Wide Delivery of Services	22-28%
	Practice Methodologies	17-23%
II. Project Management	Resource Management	7-13%
	Project Work Planning	17-23%
	Contracts	25-31%
	Project Execution	17-23%
	Project Quality Control	19-25%
III. Programming & Analysis	Environmental & Contextual Conditions	14-21%
	Codes & Regulations	16-22%
	Site Analysis & Programming	21-27%
	Building Analysis & Programming	37-43%
IV. Project Planning & Design	Environmental Conditions & Context	10-16%
	Codes & Regulations	16-22%
	Building Systems, Materials, & Assemblies	19-25%
	Project Integration of Program & Systems	32-38%
	Project Costs & Budgeting	8-14%
V. Project Planning & Documentation	Integration of Building Materials & Systems	31-37%
	Construction Documentation	32-38%
	Project Manual & Specifications	12-18%
	Codes & Regulations	8-14%
	Construction Cost Estimates	2-8%
VI. Construction & Evaluation	Preconstruction Activities	17-23%
	Construction Observation	32-38%
	Administrative Procedures & Protocols	32-38%
	Project Closeout & Evaluation	7-13%

CONTENT AREAS OF THE 2014 ARCHITECT CALIFORNIA SUPPLEMENTAL EXAMINATION (CSE) PLAN

Content Area	Content Area Description	Percent Weight
I. General Practice	This area assesses the candidate's knowledge related to core areas of practice applicable across types of projects, construction contract arrangements, and project delivery methods.	14
II. Programming / Design	This area assesses the candidate's ability to identify and evaluate site and project opportunities and constraints in developing design concepts that meet the client's, user's, and stakeholder's needs and applicable California regulations.	36
III. Development / Documentation	This area assesses the candidate's knowledge regarding developing design solutions, managing a project team, and preparing design and construction drawings and documents in conformance with the project program and applicable California regulations.	30
IV. Bidding / Construction	This area assesses the candidate's knowledge related to California regulations associated with project bidding, construction, and post-construction activities.	20
	Total	**100%**

DISCUSS AND POSSIBLE ACTION ON 2015-2016 STRATEGIC PLAN OBJECTIVE TO RECLASSIFY CSE ITEM BANK BASED UPON RESULTS OF 2014 OCCUPATIONAL ANALYSIS (OA) IN ORDER TO ENSURE ITEM CONTENT REFLECTS CRITICAL TASKS AND KNOWLEDGE RELATED TO NEWLY-LICENSED ARCHITECTS AS IDENTIFIED BY THE OA AND TO MAINTAIN RELEVANCE WITH CONTEMPORARY PRACTICE

The Board's 2015-2016 Strategic Plan contains an objective assigned to the Professional Qualifications Committee (PQ) to reclassify the California Supplemental Examination (CSE) item bank based upon the results of the 2014 OA (Attachment 1) in order to ensure item content reflects critical tasks and knowledge related to newly-licensed architects as identified by the OA and to maintain relevance with contemporary practice.

Business and Professions Code (BPC) section 139 requires that an OA be conducted every five to seven years. The OA currently used to develop the CSE was conducted in 2007. The primary purpose of the OA is to define current architectural practice in California based on a survey of the critical tasks, skills, and knowledge pertinent to an individual receiving initial licensure. The findings of the OA will be used to develop the content of the CSE and form the basis for determining "minimum acceptable competence" as it relates to safe practice at the time of initial licensure.

BPC 139 also requires boards and bureaus that use a national examination, such as the Architect Registration Examination (ARE), as well as any developed by the state, to have a psychometric process review conducted along with a linkage study, which compares the knowledge, skills, and abilities tested for on the national examination with those of the state exam to avoid duplication.

In March 2014, the Office of Professional Examination Services (OPES) conducted four focus group meetings as one of the initial steps in the OA process. Three of the meetings were half-day meetings and involved the following stakeholders: 1) general building contractors; 2) engineers, land surveyors, and landscape architects; and 3) building officials. The fourth meeting was a two-day session, which involved architects. OPES analyzed the focus group meeting results later that month, which provided additional information with regard to the job tasks and knowledge required of contemporarily practicing architects.

The next stage of the OA included interviews with architect subject matter experts (SME) and was conducted in April 2014. The purpose of these interviews was to enable OPES to develop a preliminary list of job tasks and knowledge statements. The following step was to conduct workshops in furtherance of developing the pilot OA questionnaire, which was distributed in June 2014. The final OA survey was distributed to a representative sample of California licensees in early July 2014; selected licensees had until July 18, 2014 to complete the questionnaire. Results were reviewed by OPES and analyzed by SMEs at two workshop held in September 2014; the findings were presented to the Board at its December 10, 2014 meeting.

OPES completed the ARE review and Linkage Study that compared content of the 2014 CSE Test Plan with the content covered in the various divisions of the ARE 4.0 (See Agenda Item D).

The findings of this process links the job tasks and knowledge directly to critical content areas of practice and help ensure there is minimal overlap in the content of the CSE.

On July 16-17, 2015 OPES will hold a reclassification workshop to align the current bank of examination items with the new draft 2014 Examination Plan (Attachment 2) for use in development of CSE content beginning early 2016.

Raul Villanueva of OPES will provide the Committee with a brief presentation relative to this objective. Attached are OPES brochures that explain the OA and examination development processes.

Attachments

1. Occupational Analysis of the Architect Profession
2. 2014 Examination Plan for the California Supplemental Examination (CSE)
3. OPES Informational Series No. 1 Occupational Analysis
4. OPES Informational Series No. 3 Examination Development
5. OPES Informational Series No. 8 Expert Consultants

CALIFORNIA ARCHITECTS BOARD

OCCUPATIONAL ANALYSIS OF THE

ARCHITECT PROFESSION

OFFICE OF PROFESSIONAL EXAMINATION SERVICES

STATE OF CALIFORNIA

dca

DEPARTMENT OF CONSUMER AFFAIRS

CALIFORNIA ARCHITECTS BOARD

OCCUPATIONAL ANALYSIS OF THE ARCHITECT PROFESSION

This report was prepared and written by the
Office of Professional Examination Services
California Department of Consumer Affairs

NOVEMBER 2014

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PROFESSIONAL EXAMINATION SERVICES

EXECUTIVE SUMMARY

The California Architects Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis of Architect practice in California. The purpose of the occupational analysis is to define practice for Architects in terms of actual job tasks that new licensees must be able to perform safely and competently at the time of licensure. The results of this occupational analysis serve as the basis for determining the tasks and knowledge that make up the description of practice for the Architect profession in California. The major steps of the occupational analysis were conducted between March 2014 and September 2014.

OPES test specialists began by researching the profession and conducting stakeholder and practitioner focus groups. The purpose of the stakeholder focus groups was to identify the qualities stakeholders believed an Architect should possess and the areas of Architect practice that stakeholders felt could be improved. The stakeholder focus groups included a contractors group, a group of various engineering professionals and landscape architects, and a building officials group. The focus group of Architect practitioners was held to review the results of the stakeholder focus groups and to identify changes and trends in California Architect practice anticipated over the next five to eight years.

OPES also conducted telephone interviews with 11 Architects throughout California. The purpose of the practitioner telephone interviews was to identify the tasks performed by newly licensed Architects, and the knowledge required to perform those tasks in a safe and competent manner. The interviews were also used to follow up on topics arising from the focus groups and to inform the development of a preliminary list of tasks and knowledge statements.

Following the stakeholder focus groups and practitioner interviews, two additional Architect practitioner focus groups were convened by OPES. The purpose of these sessions was to review the results of the previous focus groups and interviews, and to develop and refine the task and knowledge statements derived from the interviews, focus groups, and research. These practitioners also performed a preliminary linkage of the task and knowledge statements to ensure all tasks had a related knowledge and all knowledge statements had a related task. New task and knowledge statements were created as a result of this process, and some statements were eliminated from the final list due to overlap and reconciliation. These practitioners also developed the demographic items for inclusion in the survey.

OPES developed the three-part questionnaire that was completed by Architects statewide. Development of the questionnaire included a pilot study which was conducted using a group of 16 licensees. The participants' feedback was used to refine the questionnaire.

In the first part of the questionnaire, licensees were asked to provide demographic information relating to their work settings and practice. In the second part, the licensees were asked to rate specific job tasks in terms of frequency (i.e., how often the licensee performs the task in the licensee's current practice) and importance (i.e., how important the task is to performance of the licensee's current practice). In the third part of the questionnaire, licensees were asked to rate specific knowledge statements in terms of how important that knowledge is to performance of their current practice.

The Board provided OPES with the email addresses for 8,902 licensees. After reviewing the response rates of previous occupational analysis studies, it was decided to include all 8,902 practitioners in the current occupational analysis. The Board sent notification emails to all 8,902 Architects, inviting them to complete the questionnaire online. Eighteen percent of the invited licensees (1,603) responded by accessing the Web-based survey. The final sample size included in the data analysis was 1,511, or 17 percent of the group invited to complete the questionnaire. This response rate reflects two adjustments, the details of which are described in the Response Rate section of this report. The group of respondents is representative of the California Architect population based on the sample's demographic composition.

OPES then performed data analyses on the task and knowledge rating responses. OPES combined the task ratings to derive an overall criticality index for each task statement. The mean importance rating was used as the criticality index for each knowledge statement.

After the data was analyzed, two additional focus groups were conducted with licensed Architects. The purpose of these focus groups was to evaluate the criticality indices and determine whether any task or knowledge statements should be eliminated. The licensees in these groups also established the linkage between job tasks and knowledge statements, organized the task and knowledge statements into content areas, and defined those areas. The licensees then evaluated and confirmed the content area weights.

The resulting description of practice for California Architects is structured into six content areas. The description of practice specifies the job tasks and knowledge critical to safe and effective Architect practice in California at the time of licensure and forms the basis for the content included in the examination outline.

The new examination outline for the Architect California Specific Examination (CSE) is structured into four content areas weighted by criticality relative to the other content areas. The CSE examination outline specifies the job tasks and knowledge specific to California practice that a California-licensed Architect is expected to have mastered at the time of licensure. An overview of the final examination outline is provided below.

OVERVIEW OF THE ARCHITECT CSE EXAMINATION OUTLINE

Content Area	Content Area Description	Percent Weight
I. General Practice	This area assesses the candidate's knowledge related to core areas of practice applicable across types of projects, construction contract arrangements, and project delivery methods.	6
II. Programming / Design	This area assesses the candidate's ability to identify and evaluate site and project opportunities and constraints in developing design concepts that meet the client's, user's, and stakeholder's needs and applicable California regulations.	44
III. Development / Documentation	This area assesses the candidate's knowledge regarding developing design solutions, managing a project team, and preparing design and construction drawings and documents in conformance with the project program and applicable California regulations.	40
IV. Bidding and Construction	This area assesses the candidate's knowledge related to California regulations associated with project bidding, construction, and post-construction activities.	10
Total		100

TABLE OF CONTENTS

EXECUTIVE SUMMARY i
LIST OF TABLES v
LIST OF FIGURES vii
LIST OF APPENDICES viii
CHAPTER 1. INTRODUCTION 1
PURPOSE OF THE OCCUPATIONAL ANALYSIS 1
CONTENT VALIDATION STRATEGY 1
UTILIZATION OF SUBJECT MATTER EXPERTS 1
ADHERENCE TO LEGAL STANDARDS AND GUIDELINES 2
DESCRIPTION OF OCCUPATION 2
CHAPTER 2. OCCUPATIONAL ANALYSIS QUESTIONNAIRE 3
STAKEHOLDER AND PRACTITIONER FOCUS GROUPS 3
SUBJECT MATTER EXPERT INTERVIEWS 3
TASK AND KNOWLEDGE STATEMENTS 3
QUESTIONNAIRE DEVELOPMENT 4
PILOT STUDY 4
CHAPTER 3. RESPONSE RATE AND DEMOGRAPHICS 5
SAMPLING STRATEGY AND RESPONSE RATE 5
DEMOGRAPHIC SUMMARY 5
CHAPTER 4. DATA ANALYSIS AND RESULTS 25
RELIABILITY OF RATINGS 25
TASK CRITICAL VALUES 26
KNOWLEDGE IMPORTANCE VALUES 27
CHAPTER 5. EXAMINATION PLAN 28
CALIFORNIA-SPECIFIC PRACTICE 28
CONTENT AREAS AND WEIGHTS 29
CHAPTER 6. CONCLUSION 42

LIST OF TABLES

TABLE 1 – NUMBER OF YEARS LICENSED AND PRACTICING IN CALIFORNIA AS AN ARCHITECT 7
TABLE 2 – YEARS WORKED IN ARCHITECTURE BEFORE OBTAINING CALIFORNIA LICENSE 8
TABLE 3 – HIGHEST LEVEL OF EDUCATION 9
TABLE 4 – PRIMARY WORK SETTING 10
TABLE 5 – NUMBER OF HOURS WORKED PER WEEK 11
TABLE 6 – NUMBER OF EMPLOYEES OTHER THAN ARCHITECTS IN ORGANIZATION 12
TABLE 7 – NUMBER OF OTHER LICENSED ARCHITECTS IN ORGANIZATION 13
TABLE 8 – PROJECT TYPES CONSIDERED AN AREA OF SPECIALTY BY RESPONDENTS 14
TABLE 9 – OTHER STATE LICENSES POSSESSED 15
TABLE 10 – OTHER CERTIFICATES POSSESSED 16
TABLE 11 – PERCENTAGE OF WORK PERFORMED IN/OUT OF STATE LAST FIVE YEARS 17
TABLE 12 – PERCENTAGE OF TIME SPENT ON PRINCIPAL WORK TASKS 18
TABLE 13 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC CONSTRUCTION CONTRACT ARRANGEMENTS LAST FIVE YEARS 19
TABLE 14 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC PROJECT DELIVERY METHODS LAST FIVE YEARS 20
TABLE 15 – PERCENTAGE OF INFORMATION EXCHANGE USING ELECTRONIC DOCUMENTS 21
TABLE 16 – PERCENTAGE OF DESIGN TEAM CONSULTANTS, PROJECTS, AND CLIENTS USING BIM LAST FIVE YEARS 22
TABLE 17 – CAPACITY IN WHICH ARCHITECT'S FIRM PERFORMS BIM FOR CONSULTANTS 23
TABLE 18 – RESPONDENTS BY REGION 24
TABLE 19 – TASK SCALE RELIABILITY 25

TABLE 20 – KNOWLEDGE SCALE RELIABILITY 26
TABLE 21 – CONTENT AREA WEIGHTS 29
TABLE 22 – CONTENT OUTLINE: ARCHITECT CALIFORNIA SUPPLEMENTAL EXAMINATION 30

LIST OF FIGURES

FIGURE 1 – NUMBER OF YEARS LICENSED AND PRACTICING IN CALIFORNIA AS AN ARCHITECT 7
FIGURE 2 – YEARS WORKED IN ARCHITECTURE BEFORE OBTAINING CALIFORNIA LICENSE 8
FIGURE 3 – HIGHEST LEVEL OF EDUCATION 9
FIGURE 4 – PRIMARY WORK SETTING 10
FIGURE 5 – NUMBER OF HOURS WORKED PER WEEK 11
FIGURE 6 – NUMBER OF EMPLOYEES OTHER THAN ARCHITECTS IN ORGANIZATION 12
FIGURE 7 – NUMBER OF OTHER LICENSED ARCHITECTS IN ORGANIZATION 13
FIGURE 8 – PROJECT TYPES CONSIDERED AN AREA OF SPECIALTY BY RESPONDENTS 14
FIGURE 9 – OTHER STATE LICENSES POSSESSED 15
FIGURE 10 – OTHER CERTIFICATES POSSESSED 16
FIGURE 11 – PERCENTAGE OF WORK PERFORMED IN/OUT OF STATE LAST FIVE YEARS 17
FIGURE 12 – PERCENTAGE OF TIME SPENT ON PRINCIPAL WORK TASKS 18
FIGURE 13 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC CONSTRUCTION CONTRACT ARRANGEMENTS LAST FIVE YEARS ..19
FIGURE 14 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC PROJECT DELIVERY METHODS LAST FIVE YEARS 20
FIGURE 15 – PERCENTAGE OF INFORMATION EXCHANGE USING ELECTRONIC DOCUMENTS 21
FIGURE 16 – PERCENTAGE OF DESIGN TEAM CONSULTANTS, PROJECTS, AND CLIENTS USING BIM LAST FIVE YEARS 22
FIGURE 17– CAPACITY IN WHICH ARCHITECT'S FIRM PERFORMS BIM FOR CONSULTANTS 23

LIST OF APPENDICES

APPENDIX A. RESPONDENTS BY REGION 43

APPENDIX B. CRITICALITY INDICES FOR ALL TASKS 46

APPENDIX C. KNOWLEDGE IMPORTANCE RATINGS 51

APPENDIX D. ARCHITECT DESCRIPTION OF PRACTICE 57

APPENDIX E. EMAIL TO PRACTITIONERS 67

APPENDIX F. QUESTIONNAIRE 69

CHAPTER 1. INTRODUCTION

PURPOSE OF THE OCCUPATIONAL ANALYSIS

The California Architects Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis to identify critical job activities performed by licensed Architects. This occupational analysis was part of the Board's comprehensive review of Architect practice in California. The purpose of the occupational analysis is to define practice for Architects in terms of actual job tasks that new licensees must be able to perform safely and competently at the time of licensure. The results of this occupational analysis serve as the basis for determining the tasks and knowledge that make up the description of practice for the Architect profession in California.

CONTENT VALIDATION STRATEGY

OPES used a content validation strategy to ensure that the occupational analysis reflected the actual tasks performed by Architects in independent practice. The technical expertise of California-licensed Architects was used throughout the occupational analysis process to ensure the identified task and knowledge statements directly reflect requirements for performance in current practice.

UTILIZATION OF SUBJECT MATTER EXPERTS

The Board selected licensed Architects to participate as subject matter experts (SMEs) during various phases of the occupational analysis. These Architects were selected from a broad range of practice settings, geographic locations, and experience backgrounds. The SMEs provided information regarding the different aspects of current Architect practice during the development phase of the occupational analysis, and participated in focus groups to review the content of task and knowledge statements for technical accuracy prior to administration of the occupational analysis questionnaire. Following administration of the occupational analysis questionnaire, additional focus groups of SMEs were convened at OPES to review the results, finalize the description of practice, and develop the examination plan for the Architect California Supplemental Examination (CSE).

ADHERENCE TO LEGAL STANDARDS AND GUIDELINES

Licensing, certification, and registration programs in the State of California adhere strictly to federal and State laws and regulations and professional guidelines and technical standards. For the purpose of occupational analysis, the following laws and guidelines are authoritative:

- California Business and Professions Code, Section 139.
- Uniform Guidelines on Employee Selection Procedures (1978), Code of Federal Regulations, Title 29, Section 1607.
- California Fair Employment and Housing Act, Government Code, Section 12944.
- *Principles for the Validation and Use of Personnel Selection Procedures* (2003), Society for Industrial and Organizational Psychology (SIOP).
- *Standards for Educational and Psychological Testing* (1999), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education.

For a licensure program to meet these standards, it must be solidly based upon the job activities required for practice.

DESCRIPTION OF OCCUPATION

The Architect occupation is described as follows in the California Business and Professions Code, Section 5500.1:

(a) The practice of architecture within the meaning and intent of this chapter is defined as offering or performing, or being in responsible control of, professional services which require the skills of an architect in the planning of sites, and the design, in whole or in part, of buildings, or groups of buildings and structures.
(b) Architects' professional services may include any or all of the following:
(1) Investigation, evaluation, consultation, and advice.
(2) Planning, schematic and preliminary studies, designs, working drawings, and specifications.
(3) Coordination of the work of technical and special consultants.
(4) Compliance with generally applicable codes and regulations, and assistance in the governmental review process.
(5) Technical assistance in the preparation of bid documents and agreements between clients and contractors.
(6) Contract administration.
(7) Construction observation.
(c) As a condition for licensure, architects shall demonstrate a basic level of competence in the professional services listed in subdivision (b) in examinations administered under this chapter.

CHAPTER 2. OCCUPATIONAL ANALYSIS QUESTIONNAIRE

STAKEHOLDER AND PRACTITIONER FOCUS GROUPS

OPES test specialists began by researching the profession and conducting three stakeholder focus groups and one practitioner focus group. The stakeholder focus groups were held at OPES in March 2014, and included a contractor group, a group of various engineering professionals (structural engineers, civil engineers, and mechanical engineers) and landscape architects, and a group of building officials. The purpose of the stakeholder focus groups was to identify the qualities stakeholders believed an Architect should possess and the areas of Architect practice that stakeholders felt could be improved. The focus group of Architect practitioners was held at OPES in March 2014 to review the results of the stakeholder focus groups and to identify changes and trends in California Architect practice anticipated over the next five to eight years.

SUBJECT MATTER EXPERT INTERVIEWS

The Board provided OPES with a list of California-licensed Architects to contact for telephone interviews. During the semi-structured interviews, licensed Architects were asked to identify all of the activities performed that are specific to the Architect profession. The interviews confirmed major content areas of newly licensed Architect practice and the job tasks performed in each content area. The licensees were also asked to identify the knowledge necessary for newly licensed Architects to perform each job task safely and competently.

TASK AND KNOWLEDGE STATEMENTS

OPES staff integrated the information obtained from the focus groups of stakeholders and practitioners, the interviews, and from prior studies of the profession. OPES then developed a preliminary list task and knowledge statements, organizing the statements into major areas of practice.

In May 2014, OPES facilitated two focus groups of Architects to evaluate the task and knowledge statements for technical accuracy and comprehensiveness, and to assign each statement to the appropriate content area. The groups verified that the content areas were independent and non-overlapping, and performed a preliminary linkage of the task and knowledge statements to ensure that every task had a related knowledge and every knowledge statement had a related task. Additional task and knowledge statements were created as needed to complete the scope of the content areas.

The finalized lists of task and knowledge statements were developed into an online questionnaire that was eventually completed and evaluated by a sample of Architects throughout California.

QUESTIONNAIRE DEVELOPMENT

OPES developed the online occupational analysis survey, a questionnaire soliciting licensees' ratings of the job task and knowledge statements for the purpose of analysis. The surveyed Architects were instructed to rate each job task in terms of how often they performed the task (FREQUENCY), and how important the task was to the performance of their current practice (IMPORTANCE). In addition, they were instructed to rate each knowledge statement in terms of how important the specific knowledge was to the performance of their current practice (IMPORTANCE). The questionnaire also included a demographic section for purposes of developing an accurate profile of the respondents. The questionnaire can be found in Appendix F**.**

PILOT STUDY

Prior to developing the final questionnaire, OPES prepared an online pilot survey. The pilot questionnaire was reviewed by the Board and a group of 16 SMEs for feedback about the technical accuracy of the task and knowledge statements, estimated time for completion, online navigation, and ease of use. OPES used this feedback to develop the final questionnaire.

CHAPTER 3. RESPONSE RATE AND DEMOGRAPHICS

SAMPLING STRATEGY AND RESPONSE RATE

The Board sent notification emails to all Architects with active licenses in California for whom it had an email address (8,902 licensees), inviting them to complete the questionnaire online. The online format allowed for several enhancements to the survey and data collection process. As part of the survey development, configuration, and analysis process, various criteria were established to exclude invalid participants and capture data automatically, significantly reducing data input errors.

Eighteen percent of the licensed Architects in the sample (1,603) responded by accessing the Web-based survey. The final sample size included in the data analysis was 1,511, or 17 percent of the population that was invited to complete the questionnaire. This response rate (17 percent) reflects two adjustments. First, data from respondents who indicated they were not currently licensed and practicing as Architects in California were excluded from analysis. And second, the reconciliation process removed surveys containing incomplete and unresponsive data. The respondent sample was representative of the population of California Architects based on the sample's demographic composition.

DEMOGRAPHIC SUMMARY

Of the respondents included in the analysis, 24 percent had been practicing as an Architect for 5 years or less, 29 percent had been practicing between 6 and 20 years, and 46 percent had been practicing for more than 20 years.

Sixty percent of respondents earned a bachelor's degree as their highest level of education and 33 percent had earned a master's degree. Respondents reported having between 3 to 6 years (33 percent) and 7 to 10 years (28 percent) of pre-licensure experience working in architecture before obtaining their Architect's license.

The majority of respondents (61.3 percent) worked in architecture 4 to 10 years before obtaining licensure in California. Most respondents reported working 40 or more hours per week (71 percent) in an architecture firm (74.7 percent) as either the sole Architect (33 percent) or as one of 1 to 5 Architects employed by the firm (32 percent).

When describing the types of projects they considered a specialty based on expertise and experience, the majority of respondents listed residential (62.3 percent) and commercial (61 percent) projects. Following closely were education (37.7 percent), health care (27.2 percent), hospitality (25.4 percent), institutional (24.2 percent), and industrial projects (23.3 percent).

The respondents reported that, on the average, 27.4 percent of their time was spent on construction documents, followed by project management activities (17.8 percent), design (17.7 percent), management/administrative work (15.2 percent), and construction administration activities (14.2 percent).

Finally, the respondents were also asked to review their projects over the previous five years. The primary construction contract arrangements reported by the respondents were Design-Bid-Build (58.6 percent), Guaranteed Max Price (45 percent), and Fee plus Cost (36.7 percent). The most frequent project delivery methods reported were Design-Bid-Build (61.5 percent), Design-Owner Build (32.1 percent), and Design-Build (31.9 percent).

The demographic information from the respondents can be found in Tables 1 through 18.

TABLE 1 – NUMBER OF YEARS LICENSED AND PRACTICING IN CALIFORNIA AS AN ARCHITECT

YEARS	N	PERCENT
0 to 5	361	23.9
6 to 10	187	12.4
11 to 20	253	16.7
More than 20	700	46.3
Missing	10	.7
Total	1,511	100

FIGURE 1 – NUMBER OF YEARS LICENSED AND PRACTICING IN CALIFORNIA AS AN ARCHITECT

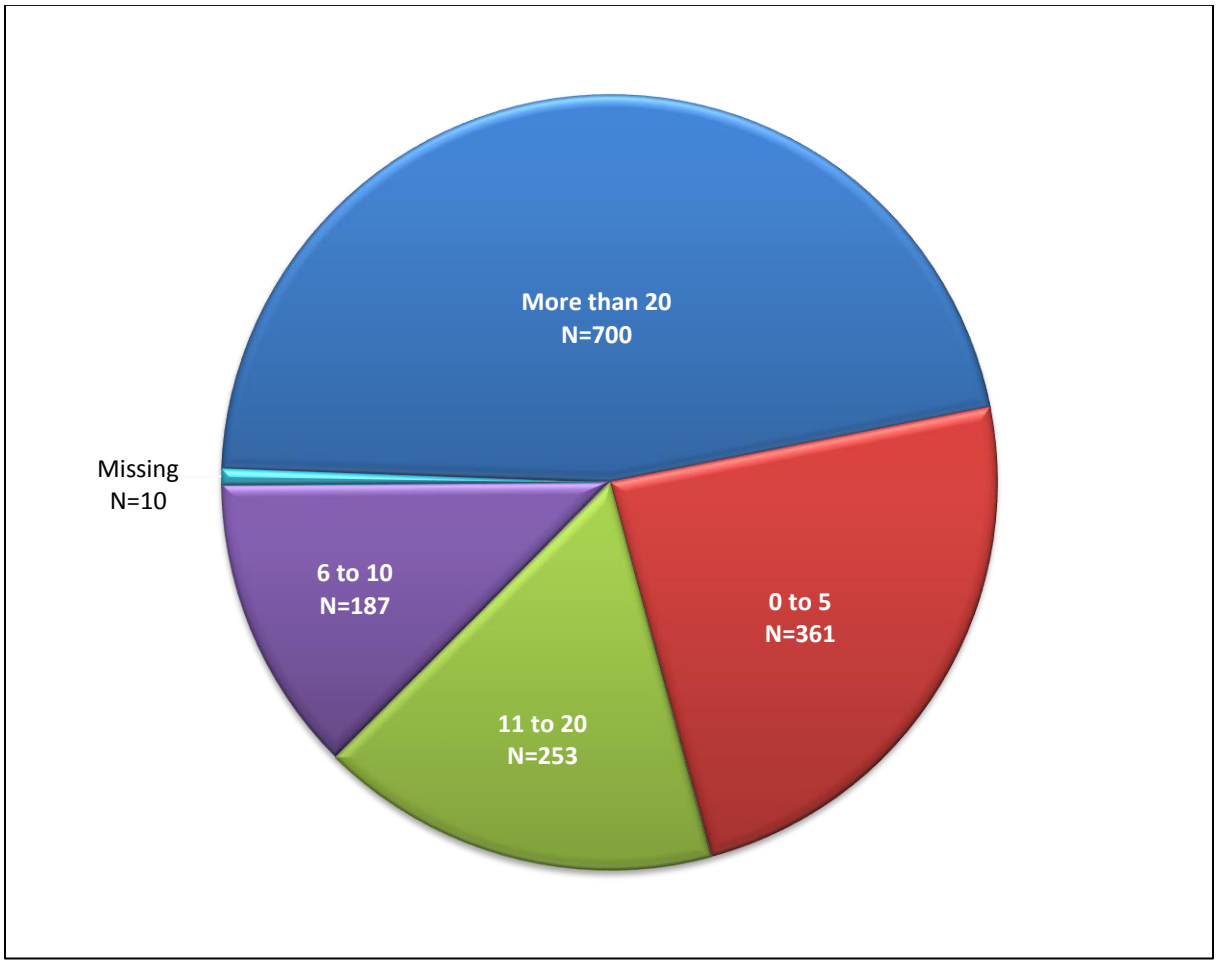

TABLE 2 – YEARS WORKED IN ARCHITECTURE BEFORE OBTAINING CALIFORNIA LICENSE

YEARS	N	PERCENT
0 to 3 years	216	14.3
4 to 6 years	502	33.2
7 to 10 years	424	28.1
11 to 15 years	210	13.9
More than 15 years	154	10.2
Subtotal	1,506	99.7
Missing	5	.3
Total	1,511	100

FIGURE 2 – YEARS WORKED IN ARCHITECTURE BEFORE OBTAINING CALIFORNIA LICENSE

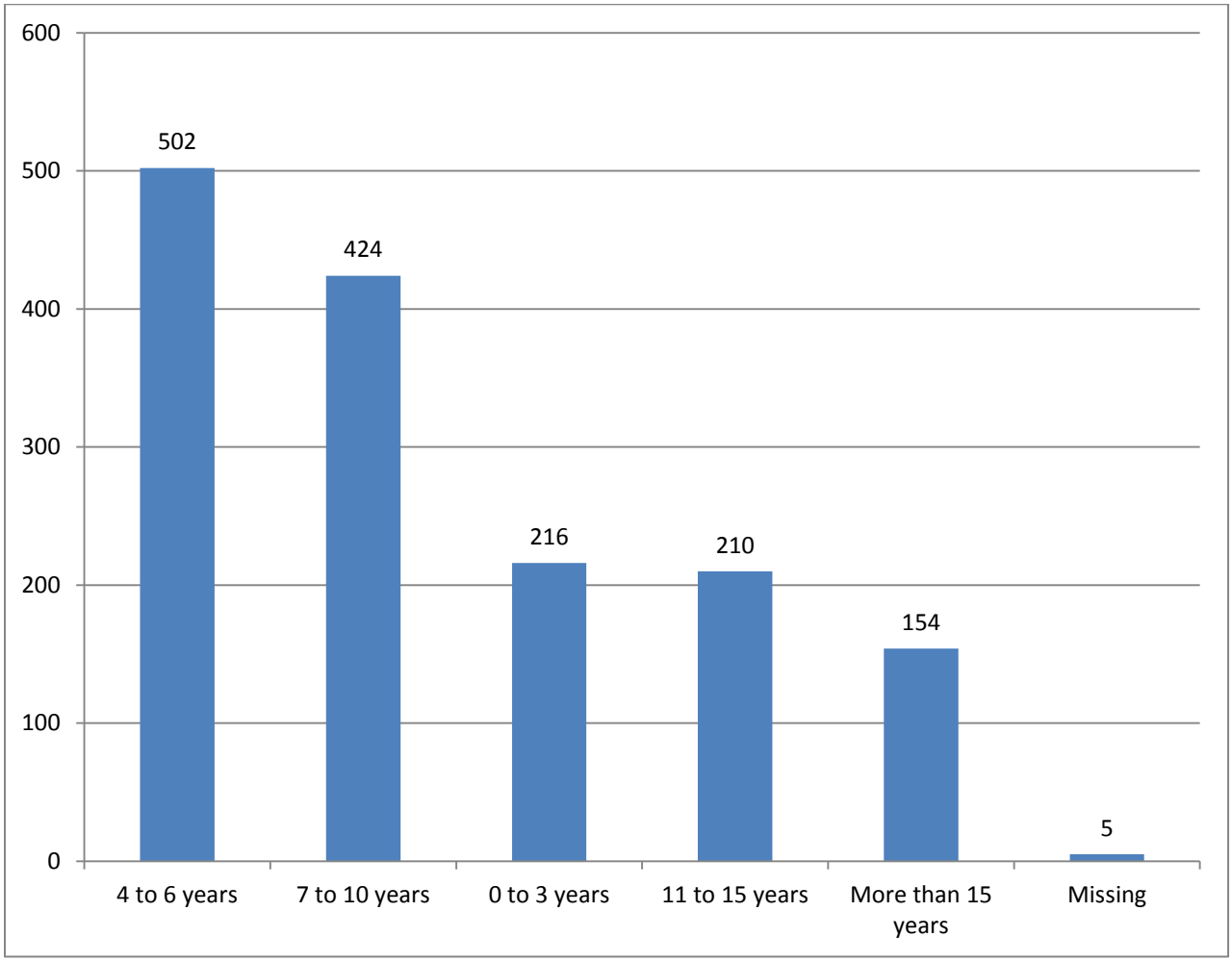

TABLE 3 – HIGHEST LEVEL OF EDUCATION

LEVEL OF EDUCATION	N	PERCENT
Bachelor's degree	900	59.6
Master's degree	494	32.7
Associate degree	55	3.6
Technical certificate	23	1.5
Ph.D. degree	8	.5
Missing	31	2.1
Total	1,511	100

FIGURE 3 – HIGHEST LEVEL OF EDUCATION

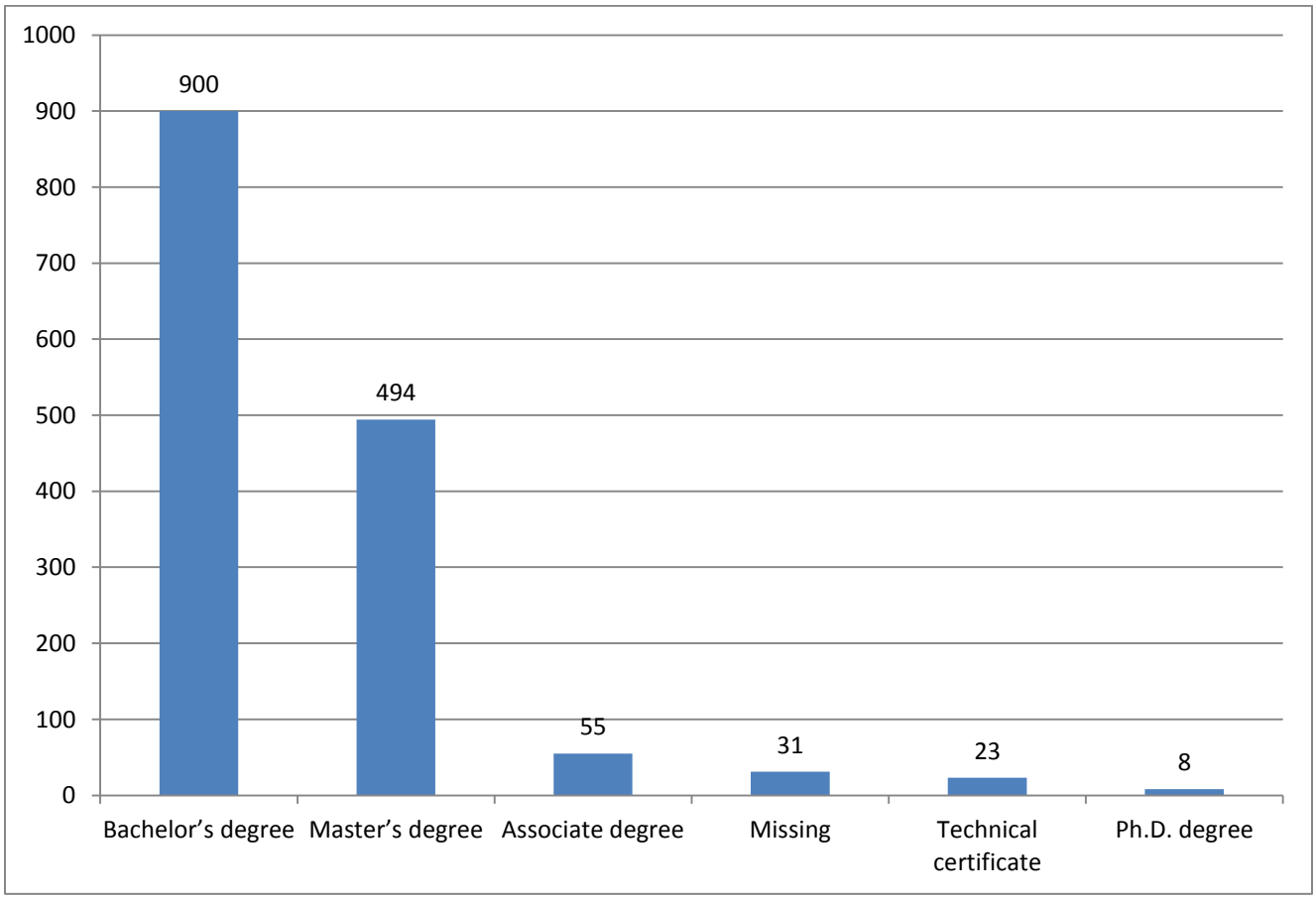

TABLE 4 – PRIMARY WORK SETTING

WORK SETTING	N	PERCENT
Architecture firm (as individual or group)	1,129	74.7
Multidisciplinary firm	160	10.6
Governmental agency	85	5.6
Other (please specify)	77	5.1
Institution (e.g., hospital, school)	25	1.7
Construction firm	19	1.3
Non-design company (e.g., hotel, utility company)	12	.8
Missing	4	.3
Total	1,511	100

FIGURE 4 – PRIMARY WORK SETTING

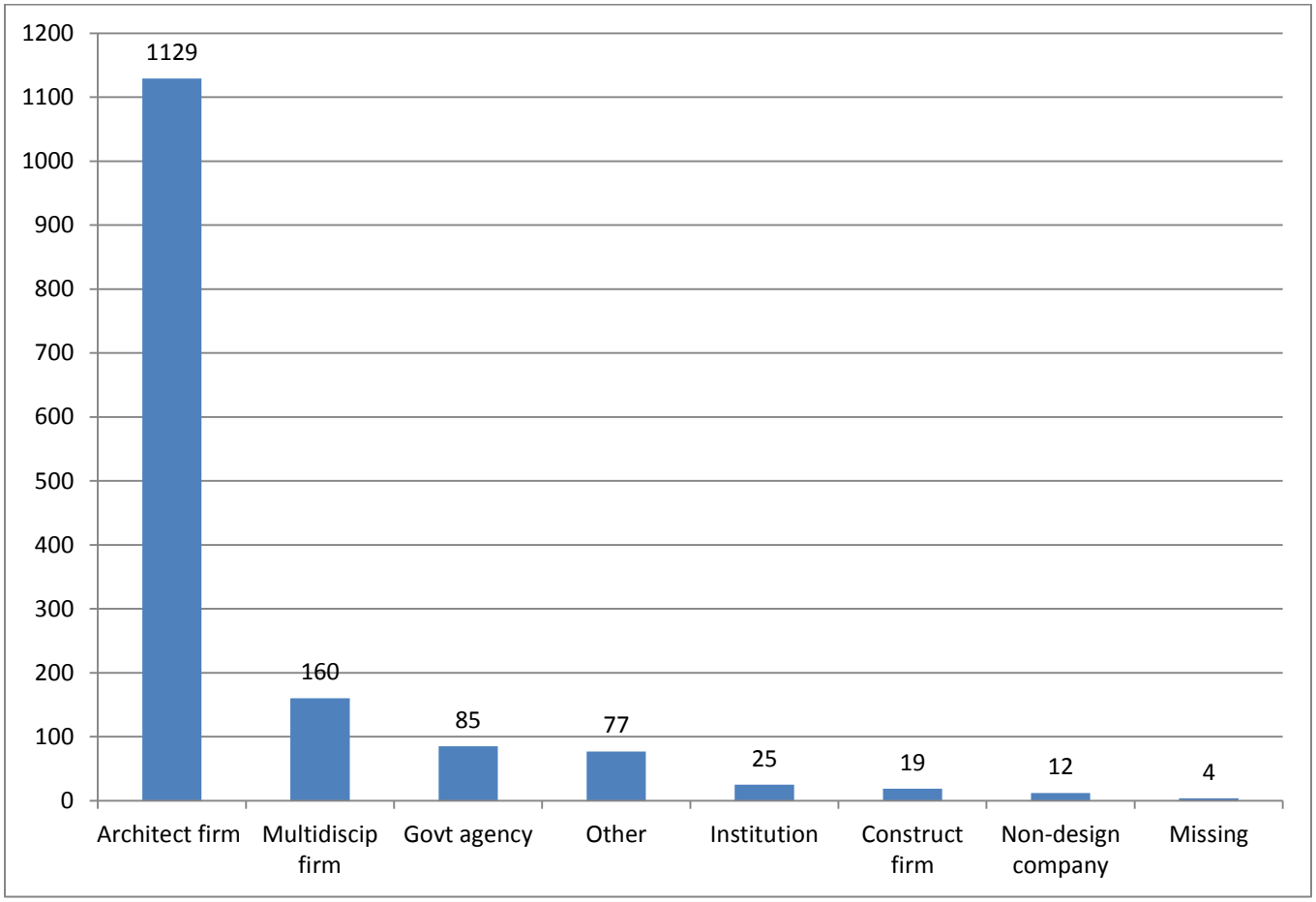

TABLE 5 – NUMBER OF HOURS WORKED PER WEEK

HOURS WORKED	N	PERCENT
0 to 10 hours	105	6.9
11 to 20 hours	89	5.9
21 to 39 hours	230	15.2
40 or more hours	1,073	71.0
Missing	14	.9
Total	1,511	100

NOTE: Total may not add to 100% due to rounding.

FIGURE 5 – NUMBER OF HOURS WORKED PER WEEK

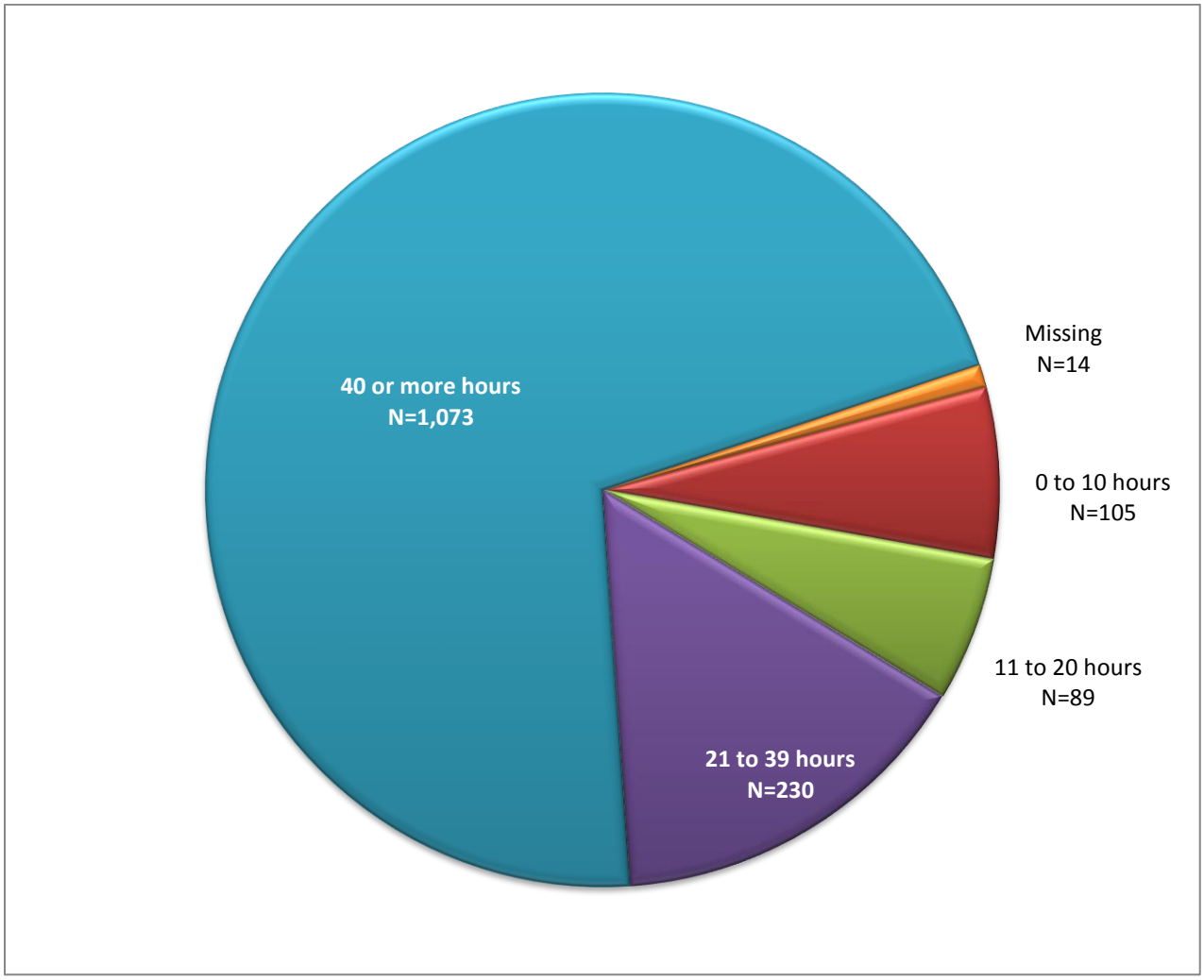

TABLE 6 – NUMBER OF EMPLOYEES OTHER THAN ARCHITECTS IN ORGANIZATION

CLIENT	N	PERCENT
None	405	26.8
1 to 10	465	30.8
11 to 20	161	10.7
21 to 30	70	4.6
More than 30	400	26.5
Missing	10	.7
Total	1,511	100

NOTE: Total may not add to 100% due to rounding.

FIGURE 6 – NUMBER OF EMPLOYEES OTHER THAN ARCHITECTS IN ORGANIZATION

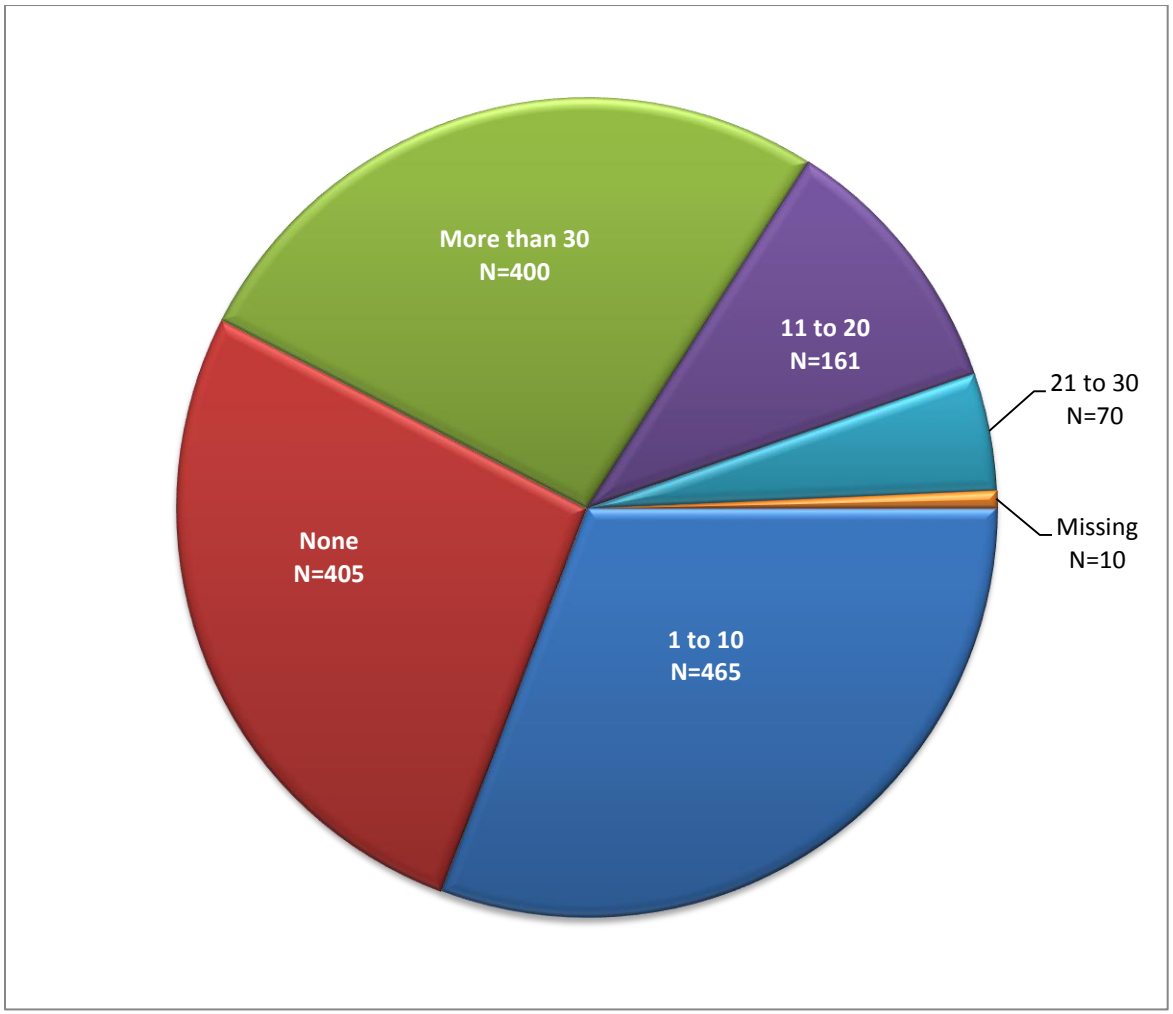

TABLE 7 – NUMBER OF OTHER LICENSED ARCHITECTS IN ORGANIZATION

NUMBER OF ARCHITECTS	N	PERCENT
None	499	33.0
1 to 5	483	32.0
6 to 10	154	10.2
More than 10	352	23.3
Missing	23	1.5
Total	1,511	100

FIGURE 7 – NUMBER OF OTHER LICENSED ARCHITECTS IN ORGANIZATION

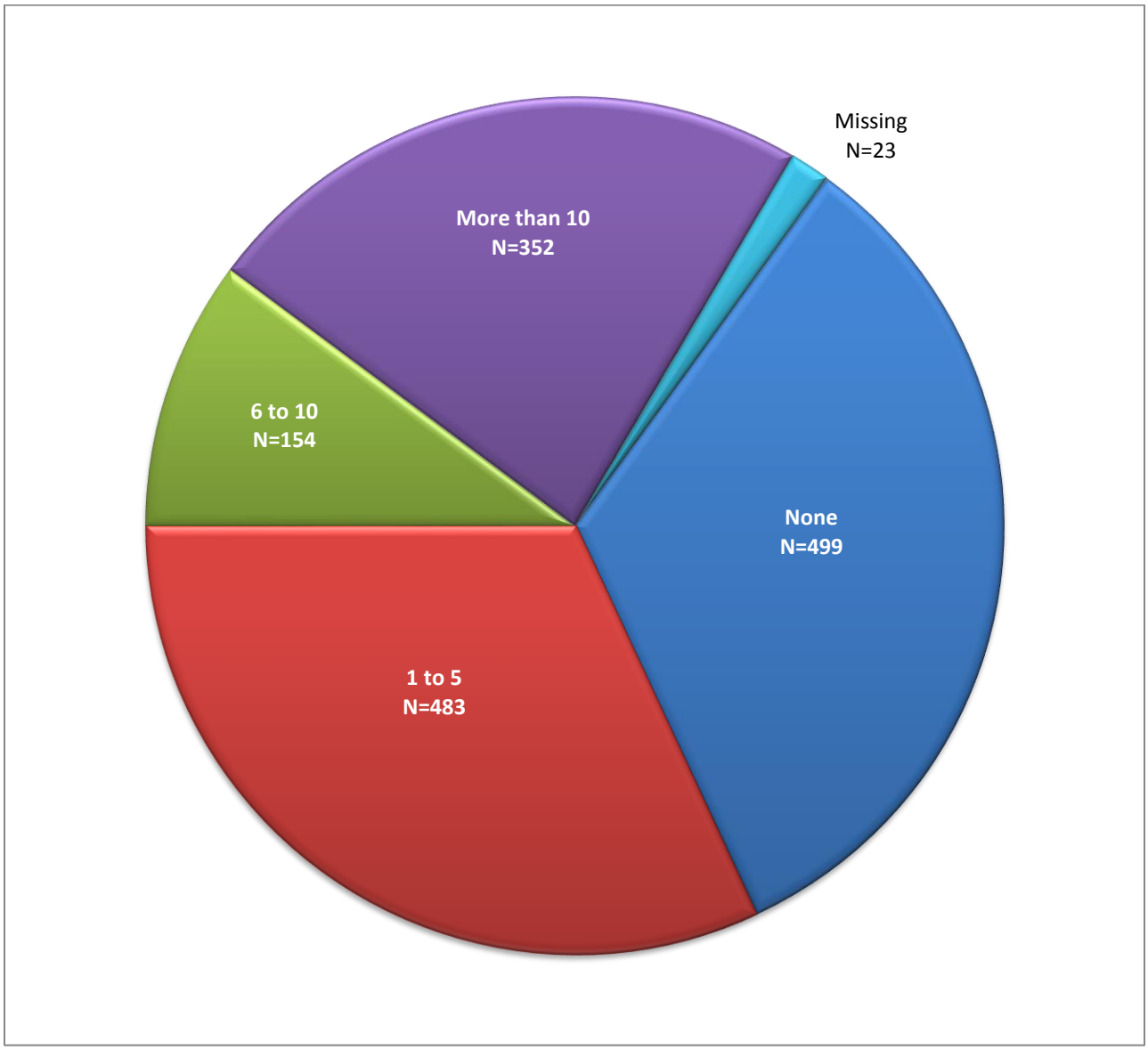

TABLE 8 – PROJECT TYPES CONSIDERED AN AREA OF SPECIALTY BY RESPONDENTS

SPECIALIZATION	N	PERCENT
Residential (single-family, multifamily)	941	62.3
Commercial (office, mixed-use)	922	61.0
Education (community colleges, universities, K-12)	570	37.7
Health care (hospitals, clinics)	411	27.2
Hospitality (hotels, restaurants)	384	25.4
Institutional (military, justice, fire/police stations)	365	24.2
Industrial (factories, warehouses, utilities)	352	23.3

NOTE: Respondents asked to check all that apply.

FIGURE 8 – PROJECT TYPES CONSIDERED AN AREA OF SPECIALTY BY RESPONDENTS

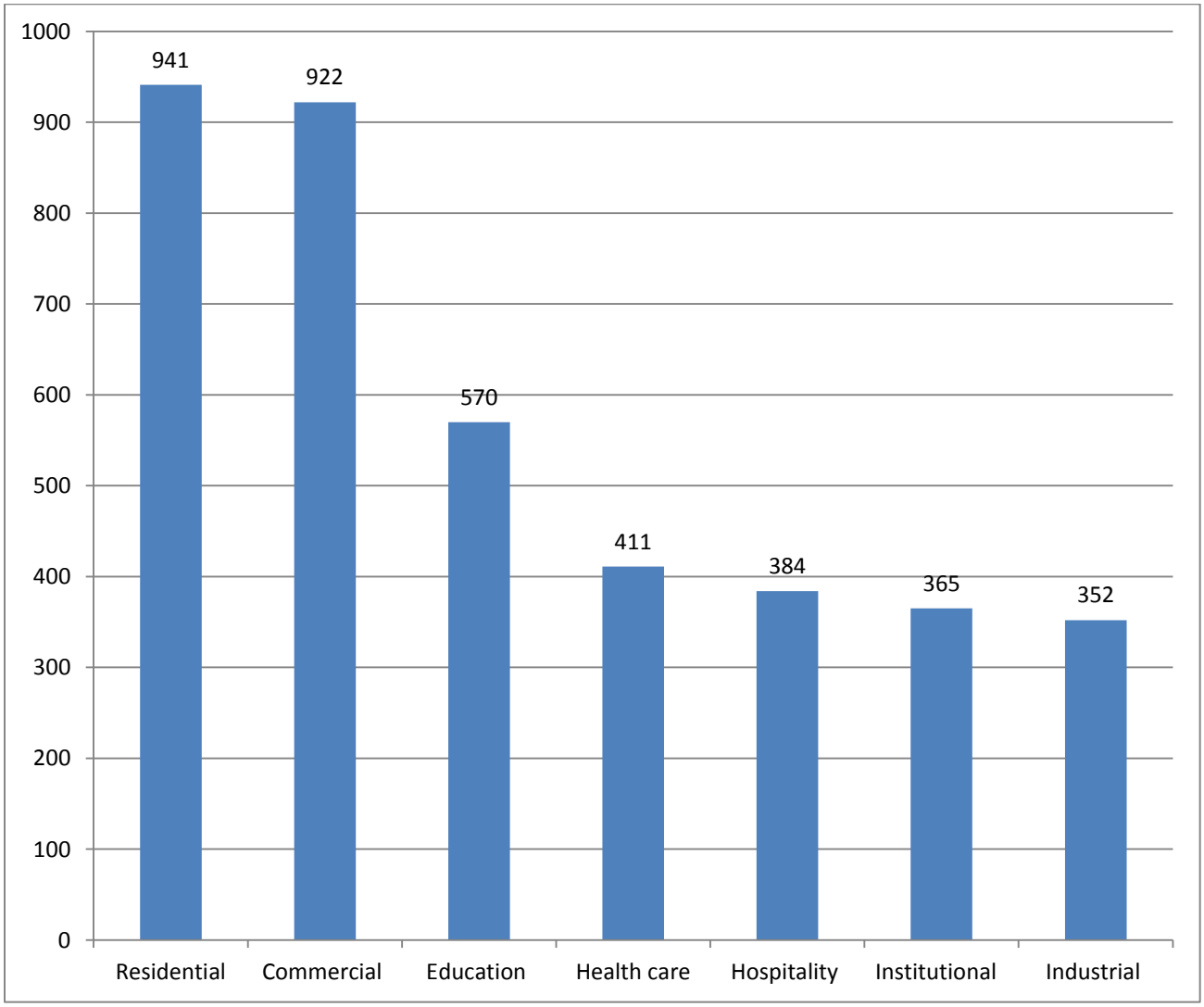

TABLE 9 – OTHER STATE LICENSES POSSESSED

LICENSE	N	PERCENT
Architect (out of state)	123	8.1
Contractor	96	6.4
Engineer	23	1.5

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FIGURE 9 – OTHER STATE LICENSES POSSESSED

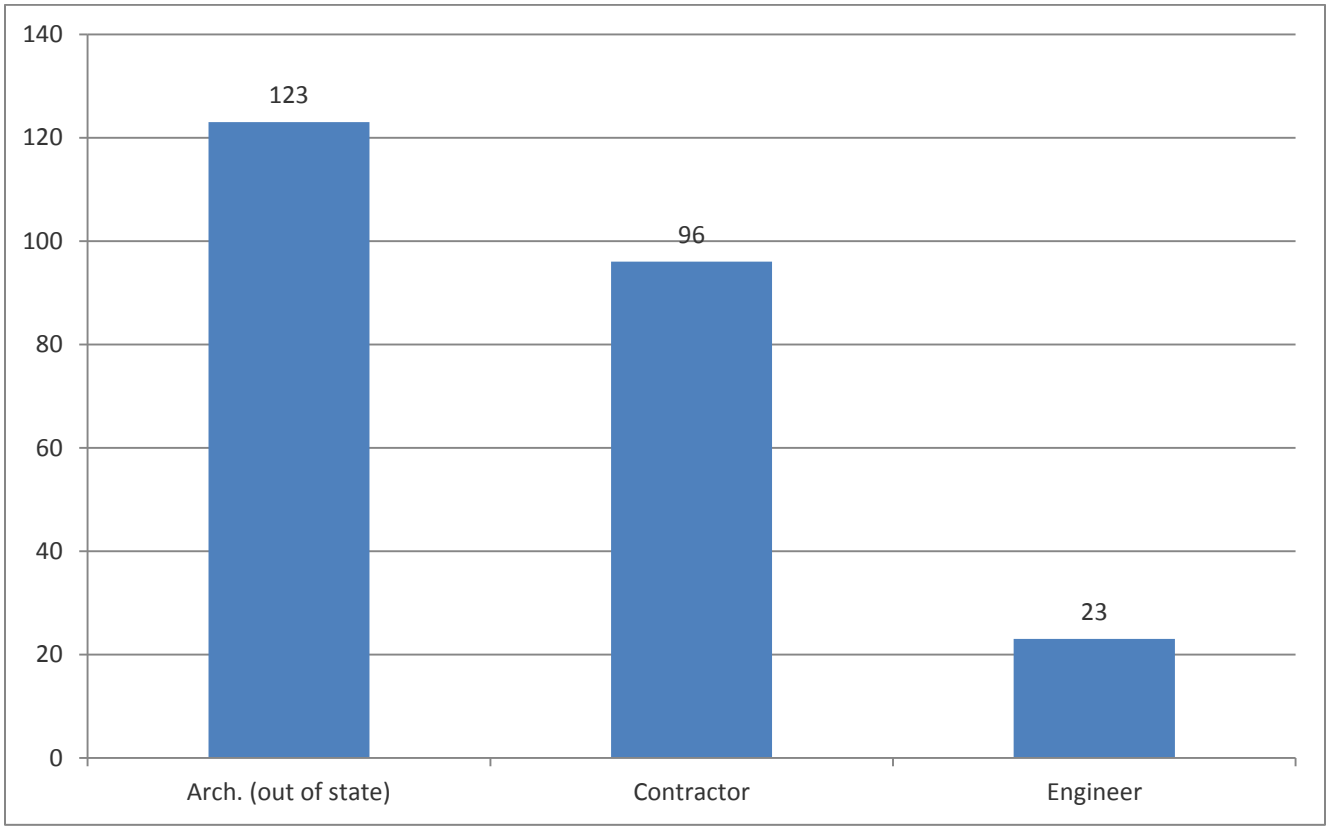


TABLE 10 – OTHER CERTIFICATES POSSESSED

CERTIFICATE	N	PERCENT
LEED	565	89.8
CDT (Certified Document Technologist)	37	5.9
California Access Specialist (CaASp)	33	5.2
CPM (Certified Project Manager)	19	3.0
CCS (Certified Construction Specifier)	17	2.7
ACHA (Health Care)	12	1.9
NCIDQ (Interior Design)	9	1.4

NOTE: Percentage reported is average across endorsing respondents.

FIGURE 10 – OTHER CERTIFICATES POSSESSED

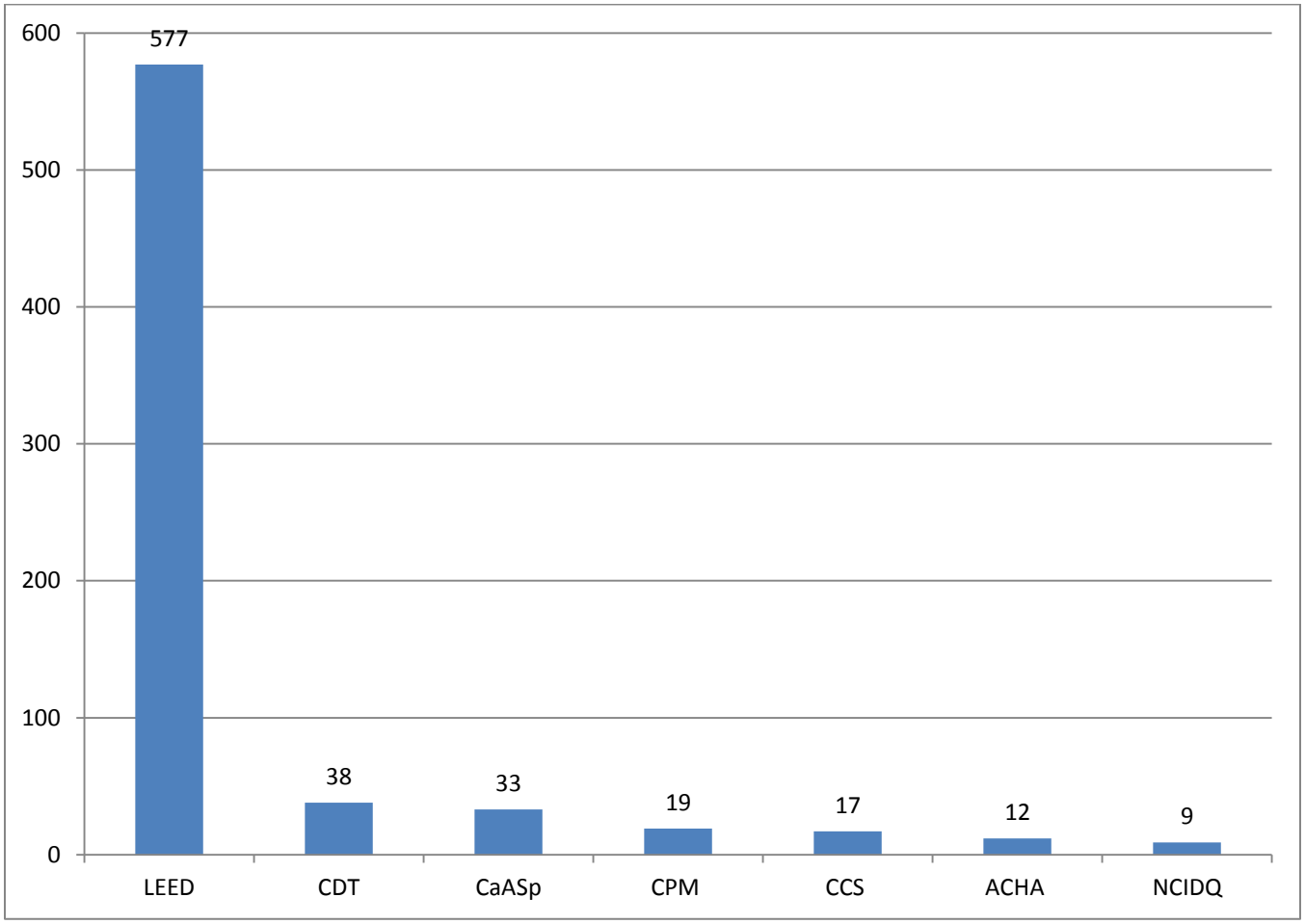


TABLE 11 – PERCENTAGE OF WORK PERFORMED IN/OUT OF STATE LAST FIVE YEARS

LOCATION OF WORK	N	PERCENT
California	1,502	89.8
Other States	650	15.1
International	497	11.7

NOTE: Percentage reported is average across endorsing respondents.

FIGURE 11 – PERCENTAGE OF WORK PERFORMED IN/OUT OF STATE LAST FIVE YEARS

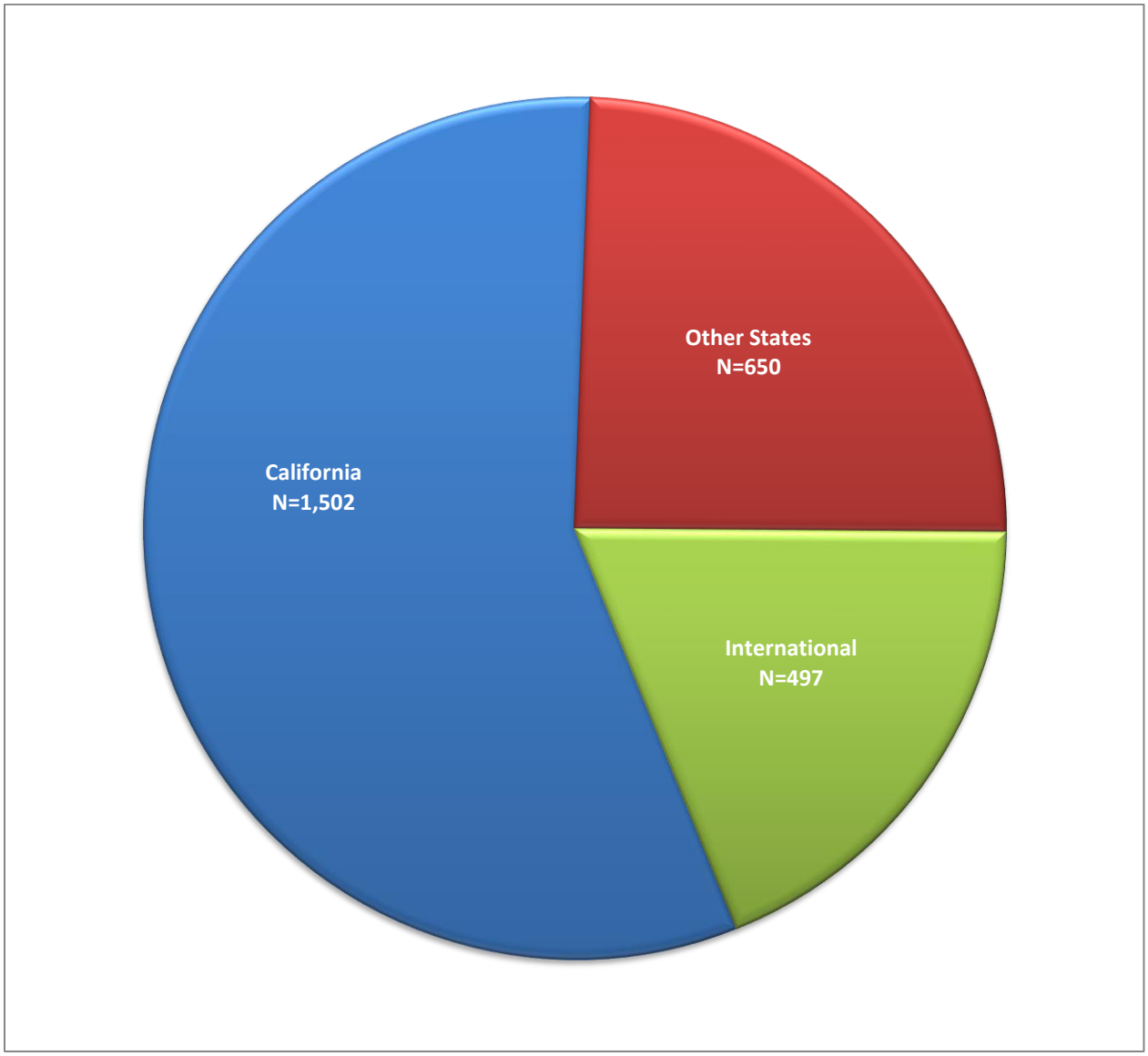


TABLE 12 – PERCENTAGE OF TIME SPENT ON PRINCIPAL WORK TASKS

WORK TASK	N	PERCENT
Construction documents	1,292	27.4
Design	1,289	17.7
Construction administration	1,282	14.2
Project management	1,200	17.8
Agency review/approval	1,178	10.3
Management/Administration	1,122	15.2
Programming/Pre-Design	1,043	8.7
QA/QC	824	6.6
Bid coordination	803	3.7
Specification writing	779	5.1
Post-occupancy services	543	2.1

NOTE: Percentage reported is average across respondents.

FIGURE 12 – PERCENTAGE OF TIME SPENT ON PRINCIPAL WORK TASKS

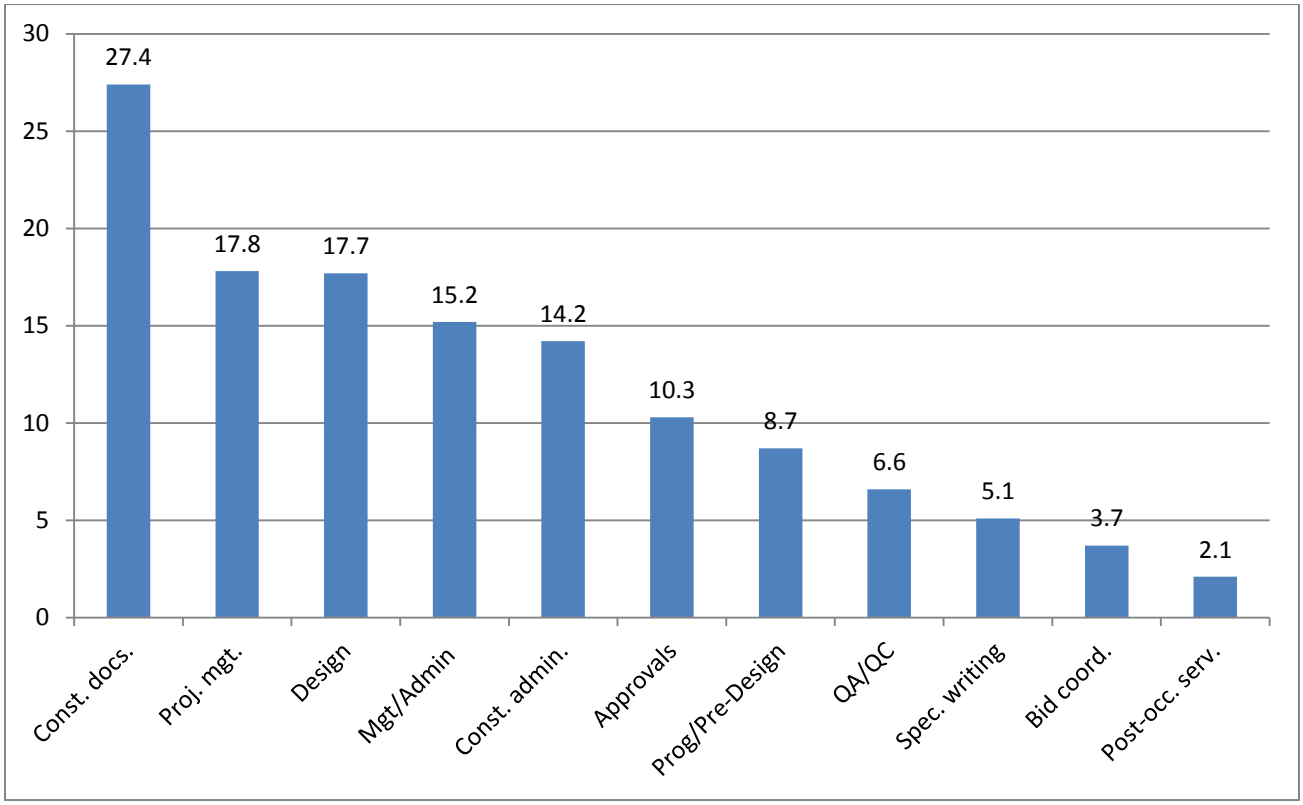


TABLE 13 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC CONSTRUCTION CONTRACT ARRANGEMENTS LAST FIVE YEARS

CONTRACT ARRANGEMENT	N	PERCENT
Design–Bid–Build	1,112	58.6
Guaranteed Max Price	957	45
Fee plus Cost	751	36.7
Construction Management at Risk	427	14.8
Multi-Prime	361	7.7

NOTE: Percentage reported is average across respondents.

FIGURE 13 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC CONSTRUCTION CONTRACT ARRANGEMENTS LAST FIVE YEARS

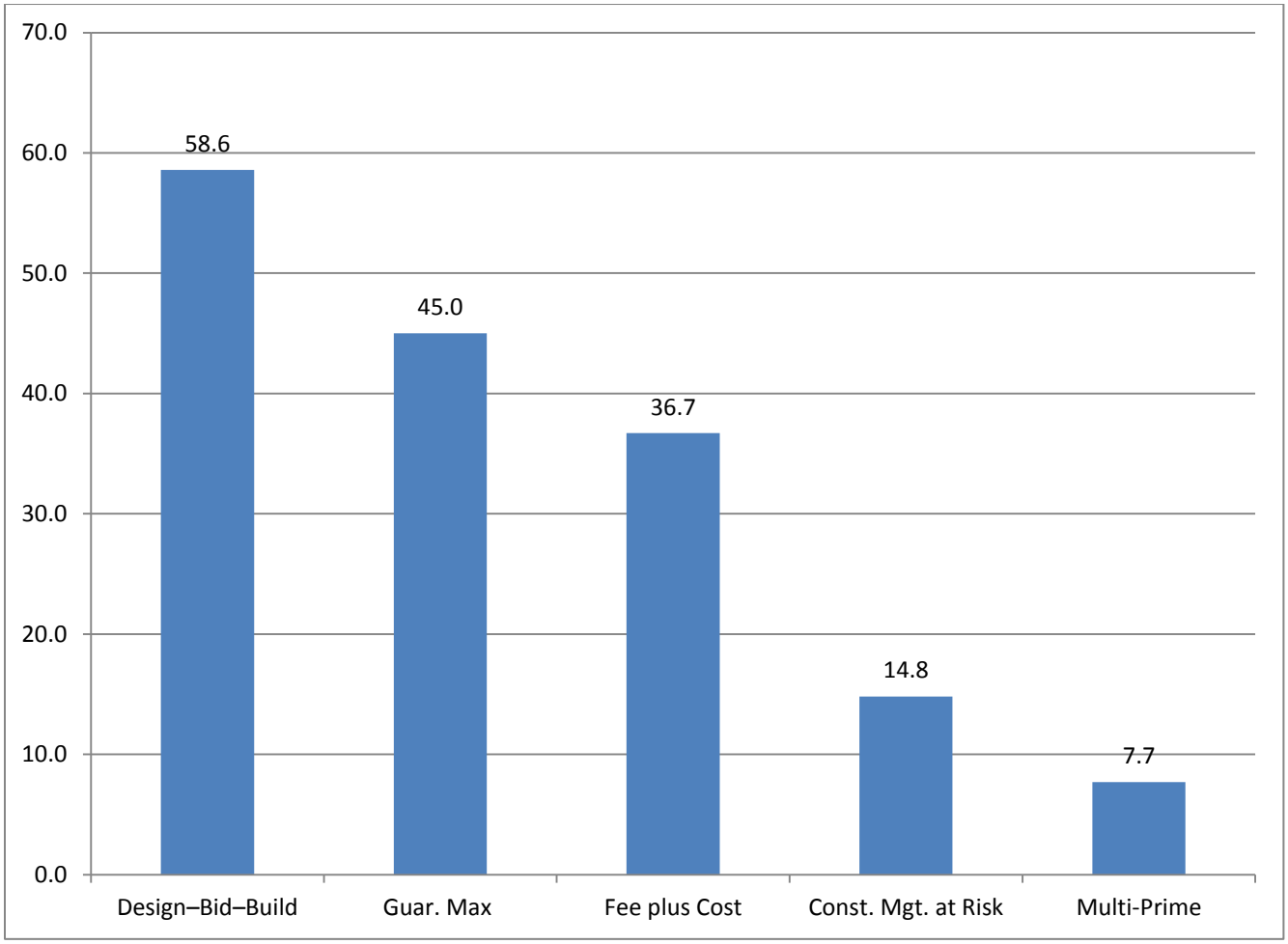


TABLE 14 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC PROJECT DELIVERY METHODS LAST FIVE YEARS

DELIVERY METHOD	N	PERCENT
Design–Bid–Build	1,238	61.5
Design–Build	725	32.1
Design–Owner Build	912	32
Integrated Project Delivery	491	19.2
Other	393	17.4
Public/Private Partnership	364	8.5

NOTE: Percentage reported is average across respondents.

FIGURE 14 – PERCENTAGE OF WORK PERFORMED USING SPECIFIC PROJECT DELIVERY METHODS LAST FIVE YEARS

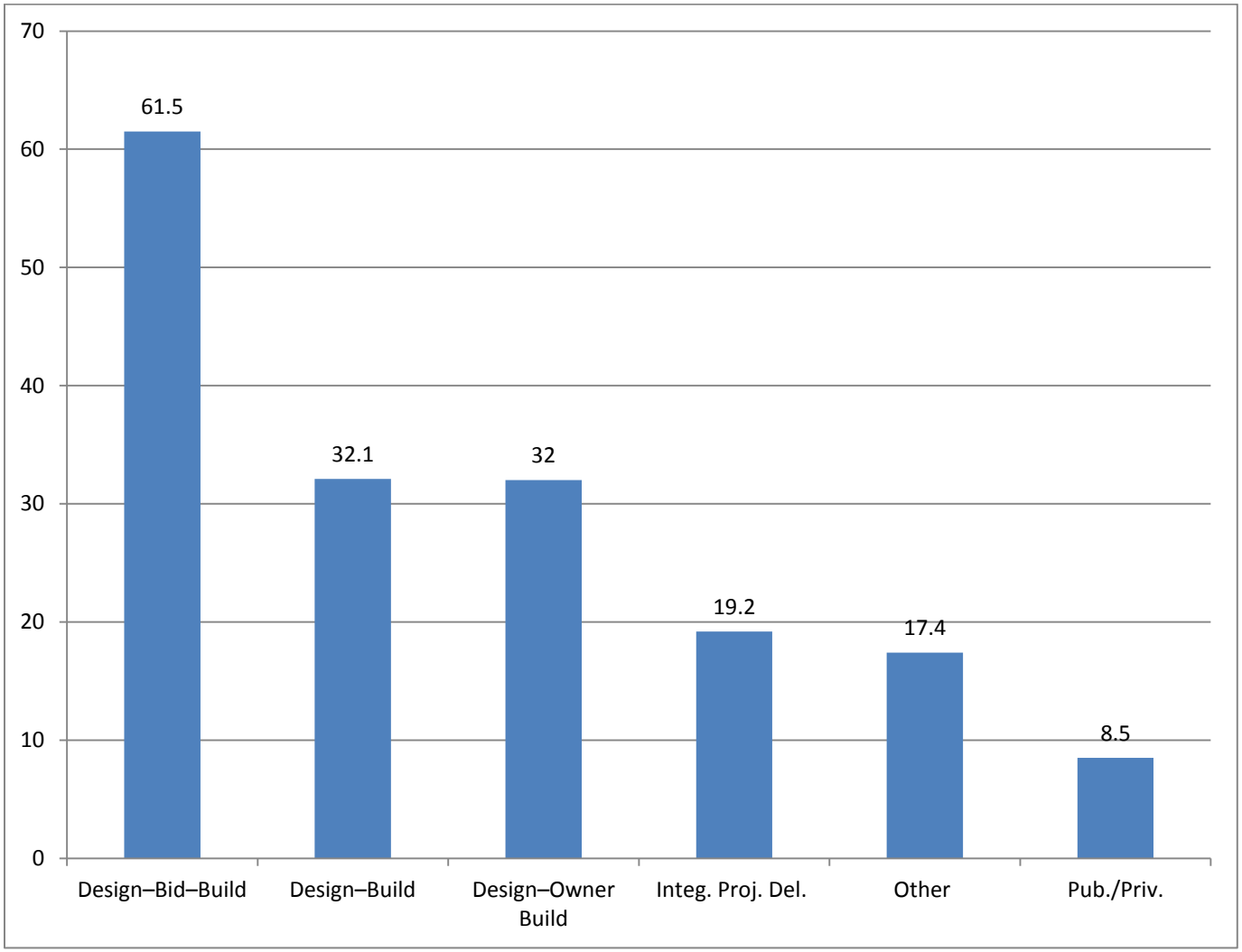


TABLE 15 – PERCENTAGE OF INFORMATION EXCHANGE USING ELECTRONIC DOCUMENTS

PARTY	N	PERCENT
Consultants	1,467	84.4
Contractors	1,437	70.5
Owners	1,418	69.2
Agency submittals	1,374	29.4

NOTE: Percentage reported is average across respondents for each Party.

FIGURE 15 – PERCENTAGE OF INFORMATION EXCHANGE USING ELECTRONIC DOCUMENTS

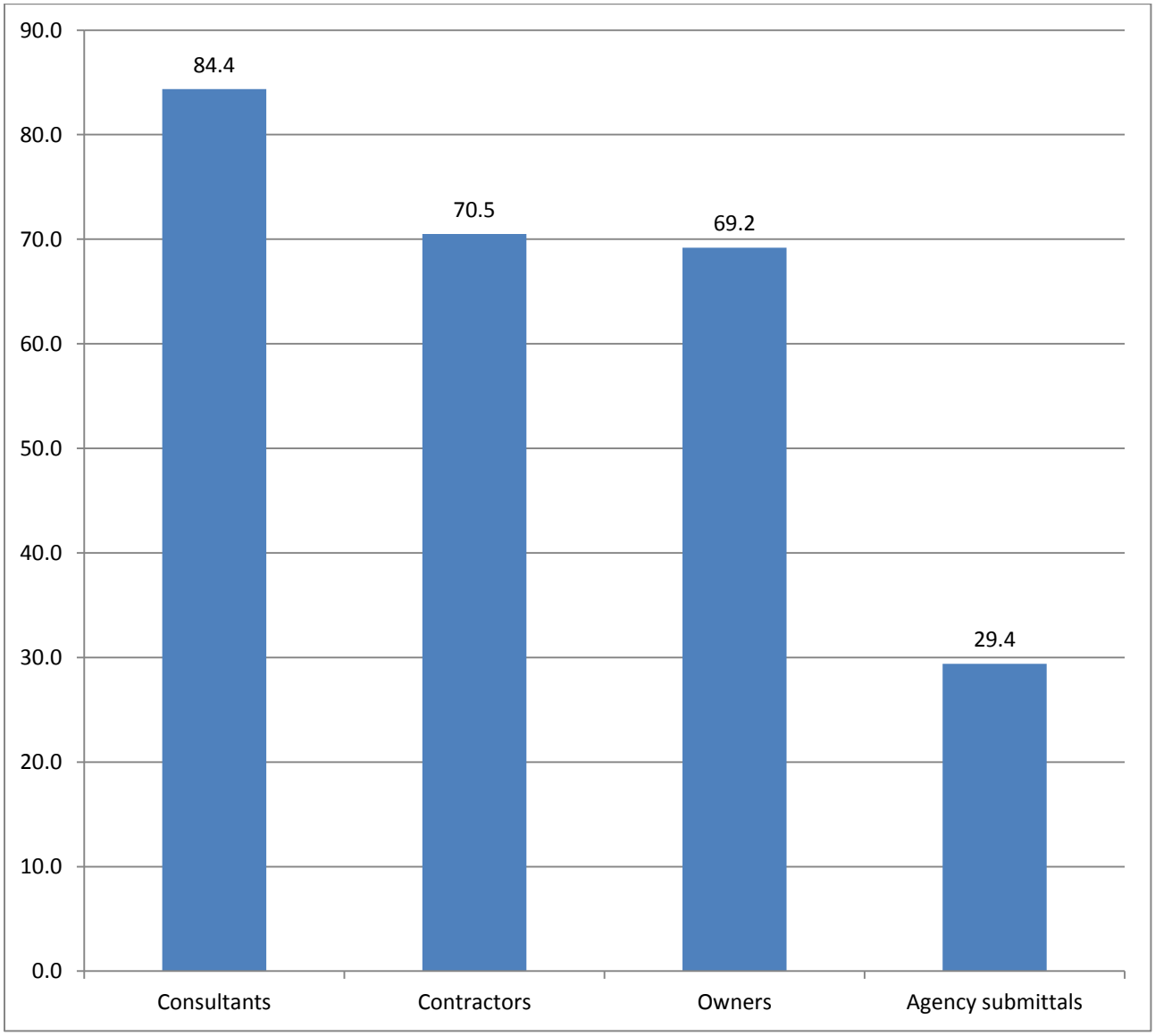
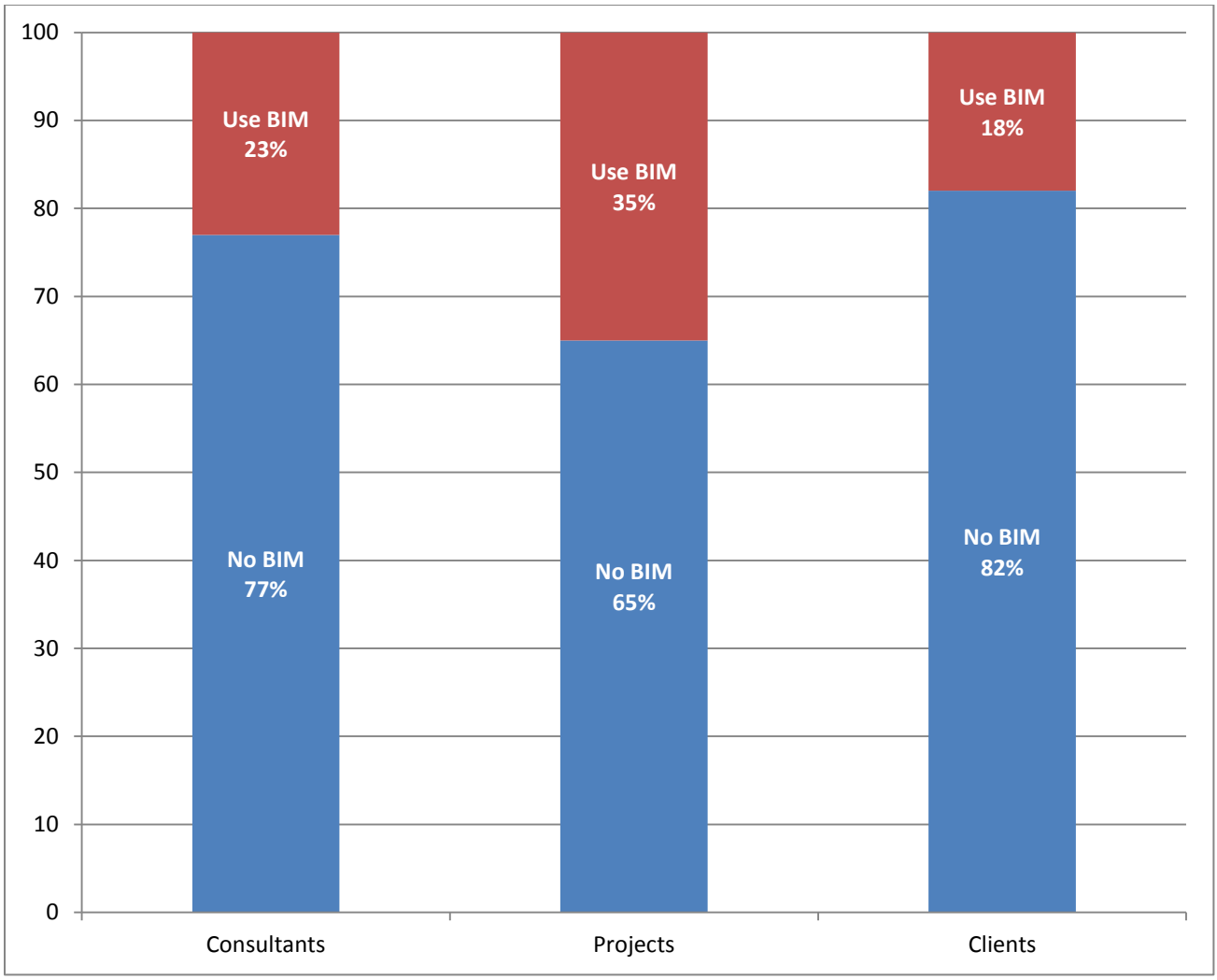


TABLE 16 – PERCENTAGE OF DESIGN TEAM CONSULTANTS, PROJECTS, AND CLIENTS USING BIM[1] LAST FIVE YEARS

	PERCENT BIM	PERCENT NO-BIM	N
Consultants	23	77	1,481
Projects	35	65	1,490
Clients	18	82	1,475

NOTE: Percentage reported is average across respondents for each category.

FIGURE 16 – PERCENTAGE OF DESIGN TEAM CONSULTANTS, PROJECTS, AND CLIENTS USING BIM LAST FIVE YEARS



[1] BIM: Building Information Modeling

TABLE 17 – CAPACITY IN WHICH ARCHITECT'S FIRM PERFORMS BIM FOR CONSULTANTS

	YES	NO	N
BIM as part of Architect's contract for project delivery?	37.2	62.8	1,446
BIM as an added services?	24.4	75.6	1,387

NOTE: Percentage reported is average across respondents for each category.

FIGURE 17 – CAPACITY IN WHICH ARCHITECT'S FIRM PERFORMS BIM FOR CONSULTANTS

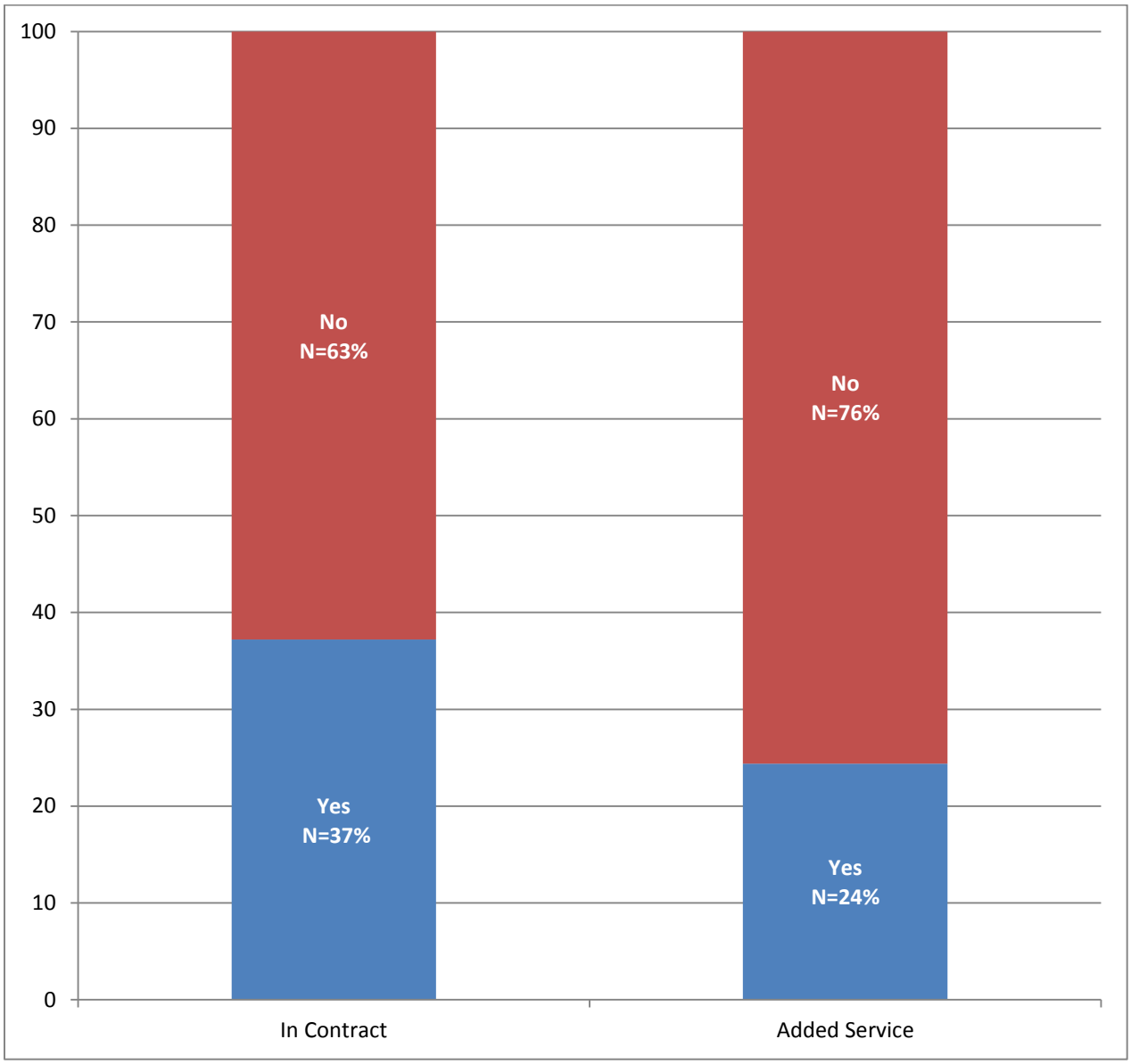


TABLE 18 – RESPONDENTS BY REGION

Region	Region Name	Frequency	Percent
1	Los Angeles and Vicinity	485	32.1
2	San Francisco Bay Area	527	34.9
3	San Joaquin Valley	59	3.9
4	Sacramento Valley	95	6.3
5	San Diego and Vicinity	128	8.5
6	Shasta/Cascade	5	0.3
7	Riverside-San Bernardino	42	2.8
8	Sierra Mountain	33	2.2
9	North Coast	46	3.0
10	South/Central Coast	84	5.6
	Missing	7	0.5
	Total	1,511	100

NOTE: Appendix A shows a more detailed breakdown of the frequencies by region.

CHAPTER 4. DATA ANALYSIS AND RESULTS

RELIABILITY OF RATINGS

The job task and knowledge ratings obtained by the questionnaire were evaluated with a standard index of reliability called coefficient alpha (α). Coefficient alpha is an estimate of the internal consistency of the respondents' ratings of job task and knowledge statements. Coefficients were calculated for all respondent ratings.

Table 19 displays the reliability coefficients for the task rating scales in each content area. The overall ratings of task frequency (α = .98) and task importance (α = .98) across content areas were highly reliable. Table 20 displays the reliability coefficients for the knowledge statements rating scale in each content area. The overall ratings of knowledge importance (α = .98) across content areas were highly reliable. These results indicate that the responding Architects rated the task and knowledge statements consistently throughout the questionnaire.

TABLE 19 – TASK SCALE RELIABILITY

CONTENT AREA		Number of Tasks	α Frequency	α Importance
I.	Contract Development / Project Planning	9	.891	.896
II.	Project Management	10	.914	.915
III.	Programming / Schematic Design	13	.920	.920
IV.	Design Development / Approvals	9	.906	.901
V.	Construction Documents / Permitting	7	.906	.903
VI.	Project Bidding and Construction	13	.944	.942
All Tasks		62	.979	.979

TABLE 20 – KNOWLEDGE SCALE RELIABILITY

CONTENT AREA		Number of Knowledge Statements	α Importance
I.	Contract Development / Project Planning	10	.873
II.	Project Management	10	.857
III.	Programming / Schematic Design	20	.930
IV.	Design Development / Approvals	14	.907
V.	Construction Documents / Permitting	10	.870
VI.	Project Bidding and Construction	18	.946
All Knowledge		82	.982

TASK CRITICAL VALUES

Two focus groups of licensed Architects were convened at OPES in September 2014 to review the average frequency and importance ratings, as well as the criticality indices of all task and knowledge statements. The purpose of these workshops was to identify the essential tasks and knowledge required for safe and effective Architect practice at the time of licensure. The licensees reviewed the frequency, importance, and criticality indices for all task statements.

In order to determine the critical values (criticality) of the task statements, the frequency rating (TFreqi) and the importance rating (TImpi) for each task were multiplied for each respondent, and the products averaged across respondents.

*Critical task index = mean [(*TFreqi*) X (*TImpi*)]*

The task statements were then ranked according to the task critical values. The task statements and their mean ratings and associated critical values are presented in Appendix B.

The first September 2014 focus group of SMEs evaluated the tasks' critical values based on the questionnaire results. OPES staff instructed the SMEs to identify a cutoff value of criticality in order to determine if any tasks did not have a high enough critical value to be retained. The SMEs determined that no cutoff value should be set, based on their view of the relative importance of all tasks to California Architect practice. The second September 2014 focus group of SMEs performed an independent review of the same data, and arrived at the same conclusion that no cutoff value should be set and that all tasks should be retained as part of the California Architect description of practice.

KNOWLEDGE IMPORTANCE RATINGS

In order to determine the importance of each knowledge, the mean importance rating for each knowledge statement (KImp) was calculated. The knowledge statements were then ranked according to mean importance. The knowledge statements and their importance ratings are presented in Appendix C.

The first September focus group of SMEs that evaluated the task critical values also reviewed the knowledge statement importance ratings and the relative importance of each knowledge to California Architect practice, Based on this review, the SMEs determined that no cutoff value should be established and that all knowledge statements should be retained. The second September focus group of SMEs independently reviewed the same data and arrived at the same conclusion, that no cutoff value should be set and that all knowledge statements should be retained as part of the California Architect description of practice. The California Architect description of practice is presented in Appendix D.

CHAPTER 5. EXAMINATION PLAN

CALIFORNIA-SPECIFIC PRACTICE

The first September 2014 focus group of SMEs reviewed the preliminary assignment of task and knowledge statements to content areas as developed for the OA questionnaire. They verified that the content areas were non-overlapping and described major areas of practice. The second September focus group of SMEs independently reviewed the preliminary assignment of task and knowledge statements to content areas and agreed with the first group that the content areas were non-overlapping and described major areas of practice. Both groups also determined that these content areas and their related tasks and knowledge were representative of the California Architect description of practice.

In addition to determining the California Architect description of practice, the two focus groups of SMEs were also charged with identifying the tasks and knowledge that best described California-specific practice. As part of this process, both groups of SMEs were provided information about the general content of the national examination for architects (the Architect Registration Examination, or ARE), which the Board requires all candidates for California licensure to have successfully passed before taking the State's licensure examination. The objective was to develop a stronger focus on California-specific practice while minimizing the content overlap between the national and California examinations.

The two groups of SMEs independently reviewed the tasks in each content area and identified those tasks that were descriptive of general Architect practice. These tasks were marked for possible deletion from the test plan. Each group of SMEs then identified the knowledge related to the tasks marked for removal. Those tasks that were linked to knowledge related to California-specific practice were retained. The tasks and their related knowledge that were not descriptive of California-specific practice were removed. Both groups of SMEs continued in this manner until all of the content areas had been reviewed. Once the second group of SMEs had completed this work, they were asked to review the results from the first group of SMES and to reconcile any differences through discussion. This reconciliation process resulted in the 32 tasks and 35 knowledge statements that the SMEs felt best reflected California-specific practice. The assignment of these tasks and their related knowledge to content areas was reviewed by the SMEs. The linkage between the tasks and knowledge was also reviewed and verified by the SMEs. The resulting content areas with their respective task and knowledge linkage form the content outline for the Architect California Supplemental Examination, and are presented in Table 22.

CONTENT AREAS AND WEIGHTS

In order for the second September 2014 group of SMEs to determine the relative weights of the content areas, initial calculations were performed by dividing the sum of the task critical values for a content area by the overall sum of the task critical values for all tasks, as shown below. The content area weights based on the task critical values are presented in Table 21.

$$\frac{\textit{Sum of Critical Values for Tasks in Content Area}}{\textit{Sum of Critical Values for All Tasks}} = \textit{Percent Weight of Content Area}$$

In reviewing the preliminary weights based solely on the task critical values (TCV Prelim. Wts.), the SMEs determined that these weights did not reflect the relative importance of the content areas to Architect practice in California. The SMEs were then presented with values based on the knowledge importance (KImp) ratings for each content area (KImp Prelim. Wts.). These values were calculated by dividing the sum of the knowledge importance for a content area by the overall sum of the knowledge importance ratings for all knowledge, as shown below. The content area weights based on the KImp values are presented in Table 21.

$$\frac{\textit{Sum of K(Imp) for Knowledge in Content Area}}{\textit{Sum of K(Imp) for All Knowledge}} = \textit{Percent Weight of Content Area}$$

In determining the final weighting of the content areas, the second September 2014 group of SMEs looked at the group of tasks and knowledge, the linkage between the tasks and knowledge, and the relative importance of the tasks and knowledge in each content area to Architect practice in California. The results of the SMEs evaluation are depicted in Table 21, below. The content outline for the Architect California Supplemental Examination is presented in Table 22.

TABLE 21 – CONTENT AREA WEIGHTS

Content Area		TCV Prelim. Wts.	KImp Prelim. Wts.	Final Weights
I.	General Practice	26.8	15.9	6
II.	Programming / Design	29.5	36.4	44
III.	Development / Documentation	20	35.6	40
IV.	Bidding and Construction	23.7	12.1	10
Total		100%	100%	100%

TABLE 22 – CONTENT OUTLINE: ARCHITECT CALIFORNIA SUPPLEMENTAL EXAMINATION

I. General Practice (6%): This area assesses the candidate's knowledge related to core areas of practice applicable across types of projects, construction contract arrangements, and project delivery methods.

Task Statement	Linked Knowledge
1 Advertise and solicit services in compliance with professional and legal requirements.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp).
3 Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise.	5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection).
4 Evaluate potential contractual risks and determine strategies to manage them.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp). 5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection). 9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.
5 Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp). 5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection). 9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.
6 Identify the local, State, and federal regulatory jurisdictions impacting project.	9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.

I. **General Practice** (continued)

Task Statement	Linked Knowledge
11 Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders).	13 Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client. 16 Knowledge of the architect's professional and contractual responsibilities related to the client.
13 Manage client expectations related to the contracted scope of work (e.g., milestones, decision points).	16 Knowledge of the architect's professional and contractual responsibilities related to the client.
16 Establish standards for addressing conflicts that arise during the design and construction process.	16 Knowledge of the architect's professional and contractual responsibilities related to the client.

II. Programming / Design (44%): This area assesses the candidate's ability to identify and evaluate site and project opportunities and constraints in developing design concepts that meet the client's, user's, and stakeholder's needs and applicable California regulations.

Task Statement	Linked Knowledge
20 Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements.	25 Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project. 26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations.
21 Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction.	25 Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project. 26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.

II. **Programming / Design** (continued)

Task Statement	Linked Knowledge
23 Provide consultants with program and background information to collaboratively develop the design concept.	26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.
25 Present project to community groups and other stakeholders for their input and feedback.	28 Knowledge of processes and procedures for obtaining discretionary approvals. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction.

II. **Programming / Design** (continued)

Task Statement	Linked Knowledge
28 Integrate sustainable design strategies and technologies into design.	25 Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project. 26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.
29 Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team.	26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 28 Knowledge of processes and procedures for obtaining discretionary approvals. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.

II. **Programming / Design** (continued)

Task Statement	Linked Knowledge
29 Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team.	36 Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction. 37 Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction.
30 Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals.	28 Knowledge of processes and procedures for obtaining discretionary approvals. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 37 Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction.
31 Work with agency staff to incorporate proposed conditions of discretionary approval into project documents.	28 Knowledge of processes and procedures for obtaining discretionary approvals. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust).

II. **Programming / Design** (continued)

Task Statement	Linked Knowledge
32 Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.	27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction. 36 Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction.

III. Development / Documentation (40%): This area assesses the candidate's knowledge regarding developing design solutions, managing a project team, and preparing design and construction drawings and documents in conformance with the project program and applicable California regulations.

Task Statement	Linked Knowledge
34 Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants.	41 Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design. 42 Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction.
35 Lead the project team in the integration of the regulatory requirements into the design development documents.	49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases.

III. Development / Documentation (continued)

Task Statement	Linked Knowledge
36 Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements.	51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.
39 Analyze and integrate the selection of sustainable design strategies and technologies into the design.	41 Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design. 42 Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design. 49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC).
46 Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations.	49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction.

III. Development / Documentation (continued)

Task Statement	Linked Knowledge
46 Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations.	61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings). 62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.
48 Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.	49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases. 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction. 61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings). 62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal). 63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

III. Development / Documentation (continued)

Task Statement	Linked Knowledge
42 Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors.	49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases. 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction. 61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings). 62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal). 63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

IV. Bidding / Construction (10%): This area assesses the candidate's knowledge related to California regulations associated with project bidding, construction, and post-construction activities.

Task Statement	Linked Knowledge
49 Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda).	67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects.
50 Assist client in selecting contractors and negotiating construction contracts.	67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects.
51 Prepare bid documents appropriate to the selected delivery method.	67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects
54 Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases).	68 Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities.
55 Review test, inspection, observation schedules, programs and reports for conformance with construction documents.	78 Knowledge of code-required special inspections and testing (e.g., field welding, high-strength concrete). 79 Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.
56 Review shop drawings and submittals during construction for conformance with design intent.	79 Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.
60 Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract.	68 Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities. 77 Knowledge of the California construction laws related to minimum warranty periods.
62 Assist owner with resolving post-occupancy issues (e.g., evaluation of building performance, warranty issues).	77 Knowledge of the California construction laws related to minimum warranty periods.

CHAPTER 6. CONCLUSION

The occupational analysis of the Architect profession described in this report provides a comprehensive description of current practice in California. The procedures employed to perform the occupational analysis were based upon a content validation strategy to ensure that the results accurately represent the practice of Architects. Results of this occupational analysis provide information regarding current practice that can be used to make job-related decisions regarding professional licensure.

By adopting the Architect Content Outline contained in this report, the Board ensures that its examination program reflects current practice.

This report provides all documentation necessary to verify that the analysis has been implemented in accordance with legal, professional, and technical standards.

APPENDIX A. RESPONDENTS BY REGION

LOS ANGELES AND VICINITY

County of Practice	Frequency
Los Angeles	350
Orange	135
TOTAL	485

SAN FRANCISCO BAY AREA

County of Practice	Frequency
Alameda	106
Contra Costa	32
Marin	33
Napa	5
San Francisco	221
San Mateo	34
Santa Clara	81
Santa Cruz	9
Solano	6
TOTAL	527

SAN JOAQUIN VALLEY

County of Practice	Frequency
Calaveras	2
Fresno	21
Kern	10
Mariposa	1
Madera	4
Merced	2
San Joaquin	10
Stanislaus	6
Tulare	3
TOTAL	59

SACRAMENTO VALLEY

County of Practice	Frequency
Butte	3
Lake	1
Sacramento	81
Sutter	1
Yolo	9
TOTAL	95

SAN DIEGO AND VICINITY

County of Practice	Frequency
San Diego	127
Inyo	1
TOTAL	128

SHASTA/CASCADE

County of Practice	Frequency
Shasta	5
TOTAL	5

RIVERSIDE – SAN BERNARDINO

County of Practice	Frequency
Riverside	24
San Bernardino	18
TOTAL	42

SIERRA MOUNTAIN

County of Practice	Frequency
Nevada	7
Placer	17
El Dorado	9
TOTAL	33

NORTH COAST

County of Practice	Frequency
Del Norte	1
Humboldt	4
Mendocino	6
Sonoma	35
TOTAL	46

SOUTH/CENTRAL COAST

County of Practice	Frequency
Monterey	14
San Luis Obispo	25
Santa Barbara	21
San Benito	1
Ventura	23
TOTAL	84

APPENDIX B. CRITICALITY INDICES FOR ALL TASKS

Task Num	Task Statement	Average Task Freq.	Average Task Impt.	Task Crit. Value
1	Advertise and solicit services in compliance with professional and legal requirements.	1.61	2.76	5.49
2	Evaluate the project's opportunities and constraints for alignment with client goals and requirements.	3.51	4.00	10.06
3	Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise.	3.09	3.69	14.89
4	Evaluate potential contractual risks and determine strategies to manage them.	2.78	3.68	12.93
5	Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement.	3.13	3.89	12.35
6	Identify the local, State, and federal regulatory jurisdictions impacting project.	3.76	4.11	10.99
7	Identify the project team members (e.g., architects, engineers, specialty consultants) and who is responsible for the contracting, management, and coordination of each member.	3.19	3.60	11.24
8	Collaborate with client to determine the specific roles and responsibilities of project participants (e.g., owner's representative, architect, contractor, construction manager).	2.67	3.23	11.99
9	Solicit the consultants to be contracted under the architect and evaluate their qualifications and scope of services based on project requirements.	2.72	3.38	13.06
10	Implement strategies for managing contractual risk (QA/QC, peer review).	2.34	3.35	15.19
11	Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders).	2.79	3.36	16.23
12	Implement strategies to control risk and manage liability for the client (e.g., due diligence, accessibility).	2.88	3.53	13.54
13	Manage client expectations related to the contracted scope of work (e.g., milestones, decision points**)**.	3.26	3.71	12.26
14	Manage the distribution and review of documents for project coordination.	3.38	3.66	10.21
15	Establish documentation standards for the design team to support consistency and coordination.	2.70	3.34	9.54
16	Establish standards for addressing conflicts that arise during the design and construction process.	2.41	3.20	9.36
17	Conduct periodic progress meetings with design and project team to identify potential issues in work processes or team communication and develop plans to address the issues.	2.92	3.47	10.10
18	Review and update construction cost estimates as required by contract.	2.01	3.23	8.36

Task Num	Task Statement	Average Task Freq.	Average Task Impt.	Task Crit. Value
19	Manage the design team's fees, deliverables, and schedules to conform to contract.	2.71	3.57	8.82
20	Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements.	2.46	3.42	10.11
21	Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction.	3.25	3.76	10.34
22	Review program with client to validate project requirements and gain approval to proceed.	3.25	3.90	10.36
23	Provide consultants with program and background information to collaboratively develop the design concept.	3.01	3.52	11.17
24	Develop the project program using multiple approaches (e.g., surveys, interviews) to identify and evaluate user needs.	1.93	2.97	12.10
25	Present project to community groups and other stakeholders for their input and feedback.	1.88	3.03	12.79
26	Prepare models, renderings, sketches, etc., to help communicate project designs.	2.94	3.52	12.86
27	Present schematic design documents that meet program requirements to client to obtain client's input and approval.	3.39	3.95	13.06
28	Integrate sustainable design strategies and technologies into design.	2.83	3.14	10.40
29	Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team.	3.57	3.98	9.82
30	Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals.	2.96	3.76	8.66
31	Work with agency staff to incorporate proposed conditions of discretionary approval into project documents.	2.71	3.56	8.53
32	Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.	3.53	4.08	10.02
33	Lead the preparation of design development documents that integrate the architectural design and engineered building systems.	3.29	3.91	11.01
34	Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants.	3.14	3.77	7.42
35	Lead the project team in the integration of the regulatory requirements into the design development documents.	3.13	3.82	7.16
36	Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements.	3.30	3.72	8.97

Task Num	Task Statement	Average Task Freq.	Average Task Impt.	Task Crit. Value
37	Perform value engineering and life-cycle cost analyses to advise owner about approaches for managing project costs.	2.02	2.88	10.43
38	Review design development documents with client for compliance with project requirements and to gain approval to proceed.	3.19	3.78	9.10
39	Analyze and integrate the selection of sustainable design strategies and technologies into the design.	2.45	2.95	9.29
40	Incorporate final conditions of discretionary approval into project documents.	2.87	3.69	11.68
41	Conduct constructability review of Design Development documents.	2.47	3.39	12.93
42	Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors.	3.51	4.19	12.83
43	Modify construction documents based on changes in cost estimates including developing bidding alternates for client to consider.	2.51	3.29	13.32
44	Manage distribution and review of documents during the construction document and permit phases.	3.06	3.39	12.13
45	Prepare construction documents that meet program requirements and project goals, and present to client for approval.	3.31	3.99	11.33
46	Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations.	3.34	4.06	7.21
47	Perform a detailed review of construction documents for constructability and incorporate changes into final documents.	2.94	3.73	6.59
48	Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.	3.30	3.88	6.03
49	Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda).	2.47	3.13	6.32
50	Assist client in selecting contractors and negotiating construction contracts.	2.20	3.06	9.05
51	Prepare bid documents appropriate to the selected delivery method.	2.54	3.45	11.36
52	Manage the initiation/processing of documents to record construction changes (e.g., Construction Change Directives, Architect's Supplemental Instructions, Change Orders).	2.61	3.41	12.62
53	Participate in pre-construction and pre-installation meetings with contractor as required by the contract documents.	2.61	3.20	14.12
54	Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases).	2.17	3.10	11.51

Task Num	Task Statement	Average Task Freq.	Average Task Impt.	Task Crit. Value
55	Review test, inspection, observation schedules, programs and reports for conformance with construction documents.	2.22	3.07	9.71
56	Review shop drawings and submittals during construction for conformance with design intent.	3.00	3.72	11.57
57	Conduct periodic site observations/field reports to confirm that construction is in general conformance with contract documents.	3.07	3.69	14.90
58	Respond to contractor Requests for Information.	3.34	3.91	12.23
59	Assist client with evaluating possible changes to the project during construction (e.g., cost, scope, schedule, quality).	2.81	3.42	11.86
60	Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract	2.18	3.15	10.85
61	Conduct post-construction services (e.g., post-occupancy evaluations, extended commissioning, record drawings) per contract.	1.38	2.45	10.48
62	Assist owner with resolving post-occupancy issues, (e.g., evaluation of building performance, warranty issues).	1.41	3.01	13.16

APPENDIX C. KNOWLEDGE IMPORTANCE RATINGS

K Num	Knowledge Statement	Mean KImp
1	Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp).	3.48
2	Knowledge of different project delivery methods and the architect's and project team's corresponding roles and responsibilities (e.g., to client, as part of team).	3.19
3	Knowledge of options for tailoring architectural services to meet the client and project needs.	3.37
4	Knowledge of types of contracts and their application to the scope of work and the project's service requirements (client, consultant, etc.).	3.23
5	Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection).	3.70
6	Knowledge of consultants (e.g., civil, structural, MEP, geotechnical), the services they provide, and their applications to meeting project requirements.	3.82
7	Knowledge of methods for evaluating own/firm's capabilities and capacities in relation to project requirements.	3.57
8	Knowledge of approaches for increasing the capability and/or capacity of the architect/firm to meet project requirements.	3.20
9	Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.	3.84
10	Knowledge of methods for evaluating client goals and resources in order to identify/define the preliminary project requirements, budget, and schedule.	3.66
11	Knowledge of procedures and standard practices for documenting contractual milestones (e.g., decisions, changes, approvals).	3.37
12	Knowledge of methods and techniques for communicating with client, project team, contractors, agencies, and stakeholders (e.g., meetings, emails, letters, minutes, transmittals, phone logs, visual aids).	3.68
13	Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client.	3.79
14	Knowledge of methods and techniques for using technological resources (e.g., BIM/CAD, imaging software, web-based applications) to support communication with client and team.	3.22
15	Knowledge of the architect's role and responsibilities in orchestrating the architect's consultants and the entire project team.	3.84
16	Knowledge of the architect's professional and contractual responsibilities related to the client.	4.05
17	Knowledge of methods for controlling project costs (e.g., value engineering, life-cycle costing, cost estimating).	3.21

K Num	Knowledge Statement	Mean KImp
18	Knowledge of procedures for preparing and monitoring the project budget including hard and soft costs.	3.05
19	Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.	3.24
20	Knowledge of methods and techniques for resolving conflicts that occur during design and construction.	3.74
21	Knowledge of methods, techniques, and procedures for conducting predesign services (e.g., programming, feasibility studies, site analysis).	3.28
22	Knowledge of methods for evaluating and finalizing the program to determine feasibility and conformance to client's project requirements.	3.36
23	Knowledge of methods for developing design solutions with the involvement of client, users, consultants, and stakeholders.	3.61
24	Knowledge of methods and procedures for developing the schematic design deliverables.	3.46
25	Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project.	3.47
26	Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction.	3.28
27	Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations.	3.61
28	Knowledge of processes and procedures for obtaining discretionary approvals.	3.49
29	Knowledge of processes and procedures for compliance with local codes and ordinances related to design.	4.12
30	Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction.	3.13
31	Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction.	2.76
32	Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust).	2.56
33	Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc.	3.19
34	Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes.	3.74

K Num	Knowledge Statement	Mean KImp
35	Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.	3.98
36	Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction.	3.14
37	Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction.	2.70
38	Knowledge of the Americans with Disabilities Act (ADA) with regard to how it impacts architectural practice (e.g., client and architect responsibilities, design, construction).	4.19
39	Knowledge of national standards (e.g., UL, ANSI, ASTM, Factory Mutual) relevant to design and construction.	2.77
40	Knowledge of methods and procedures for incorporating sustainable design strategies and technologies into design and construction.	3.04
41	Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design.	3.79
42	Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design.	3.42
43	Knowledge of methods for incorporating sustainable design (e.g., energy conservation, resource management, indoor air quality) into project design and construction.	3.15
44	Knowledge of methods for identifying and evaluating the implications of special conditions (e.g., based on loading, soils, uses) on design and construction.	3.22
45	Knowledge of contents of design drawings and related documents required for agency approvals**.**	3.98
46	Knowledge of architect's role and responsibilities in leading project team in order to obtain necessary agency approvals at the appropriate time.	3.88
47	Knowledge of methods for analyzing initial and life-cycle costs to select materials and systems for project.	2.52
48	Knowledge of methods for performing a QA/QC review of Design Development documents including constructability.	3.21
49	Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc.	2.82
50	Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc.	3.17

K Num	Knowledge Statement	Mean KImp
51	Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC).	3.81
52	Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc.	3.85
53	Knowledge of methods and procedures for demonstrating design compliance with federal laws and authorities: ADA, Army Corps of Engineers, FAA, etc.	3.51
54	Knowledge of methods and procedures for demonstrating design compliance with National Standards: NFPA, ASTM, etc.	2.77
55	Knowledge of methods for performing a QA/QC review of construction docs including constructability, code compliance, etc.	3.38
56	Knowledge of the architect's role in reconciling client's budget with probable construction costs.	3.28
57	Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases.	3.34
58	Knowledge of methods and procedures for presenting contract documents to client for approval.	3.45
59	Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction.	4.06
60	Knowledge of methods for the detailed integration of building systems (e.g., clash detection, interdisciplinary overlays).	3.35
61	Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings).	3.24
62	Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal).	3.85
63	Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).	3.49
64	Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.	3.39
65	Knowledge of methods and procedures for preparing bidding documents based on project funding source (private/public) and delivery method.	3.06
66	Knowledge of architect's role and responsibilities related to construction bidding and negotiation processes.	3.11

K Num	Knowledge Statement	Mean KImp
67	Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects.	2.83
68	Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities.	2.85
69	Knowledge of the limits of the architect's role and responsibilities during construction (e.g., directing subcontractors, means and methods).	3.65
70	Knowledge of the interrelationships and responsibilities between the owner, architect, and contractor during construction.	3.85
71	Knowledge of methods for resolving conflicts that occur during construction (e.g., mediation, arbitration, litigation).	3.15
72	Knowledge of methods and procedures for developing and reviewing the contract documents package.	3.60
73	Knowledge of procedures for determining general conformance of construction with contract documents (e.g., observation, submittal reviews, RFIs).	3.69
74	Knowledge of methods and procedures for implementing changes during construction (e.g., Architect's Supplemental Instructions, Change Orders).	3.57
75	Knowledge of procedures for monitoring construction costs and schedules (e.g., reviewing and certifying payments to contractor, reviewing lien releases).	3.06
76	Knowledge of procedures for performing project close-out (e.g., Certificate of Substantial Completion, Notice of Completion, final lien releases).	3.05
77	Knowledge of the California construction laws related to minimum warranty periods.	2.56
78	Knowledge of code-required special inspections and testing (e.g., field welding, high-strength concrete).	2.85
79	Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.	3.17
80	Knowledge of the architect's role and responsibilities in providing contract administration services based on the client-architect agreement.	3.46
81	Knowledge of post-construction services (e.g., extended building commissioning, record document preparation, operational and maintenance programming, facilities management, post-occupancy evaluation).	2.53
82	Knowledge of the architect's role and responsibilities to client regarding changes to project during construction (e.g., cost, scope, schedule, quality).	3.53

APPENDIX D. ARCHITECT DESCRIPTION OF PRACTICE

CALIFORNIA ARCHITECT DESCRIPTION OF PRACTICE

I. Contract Development / Project Planning

Task Statements	Knowledge Statements
1 Advertise and solicit services in compliance with professional and legal requirements. 2 Evaluate the project's opportunities and constraints for alignment with client goals and requirements. 3 Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise. 4 Evaluate potential contractual risks and determine strategies to manage them. 5 Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement. 6 Identify the local, State, and federal regulatory jurisdictions impacting project. 7 Identify the project team members (e.g., architects, engineers, specialty consultants) and who is responsible for the contracting, management, and coordination of each member. 8 Collaborate with client to determine the specific roles and responsibilities of project participants (e.g., owner's representative, architect, contractor, construction manager). 9 Solicit the consultants to be contracted under the architect and evaluate their qualifications and scope of services based on project requirements.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp). 2 Knowledge of different project delivery methods and the architect's and project team's corresponding roles and responsibilities (e.g., to client, as part of team). 3 Knowledge of options for tailoring architectural services to meet the client and project needs. 4 Knowledge of types of contracts and their application to the scope of work and the project's service requirements (client, consultant, etc.). 5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection). 6 Knowledge of consultants (e.g., civil, structural, MEP, geotechnical), the services they provide, and their applications to meeting project requirements. 7 Knowledge of methods for evaluating own/firm's capabilities and capacities in relation to project requirements. 8 Knowledge of approaches for increasing the capability and/or capacity of the architect/firm to meet project requirements. 9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements. 10 Knowledge of methods for evaluating client goals and resources in order to identify/define the preliminary project requirements, budget, and schedule.

II. Project Management

Task Statements	Knowledge Statements
10 Implement strategies for managing contractual risk (QA/QC, peer review). 11 Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders). 12 Implement strategies to control risk and manage liability for the client (e.g., due diligence, accessibility). 13 Manage client expectations related to the contracted scope of work (e.g., milestones, decision points**)**. 14 Manage the distribution and review of documents for project coordination. 15 Establish documentation standards for the design team to support consistency and coordination. 16 Establish standards for addressing conflicts that arise during the design and construction process. 17 Conduct periodic progress meetings with design and project team to identify potential issues in work processes or team communication and develop plans to address the issues. 18 Review and update construction cost estimates as required by contract. 19 Manage the design team's fees, deliverables, and schedules to conform to contract.	11 Knowledge of procedures and standard practices for documenting contractual milestones (e.g., decisions, changes, approvals). 12 Knowledge of methods and techniques for communicating with client, project team, contractors, agencies, and stakeholders (e.g., meetings, emails, letters, minutes, transmittals, phone logs, visual aids). 13 Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client. 14 Knowledge of methods and techniques for using technological resources (e.g., BIM/CAD, imaging software, web-based applications) to support communication with client and team. 15 Knowledge of the architect's role and responsibilities in orchestrating the architect's consultants and the entire project team. 16 Knowledge of the architect's professional and contractual responsibilities related to the client. 17 Knowledge of methods for controlling project costs (e.g., value engineering, life-cycle costing, cost estimating). 18 Knowledge of procedures for preparing and monitoring the project budget including hard and soft costs. 19 Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services. 20 Knowledge of methods and techniques for resolving conflicts that occur during design and construction.

III. Programming / Schematic Design

Task Statements	Knowledge Statements
20 Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements. 21 Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction. 22 Review program with client to validate project requirements and gain approval to proceed. 23 Provide consultants with program and background information to collaboratively develop the design concept. 24 Develop the project program using multiple approaches (e.g., surveys, interviews) to identify and evaluate user needs. 25 Present project to community groups and other stakeholders for their input and feedback. 26 Prepare models, renderings, sketches, etc., to help communicate project designs. 27 Present schematic design documents that meet program requirements to client to obtain client's input and approval. 28 Integrate sustainable design strategies and technologies into design. 29 Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team. 30 Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals. 31 Work with agency staff to incorporate proposed conditions of discretionary approval into project documents.	21 Knowledge of methods, techniques, and procedures for conducting predesign services (e.g., programming, feasibility studies, site analysis). 22 Knowledge of methods for evaluating and finalizing the program to determine feasibility and conformance to client's project requirements. 23 Knowledge of methods for developing design solutions with the involvement of client, users, consultants, and stakeholders. 24 Knowledge of methods and procedures for developing the schematic design deliverables. 25 Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project. 26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations. 28 Knowledge of processes and procedures for obtaining discretionary approvals. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction.

III. Programming / Schematic Design (continued)

Task Statements	Knowledge Statements
32 Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.	32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes. 35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction. 36 Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction. 37 Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction. 38 Knowledge of the Americans with Disabilities Act (ADA) with regard to how it impacts architectural practice (e.g., client and architect responsibilities, design, construction). 39 Knowledge of national standards (e.g., UL, ANSI, ASTM, Factory Mutual) relevant to design and construction. 40 Knowledge of methods and procedures for incorporating sustainable design strategies and technologies into design and construction.

IV. Design Development / Approvals

Task Statements	Knowledge Statements
33 Lead the preparation of design development documents that integrate the architectural design and engineered building systems. 34 Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants. 35 Lead the project team in the integration of the regulatory requirements into the design development documents. 36 Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements. 37 Perform value engineering and life-cycle cost analyses to advise owner about approaches for managing project costs. 38 Review design development documents with client for compliance with project requirements and to gain approval to proceed. 39 Analyze and integrate the selection of sustainable design strategies and technologies into the design. 40 Incorporate final conditions of discretionary approval into project documents. 41 Conduct constructability review of Design Development documents.	41 Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design. 42 Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design. 43 Knowledge of methods for incorporating sustainable design (e.g., energy conservation, resource management, indoor air quality) into project design and construction. 44 Knowledge of methods for identifying and evaluating the implications of special conditions (e.g., based on loading, soils, uses) on design and construction. 45 Knowledge of contents of design drawings and related documents required for agency approvals. 46 Knowledge of architect's role and responsibilities in leading project team in order to obtain necessary agency approvals at the appropriate time. 47 Knowledge of methods for analyzing initial and life-cycle costs to select materials and systems for project. 48 Knowledge of methods for performing a QA/QC review of Design Development documents including constructability. 49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc.

IV. Design Development / Approvals (continued)

Task Statements	Knowledge Statements
	50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 53 Knowledge of methods and procedures for demonstrating design compliance with federal laws and authorities: ADA, Army Corps of Engineers, FAA, etc. 54 Knowledge of methods and procedures for demonstrating design compliance with National Standards: NFPA, ASTM, etc.

V. Construction Documents / Permitting

Task Statements	Knowledge Statements
42 Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors. 43 Modify construction documents based on changes in cost estimates including developing bidding alternates for client to consider. 44 Manage distribution and review of documents during the construction document and permit phases. 45 Prepare construction documents that meet program requirements and project goals, and present to client for approval. 46 Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations. 47 Perform a detailed review of construction documents for constructability and incorporate changes into final documents. 48 Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.	55 Knowledge of methods for performing a QA/QC review of construction documents including constructability, code compliance, etc. 56 Knowledge of the architect's role in reconciling client's budget with probable construction costs. 57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases. 58 Knowledge of methods and procedures for presenting contract documents to client for approval. 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction. 60 Knowledge of methods for the detailed integration of building systems (e.g., clash detection, interdisciplinary overlays). 61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings). 62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal). 63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

VI. Project Bidding and Construction

Task Statements	Knowledge Statements
49 Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda). 50 Assist client in selecting contractors and negotiating construction contracts. 51 Prepare bid documents appropriate to the selected delivery method. 52 Manage the initiation/processing of documents to record construction changes (e.g., Construction Change Directives, Architect's Supplemental Instructions, Change Orders). 53 Participate in pre-construction and pre-installation meetings with contractor as required by the contract documents. 54 Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases). 55 Review test, inspection, observation schedules, programs and reports for conformance with construction documents. 56 Review shop drawings and submittals during construction for conformance with design intent. 57 Conduct periodic site observations/field reports to confirm that construction is in general conformance with contract documents. 58 Respond to contractor Requests for Information. 59 Assist client with evaluating possible changes to the project during construction (e.g., cost, scope, schedule, quality). 60 Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract 61 Conduct post-construction services (e.g., post-occupancy evaluations, extended commissioning, record drawings) per contract.	65 Knowledge of methods and procedures for preparing bidding documents based on project funding source (private/public) and delivery method. 66 Knowledge of architect's role and responsibilities related to construction bidding and negotiation processes. 67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects. 68 Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities. 69 Knowledge of the limits of the architect's role and responsibilities during construction (e.g., directing subcontractors, means and methods). 70 Knowledge of the interrelationships and responsibilities between the owner, architect, and contractor during construction. 71 Knowledge of methods for resolving conflicts that occur during construction (e.g., mediation, arbitration, litigation). 72 Knowledge of methods and procedures for developing and reviewing the contract documents package. 73 Knowledge of procedures for determining general conformance of construction with contract documents (e.g., observation, submittal reviews, RFIs). 74 Knowledge of methods and procedures for implementing changes during construction (e.g., Architect's Supplemental Instructions, Change Orders). 75 Knowledge of procedures for monitoring construction costs and schedules (e.g., reviewing and certifying payments to contractor, reviewing lien releases).

VI. Project Bidding and Construction (continued)

Task Statements	Knowledge Statements
62 Assist owner with resolving post-occupancy issues, (e.g., evaluation of building performance, warranty issues).	76 Knowledge of procedures for performing project close-out (e.g., Certificate of Substantial Completion, Notice of Completion, final lien releases). 77 Knowledge of the California construction laws related to minimum warranty periods. 78 Knowledge of code-required special inspections and testing (e.g., field welding, high-strength concrete). 79 Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings. 80 Knowledge of the architect's role and responsibilities in providing contract administration services based on the client-architect agreement. 81 Knowledge of post-construction services (e.g., extended building commissioning, record document preparation, operational and maintenance programming, facilities management, post-occupancy evaluation). 82 Knowledge of the architect's role and responsibilities to client regarding changes to project during construction (e.g., cost, scope, schedule, quality).

APPENDIX E. EMAIL TO PRACTITIONERS

Dear Licensee:

You have been selected by the California Architects Board to participate in the 2014 Architect Occupational Survey. The purpose of the survey is to gather data on the job tasks performed by Architects as well as the knowledge and abilities required to perform those tasks. Your participation is essential to the success of this project.

You may complete the survey all at one sitting or return to it multiple times. Your individual response will be confidential. The Survey may be found at:

https://www.surveymonkey.com/s.aspx?sm=KkNx_2fSW_2bKTUWNWj0Zpsn6Q_3d_3d

Please complete the survey by July 18, 2014.

Any questions, please contact Justin Sotelo at Justin.sotelo@dca.ca.gov or 916 575-7216.

Your participation is essential to the success of this project.

CALIFORNIA ARCHITECTS BOARD

APPENDIX F. QUESTIONNAIRE

Architect Occupational Analysis

1. COVER LETTER

Dear Licensee:

The California Architects Board (Board) is conducting an occupational analysis of the Architect profession. The purpose of the occupational analysis is to identify the important tasks performed by Architects in current practice and the knowledge required to perform those tasks. Results of the occupational analysis will be used to update and improve the Architect California Supplemental Examination.

The Board requests your assistance in this process. Please take the time to complete the survey questionnaire as it relates to your current practice. Your participation ensures that all aspects of the profession are covered and is essential to the success of this project.

Your individual responses will be kept confidential. Your responses will be combined with responses of other Architects and only group trends will be reported. Your personal information will not be tied to your responses.

In order to progress through this survey, please use the following navigation buttons:

- • Click the **Next** button to continue to the next page.
  • Click the **Prev** button to return to the previous page.
  • Click the **Exit this survey** button to exit the survey and return to it at a later time.
  • Click the **Done/Submit** button to submit your survey as completed.

Any questions marked with an asterisk (*) require an answer in order to progress through the survey questionnaire.

Please Note: The survey automatically saves fully-completed pages, but will **not** save responses to questions on pages that were partially completed when the survey was exited. Once you have started the survey, you can exit at any time and return to it later without losing your responses as long as you fully completed the page before logging out and are accessing the survey from the same computer. For your convenience, the weblink is available 24 hours a day 7 days a week.

Please submit the completed survey questionnaire by July 18, 2014.

If you have any questions about completing this survey, please contact Justin Sotelo of CAB, Justin.Sotelo@dca.ca.gov; (916) 575-7216. The Board welcomes your participation in this project and thanks you for your time.

INSTRUCTIONS FOR COMPLETING THE DEMOGRAPHIC ITEMS

This part of the questionnaire contains an assortment of demographic items, the responses to which will be used to describe Architect practice as represented by the respondents to the questionnaire. Please note the instructions for each item before marking your response as several permit multiple responses.

INSTRUCTIONS FOR RATING TASK AND KNOWLEDGE STATEMENTS

This part of the questionnaire contains a list of tasks and knowledge descriptive of Architect practice in a variety of settings. Please note that some of the tasks or knowledge may not apply to your setting.

For each task, you will be asked to answer two questions: how often you perform the task **(frequency)** and how important the task is in the performance of your current practice **(importance)**. For each knowledge, you will be asked to answer one question: how important the knowledge is in the performance of your current practice **(importance)**.

Please rate each task and knowledge as it relates to your current practice as a licensed Architect. **Do not respond based on what you believe all Architects should be expected to know or be able to do.**

2. ARCHITECT OCCUPATIONAL ANALYSIS

The California Architects Board recognizes that every Architect practitioner may not perform all of the tasks and use all of the knowledge contained in this questionnaire. However, your participation is essential to the success of this project, and your contributions will help establish standards for safe and effective Architect practice in the state of California.

Complete this questionnaire only if you are currently licensed and practicing as an Architect in California.

3. PART I PERSONAL DATA

The information you provide here is voluntary and confidential. It will be treated as personal information subject to the Information Practices Act (Civil Code, Section 1798 et seq.) and it will be used only for the purpose of analyzing the ratings from this questionnaire.

4.

***1. Are you currently licensed and practicing in California as an Architect?**

- ◯ Yes
- ◯ No

5.

1. How many years have you been licensed and practicing in California?

- ◯ 0 to 5 years
- ◯ 6 to 10 years
- ◯ 11 to 20 years
- ◯ More than 20 years

2. How many years did you work in architecture before obtaining licensure in California?

- ◯ 0 to 3 years
- ◯ 4 to 6 years
- ◯ 7 to 10 years
- ◯ 11 to 15 years
- ◯ More than 15 years

3. How would describe your primary work setting?

- ◯ Architecture firm (as individual or group)
- ◯ Multidisciplinary firm
- ◯ Governmental agency
- ◯ Institution (e.g., hospital, school)
- ◯ Non-design Company (hotel, utility company, etc.)
- ◯ Construction firm
- ◯ Other (please specify)

4. How many other licensed Architects work in your organization?

- ◯ None
- ◯ 1 to 5
- ◯ 6 to 10
- ◯ More than 10

5. How many employees other than Architects work in your organization?

- ◯ None
- ◯ 1 to 10
- ◯ 11 to 20
- ◯ 21 to 30
- ◯ More than 30

6. How many hours per week do you work as an Architect?

- ◯ 0 to 10 hours
- ◯ 11 to 20 hours
- ◯ 21 to 39 hours
- ◯ 40 or more hours

7. What is the highest level of education you have completed?

- ◯ Technical certificate
- ◯ Associate's degree
- ◯ Bachelor’s degree
- ◯ Master’s degree
- ◯ Doctorate degree

8. In what major field of study did you receive your certificate or degree in?

Certificate program	
AA Degree	
BA/BS	
MA/MS	
Ph.D.	

9. Which of the following project types would you consider to be a specialty based on your expertise and experience? (Mark all that apply)

- ☐ Education (Community college, universities, K-12)
- ☐ Health care (Hospitals, clinics)
- ☐ Commercial (Office, mixed-use)
- ☐ Industrial (Factories, warehouse, utilities)
- ☐ Hospitality (Hotel, restaurant)
- ☐ Residential (Single-family, multifamily)
- ☐ Institutional (Military, justice, fire/police stations)

10. Over the past 5 years, what percentage of your work was performed in each of the following three areas? (use whole numbers; numbers should add to 100)

CA	
Other States	
International	

11. Over the past 5 years, what percentage of your work was performed for each of the following project clients? (use whole numbers; numbers should add to 100)

Government Agencies	
Private companies	
Non-profits	
Individual homeowners	

12. Which of the following licenses do you possess in addition to CA Architect? (Mark all that apply)

- ☐ Contractor
- ☐ Architect
- ☐ Engineer
- ☐ Architect (out of State)

13. Which of the following certificates do you possess? (mark all that apply)

- ☐ CA Access Specialist (CaASp)
- ☐ ACHA (health care)
- ☐ LEED
- ☐ CPM (project management)
- ☐ CCS (Certified Construction Specifier)
- ☐ CDT
- ☐ NCIDQ

14. On the average what percentage of your time is spent performing each of the following tasks in the course of your work? (use whole numbers; numbers should add to 100)

Construction documents	
Construction administration	
Agency review/approval	
Management/Administration	
Project Management	
Design	
Programming / Pre-Design	
Post-occupancy services	
Specification Writing	
QA/QC	
Bid Coordination	

15. Over the past 5 years, what percentage of your work was performed using each of the project delivery methods? (use whole numbers; numbers should add to 100)

Design – build	
Design – bid – build	
Integrated project delivery	
Public/private partnership	
Design – Owner Build	
Other (percentage)	

16. Over the past 5 years, what percentage of your work was performed using each of the following construction contract arrangements below? (use whole numbers; numbers should add to 100)

Guaranteed Max Price

Design – bid – build

Construction Management at Risk

Fee plus Cost

Multi-Prime

17. What percentage of the information exchange with each of the following parties is being done using electronic documents (e.g., texts/email, PDFs, Word docs)? (enter a percent between 0-100; use whole numbers)

Consultants

Contractors

Agency submittals

Owners

18. What percentage of your projects use BIM (Building Information Modeling)? (enter a percent between 0-100, use whole numbers,)

Percent of projects:

19. What percentage of your clients require BIM (Building Information Modeling) as part of their requested services? (enter a percent between 0-100, use whole numbers)

Percent of clients:

20. Over the past 5 years, what percentage of the design team consultants you worked with used BIM to generate their drawings? (enter a percent between 0 and 100; use whole numbers)

Percent of consultants

21. In what capacity do you or your firm perform BIM for your consultants:

	Yes	No
As part of your contract for project delivery?	◯	◯
As an added service?	◯	◯

22. Which type of setting best describes your primary work location?

☐ Urban (greater than 50,000 people)

☐ Rural (less than 50,000 people)

23. In what California county is your primary practice located?

- ◯ Alameda
- ◯ Alpine
- ◯ Amador
- ◯ Butte
- ◯ Calaveras
- ◯ Colusa
- ◯ Contra Costa
- ◯ Del Norte
- ◯ El Dorado
- ◯ Fresno
- ◯ Glenn
- ◯ Humboldt
- ◯ Imperial
- ◯ Inyo
- ◯ Kern
- ◯ Kings
- ◯ Lake
- ◯ Lassen
- ◯ Los Angeles
- ◯ Madera
- ◯ Marin
- ◯ Mariposa
- ◯ Mendocino
- ◯ Merced
- ◯ Modoc
- ◯ Mono
- ◯ Monterey
- ◯ Napa
- ◯ Nevada
- ◯ Orange
- ◯ Placer
- ◯ Plumas
- ◯ Riverside
- ◯ Sacramento
- ◯ San Benito
- ◯ San Bernardino
- ◯ San Diego
- ◯ San Francisco
- ◯ San Joaquin
- ◯ San Luis Obispo
- ◯ San Mateo
- ◯ Santa Barbara
- ◯ Santa Clara
- ◯ Santa Cruz
- ◯ Shasta
- ◯ Sierra
- ◯ Siskiyou
- ◯ Solano
- ◯ Sonoma
- ◯ Stanislaus
- ◯ Sutter
- ◯ Tehama
- ◯ Trinity
- ◯ Tulare
- ◯ Tuolumne
- ◯ Ventura
- ◯ Yolo
- ◯ Yuba

6. PART II RATING JOB TASKS

In this part of the questionnaire, please rate each task as it relates to your current practice as an Architect. Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign from one rating scale should not influence the ratings that you assign from the other rating scale.

If the task is NOT part of your current practice, rate the task “0“ (zero) Frequency and “0” (zero) Importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow for each list to see the ratings and then select the option based on your current job.

FREQUENCY RATING

How often are these tasks performed in your current job?
Use the following scale to make your rating.

0 - DOES NOT APPLY TO MY PRACTICE. I do not perform this task in my job.

1 - RARELY. This task is one of the tasks I perform least often in my practice relative to other tasks I perform.

2 - SELDOM. This task is performed less often relative to other tasks I perform in my practice.

3 - REGULARLY. This task is performed as often as other tasks I perform in my practice.

4 - OFTEN. This task is performed more often than most other tasks I perform in my practice.

5 - VERY OFTEN. This task is one of the tasks I perform most often in my practice.

IMPORTANCE RATING

HOW IMPORTANT are these tasks in the performance of your current practice?
Use the following scale to make your ratings.

0 - NOT IMPORTANT; DOES NOT APPLY TO MY PRACTICE. I do not perform this task in my practice.

1 - OF MINOR IMPORTANCE. This task is of minor importance for effective performance relative to other tasks; it has the lowest priority of all the tasks I perform in my current practice.

2 - FAIRLY IMPORTANT. This task is fairly important for effective performance relative to other tasks; however, it does not have the priority of most other tasks I perform in my current practice.

3 - MODERATELY IMPORTANT. This task is moderately important for effective performance relative to other tasks; it has average priority of all the tasks I perform in my current job.

4 - VERY IMPORTANT. This task is very important for performance in my practice; it has a higher degree of priority than most other tasks I perform in my current practice.

5 - CRITICALLY IMPORTANT. This task is one of the most critical tasks I perform in practice; it has the highest degree of priority of all the tasks I perform in my current practice.

1. TASK STATEMENTS

	Frequency	Importance
1. Advertise and solicit services in compliance with professional and legal requirements.		
2. Evaluate the project's opportunities and constraints for alignment with client goals and requirements.		
3. Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise.		
4. Evaluate potential contractual risks and determine strategies to manage them.		
5. Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement.		
6. Identify the local, state, and federal regulatory jurisdictions impacting project.		
7. Identify the project team members (e.g., architects, engineers, specialty consultants) and who is responsible for the contracting, management, and coordination of each member.		
8. Collaborate with client to determine the specific roles and responsibilities of project participants (e.g., owner's representative, architect, contractor, construction manager).		
9. Solicit the consultants to be contracted under the architect and evaluate their qualifications and scope of services based on project requirements.		
10. Implement strategies for managing contractual risk (QA/QC, peer review).		
11. Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders).		

12. Implement strategies to control risk and manage liability for the client (e.g., due diligence, accessibility).		
13. Manage client expectations related to the contracted scope of work (e.g., milestones, decision points).		
14. Manage the distribution and review of documents for project coordination.		
15. Establish documentation standards for the design team to support consistency and coordination.		
16. Establish standards for addressing conflicts that arise during the design and construction process.		
17. Conduct periodic progress meetings with design and project team to identify potential issues in work processes or team communication and develop plans to address the issues.		
18. Review and update construction cost estimates as required by contract.		
19. Manage the design team's fees, deliverables, and schedules to conform to contract.		
20. Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements.		
21. Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction.		
22. Review program with client to validate project requirements and gain approval to proceed.		
23. Provide consultants with program and background information to collaboratively develop the design concept.		
24. Develop the project program using multiple approaches (e.g., surveys, interviews) to identify and evaluate user needs.		
25. Present project to community groups and other stakeholders for their input and feedback.		

2. TASK STATEMENTS

	Frequency	Importance
26. Prepare models, renderings, sketches, etc., to help communicate project designs.		
27. Present schematic design documents that meet program requirements to client to obtain client's input and approval.		
28. Integrate sustainable design strategies and technologies into design.		
29. Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team.		
30. Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals.		
31. Work with agency staff to incorporate proposed conditions of discretionary approval into project documents.		
32. Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.		
33. Lead the preparation of design development documents that integrate the architectural design and engineered building systems.		
34. Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants.		
35. Lead the project team in the integration of the regulatory requirements into the design development documents.		
36. Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements.		
37. Perform value engineering and life-cycle cost analyses to advise owner about approaches for managing project costs.		
38. Review design development documents with client for compliance with project requirements and to gain approval		

to proceed.		
39. Analyze and integrate the selection of sustainable design strategies and technologies into the design.		
40. Incorporate final conditions of discretionary approval into project documents.		
41. Conduct constructability review of Design Development documents.		
42. Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors.		
43. Modify construction documents based on changes in cost estimates including developing bidding alternates for client to consider.		
44. Manage distribution and review of documents during the construction document and permit phases.		
45. Prepare construction documents that meet program requirements and project goals, and present to client for approval.		
46. Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations.		
47. Perform a detailed review of construction documents for constructability and incorporate changes into final documents.		
48. Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.		
49. Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda).		
50. Assist client in selecting contractors and negotiating construction contracts.		

3. TASK STATEMENTS

	Frequency	Importance
51. Prepare bid documents appropriate to the selected delivery method.		
52. Manage the initiation/processing of documents to record construction changes (e.g., Construction Change Directives, Architect's Supplemental Instructions, Change Orders).		
53. Participate in pre-construction and pre-installation meetings with contractor as required by the contract documents.		
54. Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases).		
55. Review test, inspection, observation schedules, programs and reports for conformance with construction documents.		
56. Review shop drawings and submittals during construction for conformance with design intent.		
57. Conduct periodic site observations/field reports to confirm that construction is in general conformance with contract documents.		
58. Respond to contractor Requests for Information.		
59. Assist client with evaluating possible changes to the project during construction (e.g., cost, scope, schedule, quality).		
60. Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract		
61. Conduct post-construction services (e.g., post-occupancy evaluations, extended commissioning, record drawings) per contract.		
62. Assist owner with resolving post-occupancy issues, (e.g., evaluation of building performance, warranty issues).		

7. PART III. RATING JOB KNOWLEDGE

In this part of the questionnaire, rate each of the knowledge statements based on how important the knowledge is to successful performance in your practice. If a knowledge statement is NOT part of your job, then rate it “0” (zero) for Importance.

The boxes for rating the Importance of each knowledge statement have a drop-down list. Click on the “down” arrow for each list to see the ratings. Then select the rating based on your current practice.

IMPORTANCE RATING

HOW IMPORTANT is this knowledge in the performance of your current practice?
Use the following scale to make your ratings.

0 DOES NOT APPLY TO MY PRACTICE; NOT REQUIRED; this knowledge is not required to perform in my practice.

1 OF MINOR IMPORTANCE; this knowledge is of minor importance for performance of my practice relative to all other knowledge.

2 FAIRLY IMPORTANT; this knowledge is fairly important for performance of my practice relative to all other knowledge.

3 MODERATELY IMPORTANT; this knowledge is moderately important for performance of my practice relative to all other knowledge.

4 VERY IMPORTANT; this knowledge is very important for performance of my practice relative to all other knowledge.

5 CRITICALLY IMPORTANT; this knowledge is essential for performance of my practice relative to all other knowledge.

Architect Occupational Analysis

1. Knowledge Statements

	Importance
1. Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp).	
2. Knowledge of different project delivery methods and the architect's and project team's corresponding roles and responsibilities (e.g., to client, as part of team).	
3. Knowledge of options for tailoring architectural services to meet the client and project needs.	
4. Knowledge of types of contracts and their application to the scope of work and the project's service requirements (client, consultant, etc.).	
5. Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection).	
6. Knowledge of consultants (e.g., civil, structural, MEP, geotechnical), the services they provide, and their applications to meeting project requirements.	
7. Knowledge of methods for evaluating own/firm's capabilities and capacities in relation to project requirements.	
8. Knowledge of approaches for increasing the capability and/or capacity of the architect/firm to meet project requirements.	
9. Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements.	
10. Knowledge of methods for evaluating client goals and resources in order to identify/define the preliminary project requirements, budget, and schedule.	
11. Knowledge of procedures and standard practices for documenting contractual milestones (e.g., decisions, changes, approvals).	
12. Knowledge of methods and techniques for communicating with client, project team, contractors, agencies, and stakeholders (e.g., meetings, emails, letters, minutes, transmittals, phone logs, visual aids).	
13. Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client.	
14. Knowledge of methods and techniques for using technological resources (e.g., BIM/CAD, imaging software, web-based applications) to support communication with client and team.	
15. Knowledge of the architect's role and responsibilities in orchestrating the architect's consultants and the entire project team.	
16. Knowledge of the architect's professional and contractual responsibilities related to the client.	
17. Knowledge of methods for controlling project costs (e.g., value engineering, life-cycle costing, cost estimating).	

18. Knowledge of procedures for preparing and monitoring the project budget including hard and soft costs.	
19. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.	
20. Knowledge of methods and techniques for resolving conflicts that occur during design and construction.	
21. Knowledge of methods, techniques, and procedures for conducting predesign services (e.g., programming, feasibility studies, site analysis).	
22. Knowledge of methods for evaluating and finalizing the program to determine feasibility and conformance to client's project requirements.	
23. Knowledge of methods for developing design solutions with the involvement of client, users, consultants, and stakeholders.	
24. Knowledge of methods and procedures for developing the schematic design deliverables.	
25. Knowledge of procedures for obtaining and interpreting data about the existing built environment to determine impacts on project.	
26. Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction.	
27. Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations.	
28. Knowledge of processes and procedures for obtaining discretionary approvals.	
29. Knowledge of processes and procedures for compliance with local codes and ordinances related to design.	
30. Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction.	

2. Knowledge Statements

	Importance
31. Knowledge of methods and procedures for complying with California Coastal Act as it related to design and construction.	
32. Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust).	
33. Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc.	
34. Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes.	
35. Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction.	
36. Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction.	
37. Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction.	
38. Knowledge of the Americans with Disabilities Act (ADA) with regard to how it impacts architectural practice (e.g., client and architect responsibilities, design, construction).	
39. Knowledge of national standards (e.g., UL, ANSI, ASTM, Factory Mutual) relevant to design and construction.	
40. Knowledge of methods and procedures for incorporating sustainable design strategies and technologies into design and construction.	
41. Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design.	
42. Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design.	
43. Knowledge of methods for incorporating sustainable design (e.g., energy conservation, resource management, indoor air quality) into project design and construction.	
44. Knowledge of methods for identifying and evaluating the implications of special conditions (e.g., based on loading, soils, uses) on design and construction.	
45. Knowledge of contents of design drawings and related documents required for agency approvals.	

46. Knowledge of architect's role and responsibilities in leading project team in order to obtain necessary agency approvals at the appropriate time.	
47. Knowledge of methods for analyzing initial and life-cycle costs to select materials and systems for project.	
48. Knowledge of methods for performing a QA/QC review of Design Development documents including constructability.	
49. Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc.	
50. Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc.	
51. Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC).	
52. Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc.	
53. Knowledge of methods and procedures for demonstrating design compliance with federal laws and authorities: ADA, Army Corps of Engineers, FAA, etc.	
54. Knowledge of methods and procedures for demonstrating design compliance with National Standards: NFPA, ASTM, etc.	
55. Knowledge of methods for performing a QA/QC review of construction docs including constructability, code compliance, etc.	
56. Knowledge of the architect’s role in reconciling client’s budget with probable construction costs.	
57. Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases.	
58. Knowledge of methods and procedures for presenting contract documents to client for approval.	
59. Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction.	
60. Knowledge of methods for the detailed integration of building systems (e.g., clash detection, interdisciplinary overlays).	

3. Knowledge Statements

	Importance
61. Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings).	
62. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal).	
63. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).	
64. Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.	
65. Knowledge of methods and procedures for preparing bidding documents based on project funding source (private/public) and delivery method.	
66. Knowledge of architect's role and responsibilities related to construction bidding and negotiation processes.	
67. Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects.	
68. Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities.	
69. Knowledge of the limits of the architect's role and responsibilities during construction (e.g., directing subcontractors, means and methods).	
70. Knowledge of the interrelationships and responsibilities between the owner, architect, and contractor during construction.	
71. Knowledge of methods for resolving conflicts that occur during construction (e.g., mediation, arbitration, litigation).	
72. Knowledge of methods and procedures for developing and reviewing the contract documents package.	
73. Knowledge of procedures for determining general conformance of construction with contract documents (e.g., observation, submittal reviews, RFIs).	
74. Knowledge of methods and procedures for implementing changes during construction (e.g., Architect's Supplemental Instructions, Change Orders).	
75. Knowledge of procedures for monitoring construction costs and schedules (e.g., reviewing and certifying payments to contractor, reviewing lien releases).	
76. Knowledge of procedures for performing project close-out (e.g., Certificate of Substantial Completion, Notice of Completion, final lien releases).	
77. Knowledge of the California construction laws related to minimum warranty periods.	
78. Knowledge of code-required special inspections and testing (e.g., field	

welding, high-strength concrete).

79. Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.	
80. Knowledge of the architect's role and responsibilities in providing contract administration services based on the client-architect agreement.	
81. Knowledge of post-construction services (e.g., extended building commissioning, record document preparation, operational and maintenance programming, facilities management, post-occupancy evaluation).	
82. Knowledge of the architect's role and responsibilities to client regarding changes to project during construction (e.g., cost, scope, schedule, quality).	

8. FINISHED

THANK YOU FOR COMPLETING THIS SURVEY QUESTIONNAIRE.

2014 EXAMINATION PLAN FOR THE ARCHITECT CALIFORNIA SUPPLEMENTAL EXAMINATION (CSE)

I. General Practice (14%): This area assesses the candidate's knowledge related to core areas of practice applicable across types of projects, construction contract arrangements, and project delivery methods.

Task Statements	Knowledge Statements
1 Advertise and solicit services in compliance with professional and legal requirements. 2 Evaluate the project's opportunities and constraints for alignment with client goals and requirements. 3 Assess preliminary project requirements including budget and schedule relative to own firm's/organization's business goals, resources, and expertise. 4 Evaluate potential contractual risks and determine strategies to manage them. 5 Collaborate with client to determine scope of work, project delivery method, deliverables, and compensation, etc., to prepare owner-architect agreement. 6 Identify the local, state, and federal regulatory jurisdictions impacting project. 7 Identify the project team members (e.g., architects, engineers, specialty consultants) and who is responsible for the contracting, management, and coordination of each member. 8 Collaborate with client to determine the specific roles and responsibilities of project participants (e.g., owner's representative, architect, contractor, construction manager). 9 Solicit the consultants to be contracted under the architect and evaluate their qualifications and scope of services based on project requirements.	1 Knowledge of the provisions of the Architect's Practice Act and CA Code of Regulations related to architect's business and professional requirements (e.g., contracts, architectural corporations, responsible control, architect's stamp). 2 Knowledge of different project delivery methods and the architect's and project team's corresponding roles and responsibilities (e.g., to client, as part of team). 4 Knowledge of types of contracts and their application to the scope of work and the project's service requirements (client, consultant, etc.). 5 Knowledge of methods for limiting professional liability (e.g., contractual allocation of risk, standard of care, client and project selection). 7 Knowledge of methods for evaluating own/firm's capabilities and capacities in relation to project requirements. 9 Knowledge of methods and procedures for identifying the regulatory agencies having jurisdiction over the project and their specific requirements. 13 Knowledge of architect's role and responsibilities for managing project and contractual risk for the architect and client. 15 Knowledge of the architect's role and responsibilities in orchestrating the architect's consultants and the entire project team. 16 Knowledge of the architect's professional and contractual responsibilities related to the client. 20 Knowledge of methods and techniques for resolving conflicts that occur during design and construction.

I. General Practice (14%) (continued)

Task Statements	Knowledge Statements
10 Implement strategies for managing contractual risk (QA/QC, peer review). 11 Implement strategies for managing and documenting communication (e.g., point of contact, reporting methods) between the architect, client, and team and between the design team and external parties (e.g., agencies, stakeholders). 12 Implement strategies to control risk and manage liability for the client (e.g., due diligence, accessibility). 17 Conduct periodic progress meetings with design and project team to identify potential issues in work processes or team communication and develop plans to address the issues. 19 Manage the design team's fees, deliverables, and schedules to conform to contract.	

II. Programming / Design (36%): This area assesses the candidate's ability to identify and evaluate site and project opportunities and constraints in developing design concepts that meet the client's, user's, and stakeholder's needs and applicable California regulations.

Task Statements	Knowledge Statements
20 Perform or evaluate site feasibility studies (e.g., size, gradient, infrastructure, environmental conditions) to clarify and address project requirements. 21 Assist client in evaluating design concepts based on budget, aesthetics, etc., to determine design direction. 22 Review program with client to validate project requirements and gain approval to proceed. 23 Provide consultants with program and background information to collaboratively develop the design concept. 24 Develop the project program using multiple approaches (e.g., surveys, interviews) to identify and evaluate user needs. 25 Present project to community groups and other stakeholders for their input and feedback. 28 Integrate sustainable design strategies and technologies into design. 29 Identify the specific requirements of regulatory agencies and discuss their incorporation into the design/program with client and design team. 30 Prepare and submit exhibits and application forms to governing agencies (e.g., Planning Department, Coastal Commission, Design Review Board) for discretionary approvals.	23 Knowledge of methods for developing design solutions with the involvement of client, users, consultants, and stakeholders. 26 Knowledge of environmental conditions regulated in California (e.g., wetlands, coastal regions, habitats of endangered species) related to design and construction. 27 Knowledge of the impacts to project from environmental conditions (e.g., seismic activity, fire, winds, flood zone, hazardous materials) and their potential mitigations. 28 Knowledge of processes and procedures for obtaining discretionary approvals. 29 Knowledge of processes and procedures for compliance with local codes and ordinances related to design. 30 Knowledge of methods and procedures for complying with the California Environmental Quality Act (CEQA) related to design and construction. 31 Knowledge of methods and procedures for complying with California Coastal Act as it related to design and construction. 32 Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction (e.g., air quality requirements for dust mitigation, limitations on generator exhaust). 33 Knowledge of methods and procedures for complying with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to the design and construction of hospitals, schools, fire/police stations, etc. 34 Knowledge of what is encompassed by the California Building Standards Code (e.g., building, electrical, mechanical, plumbing, energy) and how the CBSC is distinct from the model codes.

II. Programming / Design (36%) (continued)

Task Statements	Knowledge Statements
31 Work with agency staff to incorporate proposed conditions of discretionary approval into project documents. 32 Develop design concepts based on program requirements and constraints placed by applicable laws, local codes, ordinances, etc.	35 Knowledge of methods and procedures for complying with provisions of the California Building Standards Code related to design and construction. 36 Knowledge of methods and procedures for complying with the California Health and Safety Code related to design and construction. 37 Knowledge of methods and procedures for complying with the California water quality regulations related to design and construction. 38 Knowledge of the Americans with Disabilities Act (ADA) with regard to how it impacts architectural practice (e.g., client and architect responsibilities, design, construction). 39 Knowledge of national standards (e.g., UL, ANSI, ASTM, Factory Mutual) relevant to design and construction.

III. Development / Documentation (30%): This area assesses the candidate's knowledge regarding developing design solutions, managing a project team, and preparing design and construction drawings and documents in conformance with the project program and applicable California regulations.

Task Statements	Knowledge Statements
33 Lead the preparation of design development documents that integrate the architectural design and engineered building systems. 34 Analyze and coordinate the selection and design of building systems (e.g., structural, mechanical, electrical, fire safety, security) with consultants. 35 Lead the project team in the integration of the regulatory requirements into the design development documents. 36 Coordinate design with input from client and the overall project team (e.g., general contractor, building official), and evaluate/incorporate their inputs based on project requirements. 37 Perform value engineering and life-cycle cost analyses to advise owner about approaches for managing project costs. 39 Analyze and integrate the selection of sustainable design strategies and technologies into the design. 40 Incorporate final conditions of discretionary approval into project documents. 41 Conduct constructability review of Design Development documents. 42 Coordinate the preparation of the construction documents (e.g., architectural, structural, mechanical, civil, electrical, specs) and resolve potential conflicts or errors.	41 Knowledge of methods and procedures for evaluating and integrating building systems (e.g., structural, mechanical, electrical, plumbing, life safety, conveying, building systems controls) into the project design. 42 Knowledge of methods and procedures for evaluating building materials (e.g., material characteristics, performance, testing standards) for selection into the project design. 46 Knowledge of architect's role and responsibilities in leading project team in order to obtain necessary agency approvals at the appropriate time. 48 Knowledge of methods for performing a QA/QC review of Design Development documents including constructability. 49 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements for environmental quality: CEQA, Coastal Act, Clean Air Act, water quality regulations, etc. 50 Knowledge of methods and procedures for demonstrating design compliance with State regulatory requirements (e.g., Essential Services Building Seismic Safety Act, Field Act, Hospital Facilities Seismic Safety Act) related to design and construction of hospitals, schools, fire/police stations, etc. 51 Knowledge of methods and procedures for demonstrating design compliance with California Building Standards Code (CBSC). 52 Knowledge of methods and procedures for demonstrating design compliance with local regulations: zoning, planning, general plan, CBSC modifications, etc. 53 Knowledge of methods and procedures for demonstrating design compliance with federal laws and authorities: ADA, Army Corps of Engineers, FAA, etc. 54 Knowledge of methods and procedures for demonstrating design compliance with National Standards: NFPA, ASTM, etc.

III. Development / Documentation (30%) (continued)

Task Statements	Knowledge Statements
44 Manage distribution and review of documents during the construction document and permit phases. 45 Prepare construction documents that meet program requirements and project goals, and present to client for approval. 46 Prepare construction documents and verify conformance with the conditions of prior agency approvals and applicable codes and regulations. 47 Perform a detailed review of construction documents for constructability and incorporate changes into final documents. 48 Manage the submittal of construction documents to regulatory agencies through initial submittal, coordinating responses, and obtaining approvals.	55 Knowledge of methods for performing a QA/QC review of construction docs including constructability, code compliance, etc. 57 Knowledge of methods and procedures for managing the distribution and review of documents during the construction document and permit phases. 59 Knowledge of contents of contract documents (e.g., construction drawings, specifications, project manual) required for agency approval, bidding, and construction. 61 Knowledge of methods for documenting the anchoring of nonstructural elements as defined by the California Building Code (e.g., fixtures and equipment items, nonbearing partitions, suspended ceilings). 62 Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over the project to obtain final approvals (local, regional, State, federal). 63 Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). 64 Knowledge of the architect's role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

IV. Bidding / Construction (20%): This area assesses the candidate's knowledge related to California regulations associated with project bidding, construction, and post-construction activities.

Task Statements	Knowledge Statements
49 Assist client in the bidding process (e.g., distribute documents, conduct pre-bid meetings, prepare addenda). 50 Assist client in selecting contractors and negotiating construction contracts. 51 Prepare bid documents appropriate to the selected delivery method. 52 Manage the initiation/processing of documents to record construction changes (e.g., Construction Change Directives, Architect's Supplemental Instructions, Change Orders). 53 Participate in pre-construction and pre-installation meetings with contractor as required by the contract documents. 54 Monitor project construction costs and schedule (e.g., review and certify contractor applications for payment, verify lien releases). 55 Review test, inspection, observation schedules, programs and reports for conformance with construction documents. 56 Review shop drawings and submittals during construction for conformance with design intent. 57 Conduct periodic site observations/field reports to confirm that construction is in general conformance with contract documents.	66 Knowledge of architect's role and responsibilities related to construction bidding and negotiation processes. 67 Knowledge of the provisions of the California Public Contract Code related to the bidding and contracting requirements for publicly funded projects. 68 Knowledge of California laws related to design professional and contractor liens and their implications for the architect's and client's responsibilities. 70 Knowledge of the interrelationships and responsibilities between the owner, architect, and contractor during construction. 71 Knowledge of methods for resolving conflicts that occur during construction (e.g., mediation, arbitration, litigation). 73 Knowledge of procedures for determining general conformance of construction with contract documents (e.g., observation, submittal reviews, RFIs). 74 Knowledge of methods and procedures for implementing changes during construction (e.g., Architect's Supplemental Instructions, Change Orders). 75 Knowledge of procedures for monitoring construction costs and schedules (e.g., reviewing and certifying payments to contractor, reviewing lien releases). 76 Knowledge of procedures for performing project close-out (e.g., Certificate of Substantial Completion, Notice of Completion, final lien releases). 77 Knowledge of the California construction laws related to minimum warranty periods.

IV. Bidding / Construction (20%) (continued)

Task Statements	Knowledge Statements
58 Respond to contractor Requests for Information. 59 Assist client with evaluating possible changes to the project during construction (e.g., cost, scope, schedule, quality). 60 Manage project close-out procedures (e.g., Certificate of Substantial Completion, Notice of Completion, verification of final lien releases, verification of public agency approvals) per contract 61 Conduct post-construction services (e.g., post-occupancy evaluations, extended commissioning, record drawings) per contract. 62 Assist owner with resolving post-occupancy issues, (e.g., evaluation of building performance, warranty issues).	78 Knowledge of code-required special inspections and testing (e.g., field welding, high-strength concrete). 79 Knowledge of State inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.

OCCUPATIONAL ANALYSIS

PROFESSIONAL EXAMINATION SERVICES

Purpose

An occupational analysis (or job analysis) defines a profession in terms of the actual tasks that new licensees must be able to perform safely and competently at the time of licensure. In order to develop a licensing examination that is fair, job-related, and legally defensible, it must be based solidly upon what licensees actually do on the job. The occupational analysis should be reviewed routinely every five to seven years to verify that it accurately describes current practice.

Process

Typically, the process begins by selecting and interviewing a sample of licensees who accurately represent the geographic, ethnic, gender, experience, and practice specialty mix of the profession. During the interview, they identify the tasks that they perform within major categories of their profession and the knowledge required to perform those tasks. A committee of subject matter experts meets to finalize the task and knowledge statements, and develop a questionnaire. The questionnaire is sent to a representative sample of licensed practitioners. The data are analyzed, and the results are used to update the description of practice and/or develop a content outline.

Content Outline

The content outline specifies the tasks and knowledge that a newly licensed practitioner is expected to master by the time of licensure, and identifies the relative weight or percentage of each major subject area to be assessed in an examination. The content outline is used to develop questions for and validate new examinations.

Content Validation Strategy

In order for an examination to be valid, it must be empirically linked to the content outline of a recent occupational analysis. The Office of Professional Examination Services recommends that occupational analyses be validated no less than every five to seven years.

Legal Standards and Guidelines

A number of statutes, standards, and professional guidelines set criteria for the licensing process in California. These include the Standards for Educational and Psychological Testing, the Federal Uniform Guidelines for Employee Selection Procedures, the Civil Rights Act of 1991, California Government Code section 12944 of the California Fair Employment and Housing Act, Business and Professions Code section 139, and the Americans with Disabilities Act of 1990, as amended.

Contact

To learn more about these and other examination-related services, please contact the Office of Professional Examination Services at (916) 575-7240.

EXAMINATION DEVELOPMENT

PROFESSIONAL EXAMINATION SERVICES

Purpose

The purpose of licensing examinations is to protect consumers by verifying that new licensees possess the minimally acceptable knowledge and experience necessary to perform tasks on the job safely and competently.

Process

A valid occupational analysis (OA) and content outline is required to begin the examination development process. The content outline provides the specifications for the examination.

Examination development is a group process, conducted in structured workshops comprised of subject matter experts (SMEs). Each SME provides a different perspective of the profession that would not otherwise be objectively considered by individuals working alone. To ensure that the description of the profession represents the job tasks of practitioners entering the profession, each workshop always includes a number of newly licensed practitioners. While there may be several workshops to develop an examination, it is recommended that each be scheduled for a minimum of two days to obtain optimum results.

The types of workshops required may include such tasks as re-linking old items (questions) to a new OA content outline; writing new items linked to the outline; reviewing and revising new or poorly functioning items; constructing a new examination version; and determining a passing score.

During each workshop SMEs are trained in the technical, professional, and legal standards that serve as specific guidelines for the development of examinations. For multiple-choice examinations, incorrect options (distracters) in multiple-choice items should be plausible so that an unprepared candidate will seriously consider them with the correct answer (key). For performance examinations, the activities should be sufficiently complex that an examiner can thoroughly assess a candidate's competence to perform actual job-related tasks.

Validation

In order for an examination to be valid, it must be empirically linked to the content outline of a recent occupational analysis. See Informational Series No. 1, "Occupational Analysis" for more information.

EXPERT CONSULTANTS

PROFESSIONAL EXAMINATION SERVICES

Purpose

In licensure examination development work, expert consultants are referred to as subject matter experts (SMEs). Their participation is essential to the development of licensure exams, and ensures that the exams accurately assess whether candidates possess the minimally acceptable knowledge, skills, and abilities necessary to perform tasks on the job safely and competently.

Process

The selection of expert consultants/SMEs by boards, bureaus, and committees of the Department of Consumer Affairs (DCA) critically affects the quality and defensibility of their licensure exams, and is based on the following minimum criteria:

- Reflect the profession in specialty, practice setting, geographic location, ethnicity, and gender.
- Represent the current pool of practitioners.
- Possess current skills and a valid license in good standing.
- Articulate specialized technical knowledge related to a profession.

In addition, several of the six to ten expert consultants/SMEs in each workshop should be licensed five years or less to ensure an entry-level perspective is represented.

Due to potential conflict of interest, undue influence, and/or security considerations, board members, committee members, and instructors shall not serve as expert consultants/SMEs for, nor participate in, any aspect of licensure exam development or administration, pursuant to DCA Policy OPES 11-01.

Workshops

OPES exam development workshops bring together the professional knowledge and experience of expert consultants/SMEs, and the expertise of OPES exam development specialists. Separate workshops are conducted for:

Occupational analysis: Identifying critical job tasks and required knowledge.
Item linking: Linking old exam items (questions) to an updated exam outline.
Item writing: Creating new items.
Item review: Revising new or poorly functioning items.
Exam construction: Selecting items to construct a new exam version.
Setting a passing score: Determining the passing score of an exam.

OPES exam development specialists begin each workshop by training expert consultants/SMEs in the required concepts, standards, and techniques. The exam development specialist serves as a facilitator, guide, and coach. Workshops are typically conducted on two consecutive eight-hour days at the OPES offices in Sacramento.

(Continued on back)

EXPERT CONSULTANTS (continued)

Security

OPES has implemented a variety of controls to ensure the integrity, security and appropriate level of confidentiality of licensure exam programs. These controls vary according to the sensitivity of the information, and will include restricting and/or prohibiting certain items, such as electronic devices, when conducting exam-related workshops.

Expert consultants/SMEs are required to provide valid identification, allow for personal belongings to be secured during workshops, and sign one or more agreements accepting responsibility for maintaining strict confidentiality of licensing exam material and information to which they have access.

Any person who fails to comply with OPES' security requirements will not be allowed to participate in licensure exam workshops. In addition, any person who subverts or attempts to subvert any licensing exam will face serious consequences which may include loss of licensure and/or criminal charges.

Authority

California Business and Professions Code section 123

DISCUSS AND POSSIBLE ACTION ON 2015-2016 STRATEGIC PLAN OBJECTIVE TO CONDUCT REVIEW OF ARE TESTING ENVIRONMENT IN ORDER TO ENSURE SECURITY AND EFFICIENCY

The Board's 2015-2016 Strategic Plan contains an objective assigned to the Professional Qualifications Committee (PQ) to conduct a review of the ARE testing environment in order to ensure a secure and efficient process.

A provision of the contract between the National Council of Architectural Registration Boards (NCARB) and the Board affords an opportunity to review the administration of a representative ARE division. The Board is permitted to send a reasonable number of representatives who must first be approved by NCARB. Board and Committee members who would like to participate in the review will be required to complete and sign a confidentiality agreement prior to being granted permission from NCARB. The last similar review was conducted on May 23, 2011.

During the previous review, members of the PQ were given an opportunity to take a representative ARE 4.0 division and experience firsthand the administration of a computer-delivered exam for those who had never done so. An NCARB representative, during the half-day session, provided a brief presentation relative to examination development and administration. Given the confidential nature of the subject matter, the review was closed to the public in accordance to Government Code section 11126(c)(1).

Board staff is exploring tentative dates in late 2016 for the next review; optimally after NCARB launches ARE 5.0. A review conducted then would allow participants to observe the delivery of the new ARE 5.0 alongside the current ARE 4.0. Logistics for the next review will be handled by Board staff and commence after January 1, 2016.

PQ is asked to discuss this objective and provide any direction or input to the Board.

DISCUSS AND POSSIBLE ACTION ON 2015-2016 STRATEGIC PLAN OBJECTIVE TO EVALUATE THE PROFESSION IN ORDER TO IDENTIFY ENTRY BARRIERS FOR DIVERSE GROUPS

The Board's 2015-2016 Strategic Plan contains an objective assigned to the Professional Qualifications Committee (PQ) to evaluate the architecture profession in order to identify entry barriers for diverse groups.

The National Council of Architectural Registration Boards (NCARB), The American Institute of Architects, the and the National Organization of Minority Architects are currently conducting a study on diversity in the profession. Board staff will work with those and other organizations, such as state and Federal agencies, to assist in conduct and analyzing research on this objective.

On July 6, 2015 NCARB published the latest edition of *NCARB by the Numbers*. Board staff was provided an advance copy for review and analysis. Following are a sampling of its findings:

- Racial and ethnic diversity grew 19 percentage points (up from 22 percent in 2007 to 41 percent in 2014).

- Applicants who identified themselves as non-white represented 33 percent of new NCARB Record holders in 2014. This compares to 22 percent of the non-white U.S. population, based upon 2010 U.S. Census Bureau data.

- The percentage of NCARB Record holders who are Hispanic/Latino increased in 2014. When Hispanic/Latino ethnicity is factored in, minorities made up 41 percent of the talent pool in 2014. This compares to 38 percent of racial and ethnic minorities who make up the U.S. population, based upon the 2010 U.S. Census Bureau data. The largest minority groups in NCARB's data were: 15 percent Asian, 10 percent Other (Hispanic/Latino), 4 percent Other (Not Hispanic/Latino), and 4 percent Black or African-American.

Ethnic Group	NCARB	California	U.S.
Asian	15%	13%	4.8%
Other Hispanic/Latino	10%	37.6%	16.3%
Other (Not Hispanic/Latino)	4%	40.1%	63.7%
Black or African-American	4%	6.2%	12.6%

- Data from NCARB also shows that more women are entering the profession. Women are generally starting the licensure process earlier (average age of 24.8 for women versus 26.2 for men) than men – getting a head start on the Intern Development Program (IDP) and the Architect Registration Examination (ARE). This age disparity has remained consistent over the past 15 years. Additionally, the proportions of IDP and ARE completions by women has steadily grown 38 percent and 35 percent respectively.

- In California, women architects comprise only 19 percent of the licensee population (which is approximately 20,000). However, NCARB data suggests this should improve over time given the increasing number of women on the path to licensure. Approximately one-third of newly licensed California architects are women. This compares to just slightly more than 50 percent of the California and U.S. population, based upon 2010 U.S. Census Bureau data.

- Nearly 40 percent of IDP completions were achieved by women in 2014. This was an increase from 35 percent achieved by women in 2013, compared to 2000, when less than 25 percent of IDP completions were achieved by women. NCARB data suggests the 15-year trend indicates steady, positive growth in the proportion of aspiring women architects.

- Relative to the ARE, women candidates begin taking the ARE at a younger age than men. Women, on average, took their first division at the age of 29 in 2014; while men are slightly older beginning at the average age of 30.5. Women accounted for 35 percent of completions – the second highest percentage on record. The percentage of ARE completions by women in 2014 has nearly doubled since 2000.

Board staff will continue working with related organizations to obtain additional data for analysis and will present findings to the PQC at its next meeting.

PQ is asked to discuss this objective and provide any direction or input to the Board.

<u>Attachment:</u>
NCARB by the Numbers (June 2015)

NCARB BY THE NUMBERS

Insights on NCARB Data and the Path to Licensure

JUNE 2015

NCARB

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Welcome to the 2015 NCARB by the Numbers

This is the fourth year that the National Council of Architectural Registration Boards (NCARB) has published *NCARB by the Numbers*, and we are especially excited about this year's edition. You'll notice that we have divided our data into special sections—each providing you with a focused view of our findings and insights on the path to licensure.

Also new this year are some baseline comparisons from all 54 U.S. jurisdictions. Each licensing board has its own dashboard of information, providing a 2014 snapshot on the total number of architects, as well as candidate performance metrics for the Intern Development Program (IDP) and the Architect Registration Examination® (ARE®).

Several findings leap off the pages of the 2015 report:

- The number of aspiring architects on the path to licensure continues to grow.
- Candidates are completing licensure requirements earlier and at a younger age.
- Graduates from NAAB-accredited architecture programs have advantages over their peers from non-accredited programs.
- The highest number of women to date are now on the path to licensure.
- Tomorrow's architects will have more racially and ethnically diverse backgrounds.

As you can see, the profile and performance of those entering the architecture profession is changing. Licensing boards have certainly played a significant role in these changes, adopting new rules and laws such as allowing candidates to start the ARE before completing the IDP. Policy changes at NCARB include modifications to the IDP reporting requirement; the elimination of minimum duration experience requirements; simplification of IDP eligibility to a high school diploma; and shortening the ARE retest wait time from six months to 60 days. All of these changes, along with improved communications and customer service, have had a direct impact on behaviors along the path to licensure.

There is much to explore in our latest report. We hope you agree that the 2015 *NCARB by the Numbers* provides insights on emerging issues to better help the profession guide aspiring architects and practitioners in their careers. We look forward to hearing your thoughts.

Michael J. Armstrong
Chief Executive Officer
National Council of Architectural Registration Boards

Join the Conversation on Social Media #NBTN

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Table of Contents

Welcome to the 2015 NCARB by the Numbers 2
A Thriving Talent Pool Enters the Profession 4–8
Getting It Done Earlier 9–13
Architecture Profession Experiences a Youth Movement 14–18
Advantage: NAAB-Accredited Programs 19–25
More Women Enter the Profession 26–31
Profession's Racial and Ethnic Diversity Gains Ground 32–34
Inside NCARB 35–45
Jurisdictions by the Numbers 46–101
About This Report 102
About NCARB 103
Definitions 104

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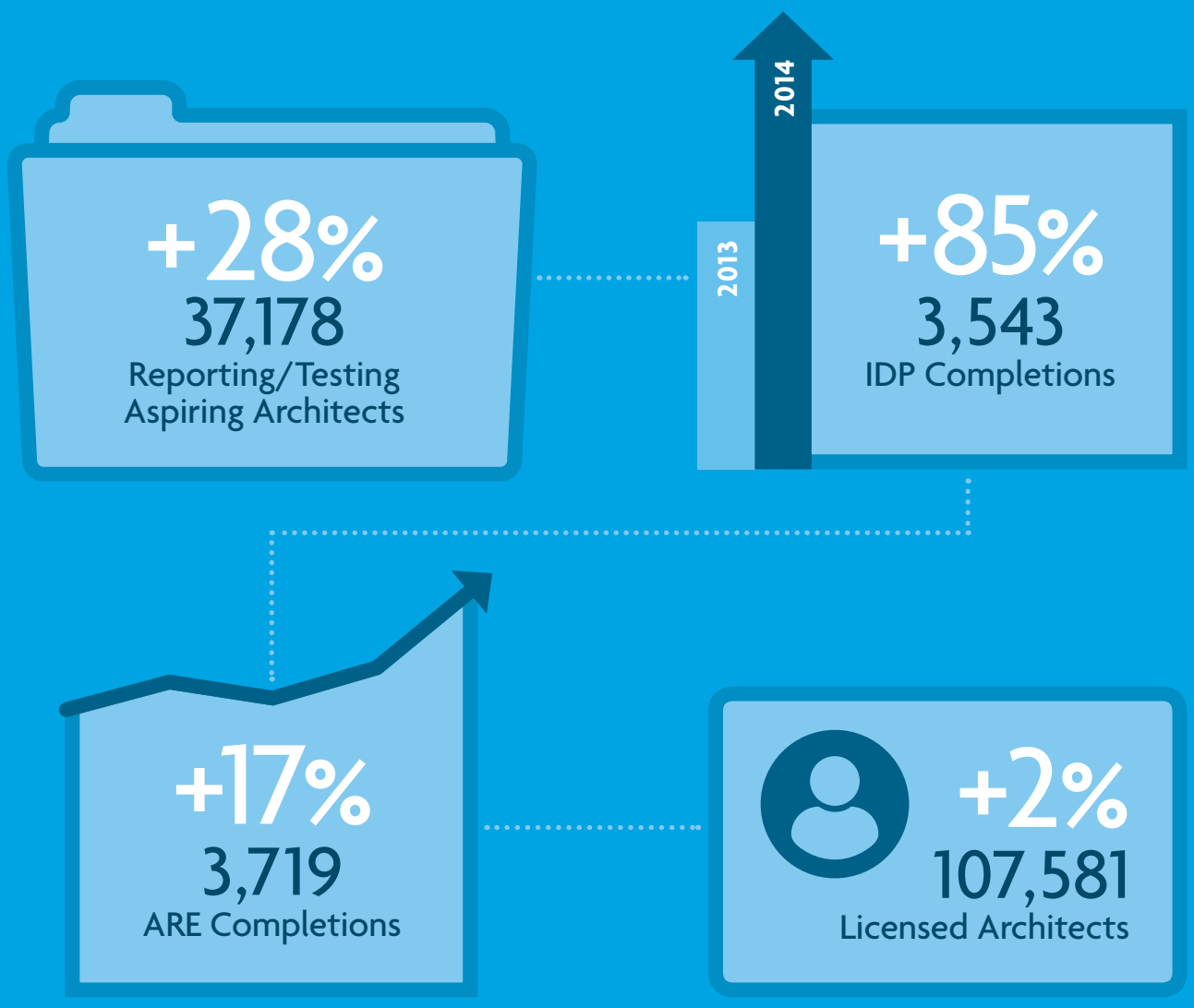
A Thriving Talent Pool Enters the Profession

The architecture profession is healthy and growing. NCARB's 2014 Survey of Architectural Registration Boards reported 107,581 architects in 54 U.S. jurisdictions, an increase of 3 percent since 2011. The pipeline of new talent is also thriving. Last year, more than 37,000 aspiring architects were testing and/or reporting hours. A total of 3,543 candidates completed the Intern Development Program (IDP). And 3,719 exam candidates completed the Architect Registration Examination® (ARE®) in 2014, the highest number of completions since 2008. The figures below highlight changes from 2013 to 2014.



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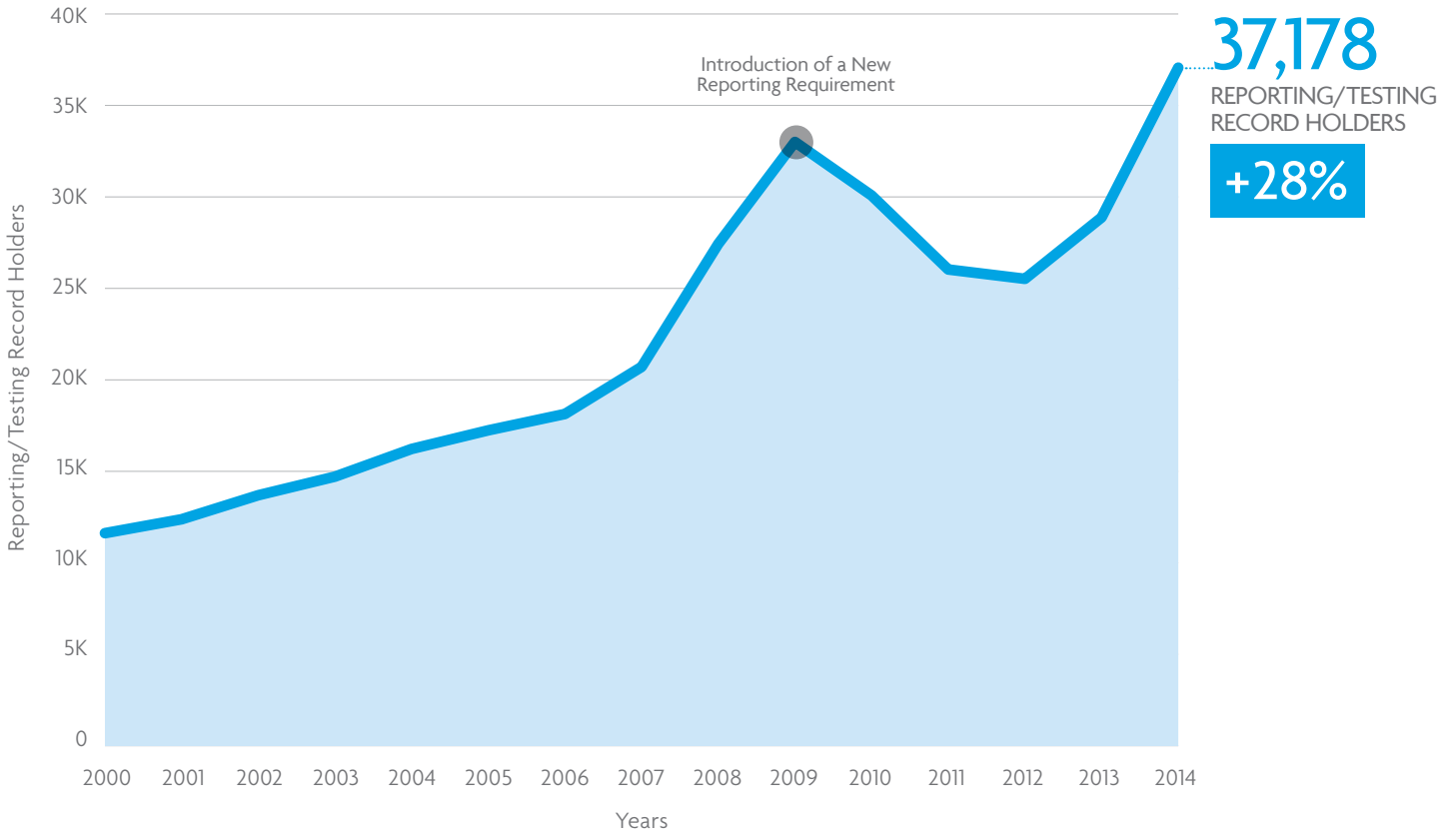
Next-Gen Architects Reach a Record High

The 37,178 aspiring architects who were testing and/or reporting hours in 2014 was the highest to date.

NCARB saw a significant increase in the number of aspiring architects—those testing and/or reporting hours—in 2014. The previous record high was 33,030 in 2009.

Effective July 1, 2009, NCARB implemented a new reporting requirement that required candidates to submit IDP experience within eight months.



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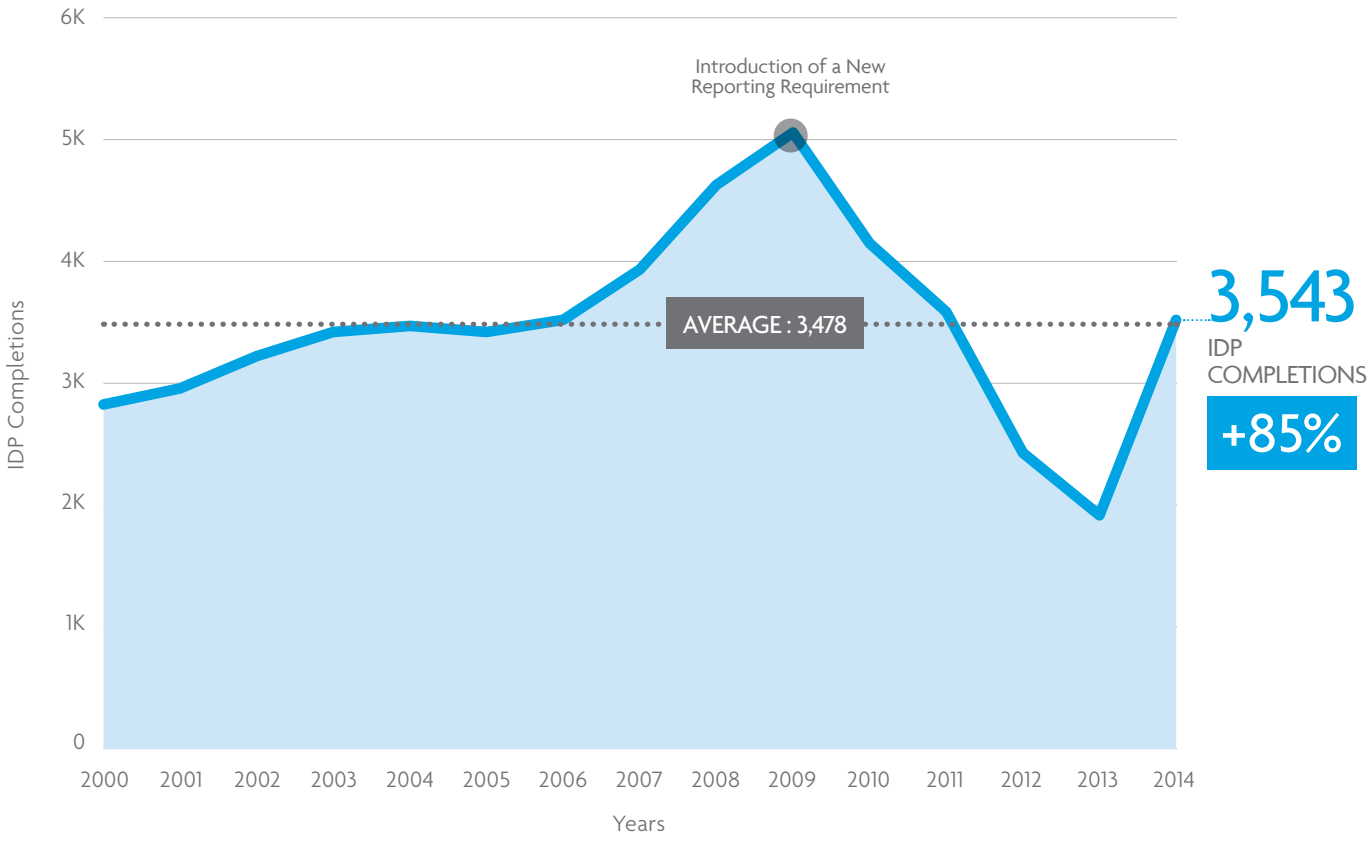
IDP Gets Back on Track

The number of aspiring architects who completed the IDP returned to the all-time average.

The 3,543 aspiring architects who completed the IDP in 2014 represented an 85 percent growth since 2013. Considering the increase in new applicants (see page 36), NCARB expects growth to continue in future years.

Effective July 1, 2009, NCARB implemented a new reporting requirement that required candidates to submit IDP experience within eight months.



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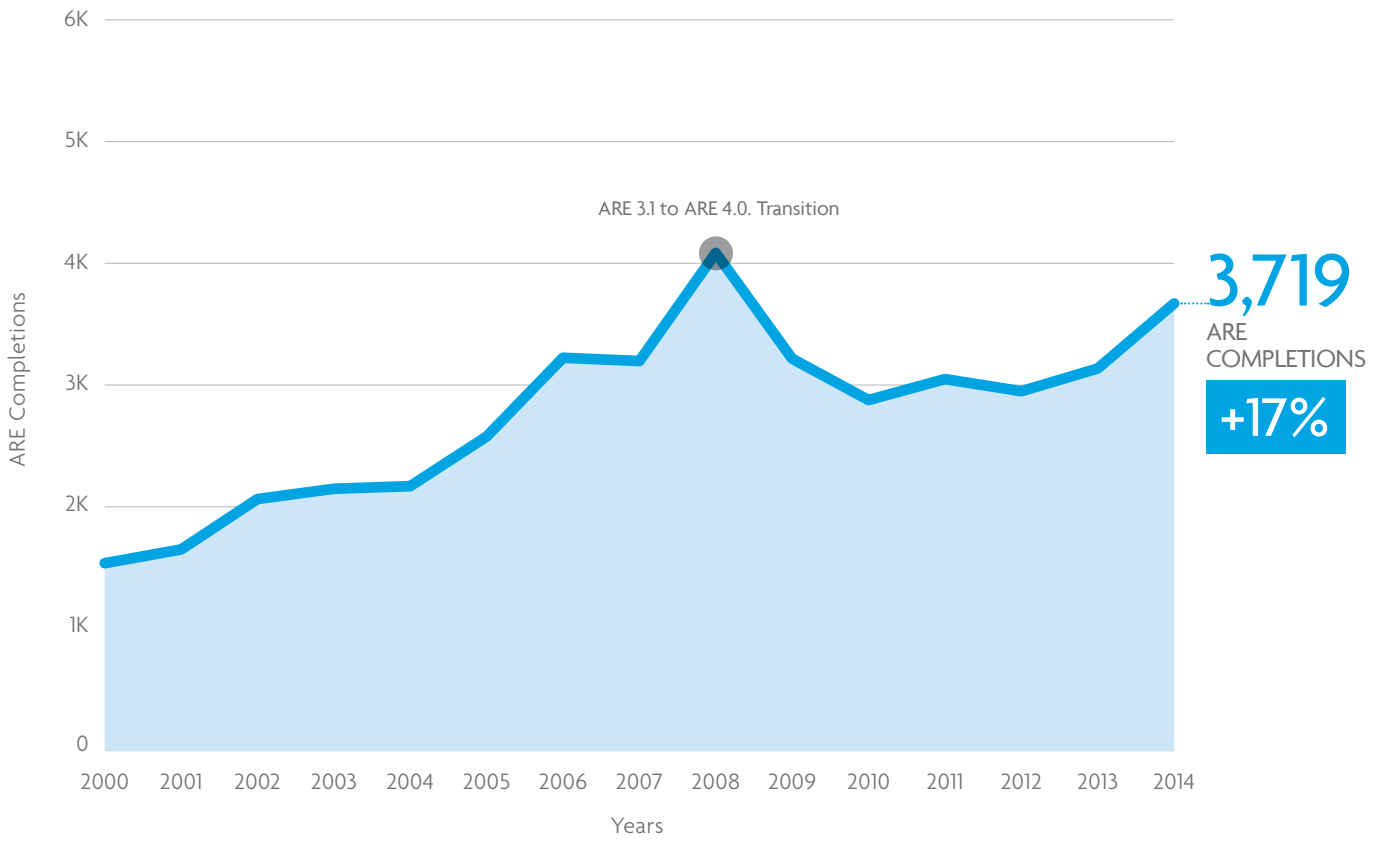
ARE Completions Reach Six-Year High

The number of exam candidates who successfully completed the ARE in 2014 marks the most since 2008.

In 2014, 3,719 candidates completed the ARE, a 17 percent increase since 2013. This is the highest number of ARE completions since 2008, a year that saw a dramatic spike in candidates completing the exam in advance of the transition from ARE 3.1 to ARE 4.0.



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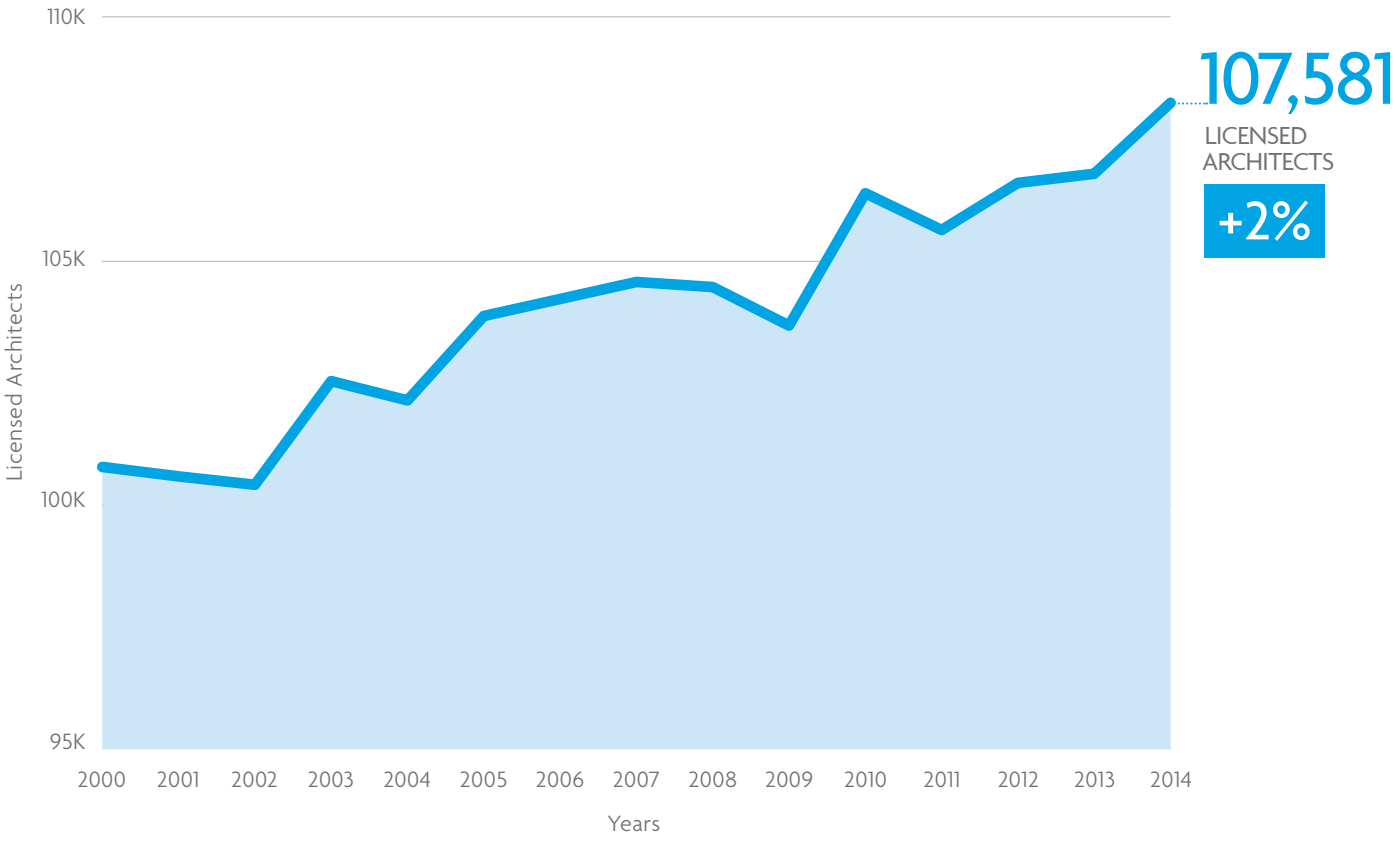
Number of Architects on the Rise

Licensing boards reported a rise in the number of architects in 2014.

A separate NCARB survey of architectural registration boards recorded 107,581 architects across 54 jurisdictions. This represents an increase of 1,734 practitioners from 2013 to 2014. It also marks the third-consecutive year of growth in the number of architects.



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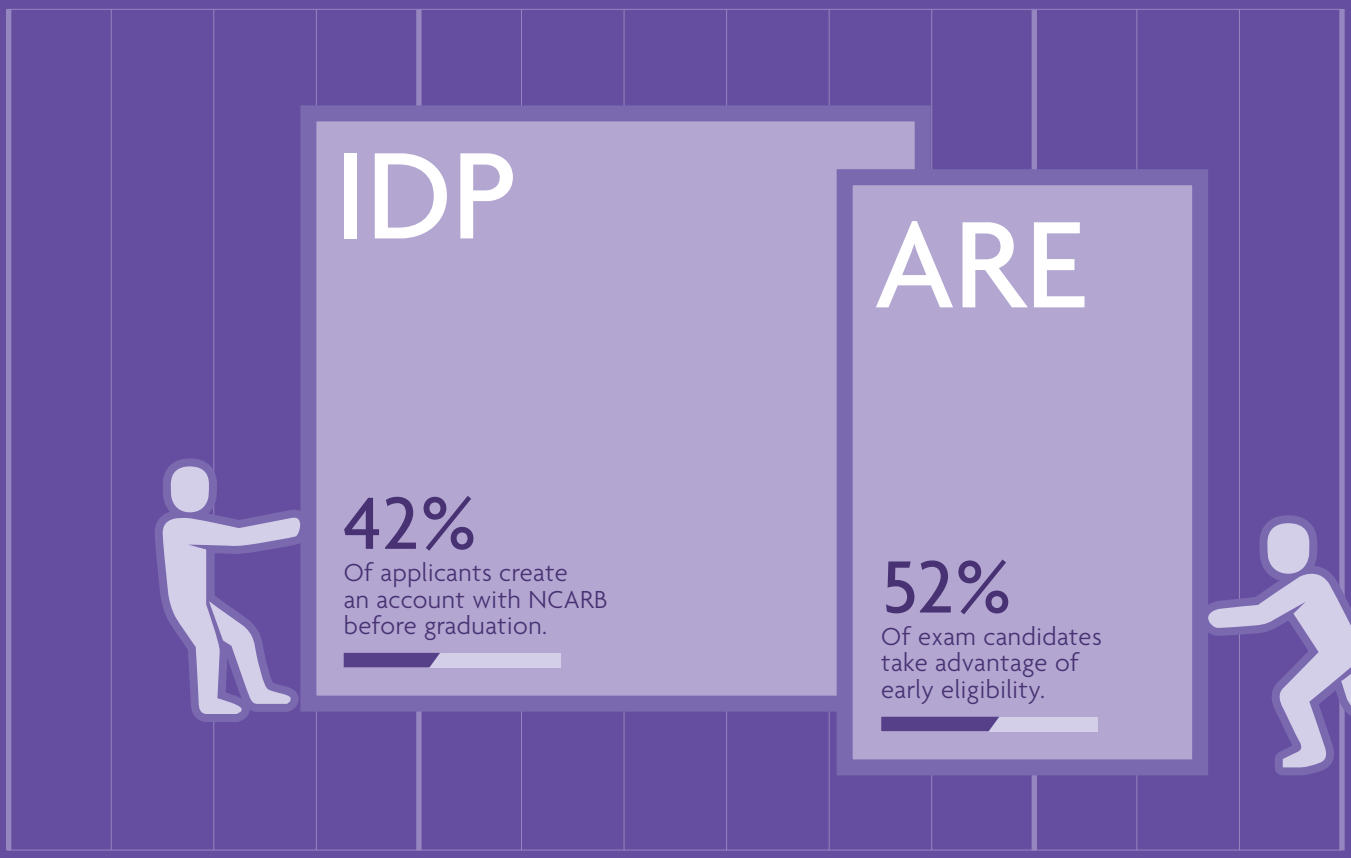
Getting It Done Earlier

Not only are more aspiring architects reaching the goal of licensure, they are doing it sooner. Many start the path prior to graduation. Forty-nine of the 54 U.S. licensing boards now allow exam candidates to test prior to completing IDP requirements (called early eligibility). This increase in flexibility, without reducing rigor, has enabled candidates to more easily fit licensure requirements into their busy academic, professional, and personal lives.



EDUCATION	IDP	ARE

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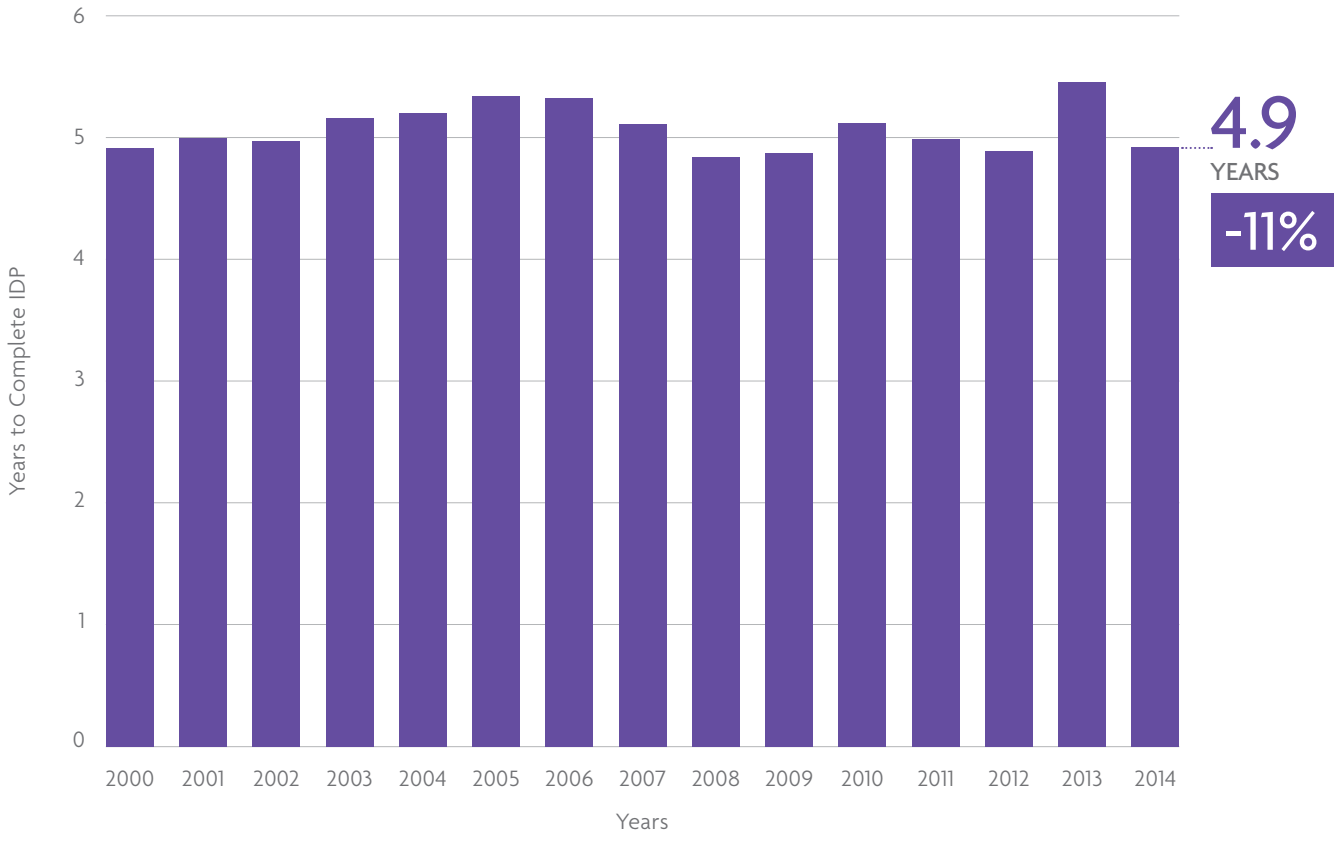
IDP Completed in Less Than 5 Years

On average, aspiring architects completed the IDP in fewer years.

Of the aspiring architects who completed the IDP in 2014, the average completion time was 4.9 years, down from 5.5 years in 2013. The average completion time for 2014 was just under the 15-year average of 5.1 years.



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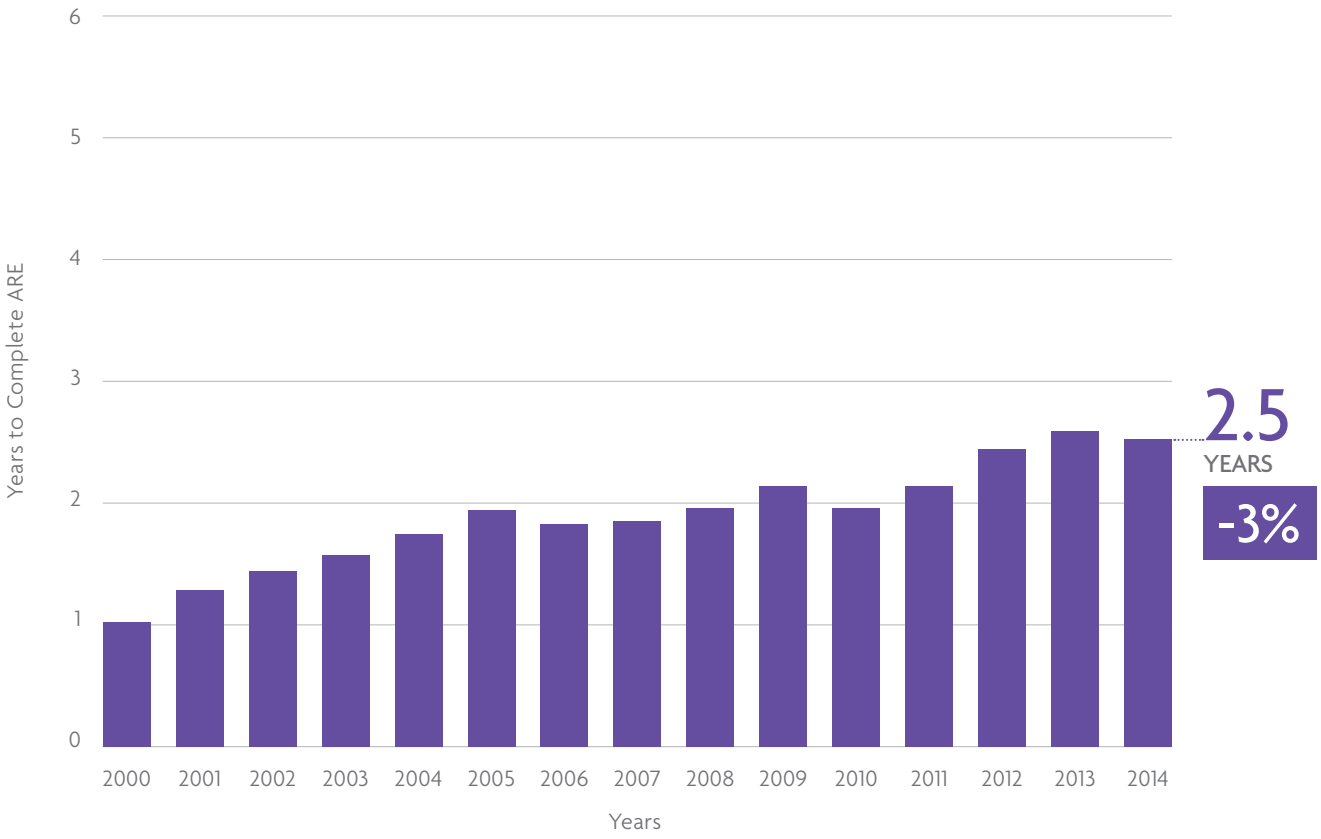
ARE Completion Times Improve

Exam candidates, on average, completed the ARE in 2.5 years.

The average number of years it took candidates to complete the ARE in 2014 was down 3 percent from 2013.



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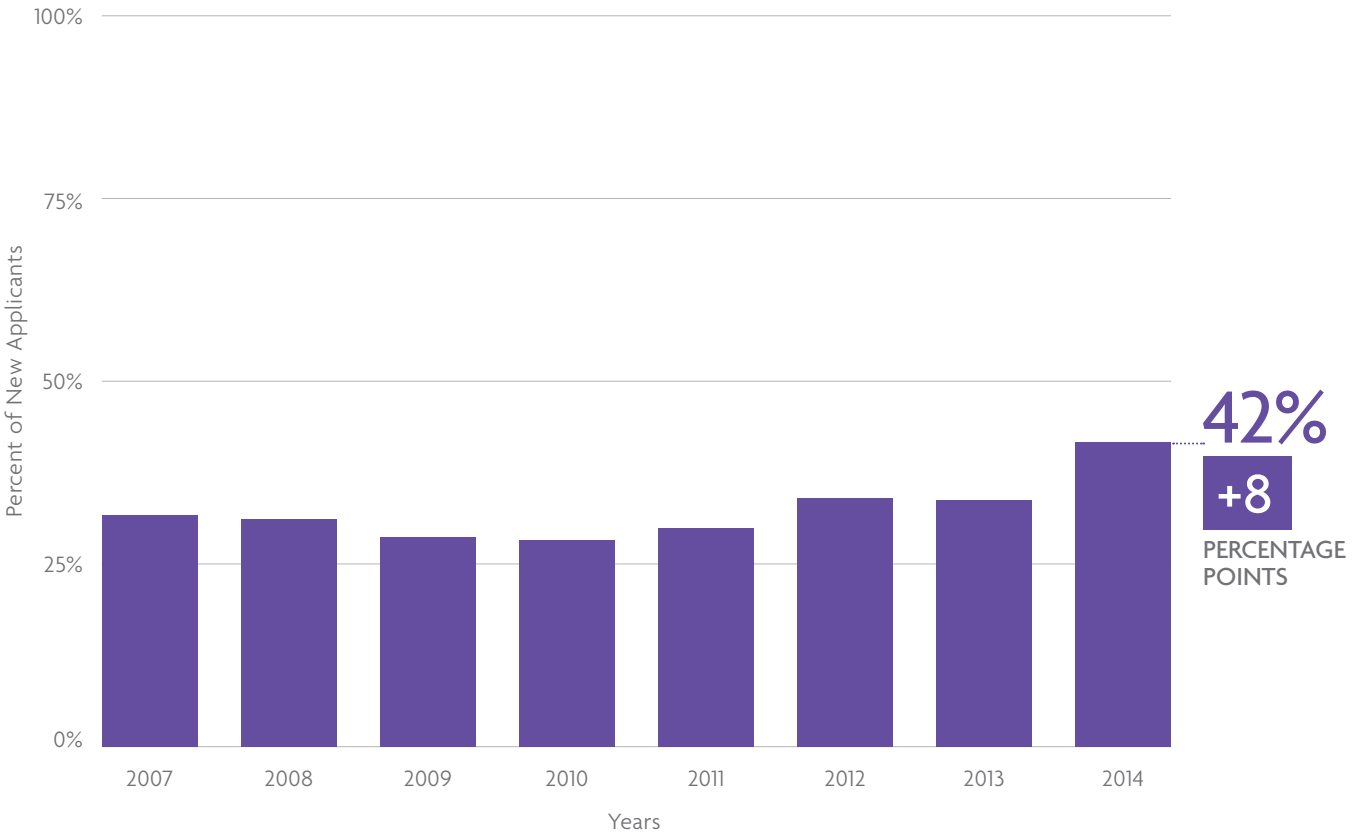
More Students Start the Path to Licensure

The proportion of student applications was at a record high in 2014.

Forty-two percent of new NCARB Record applicants were students, compared to 34 percent in 2013.



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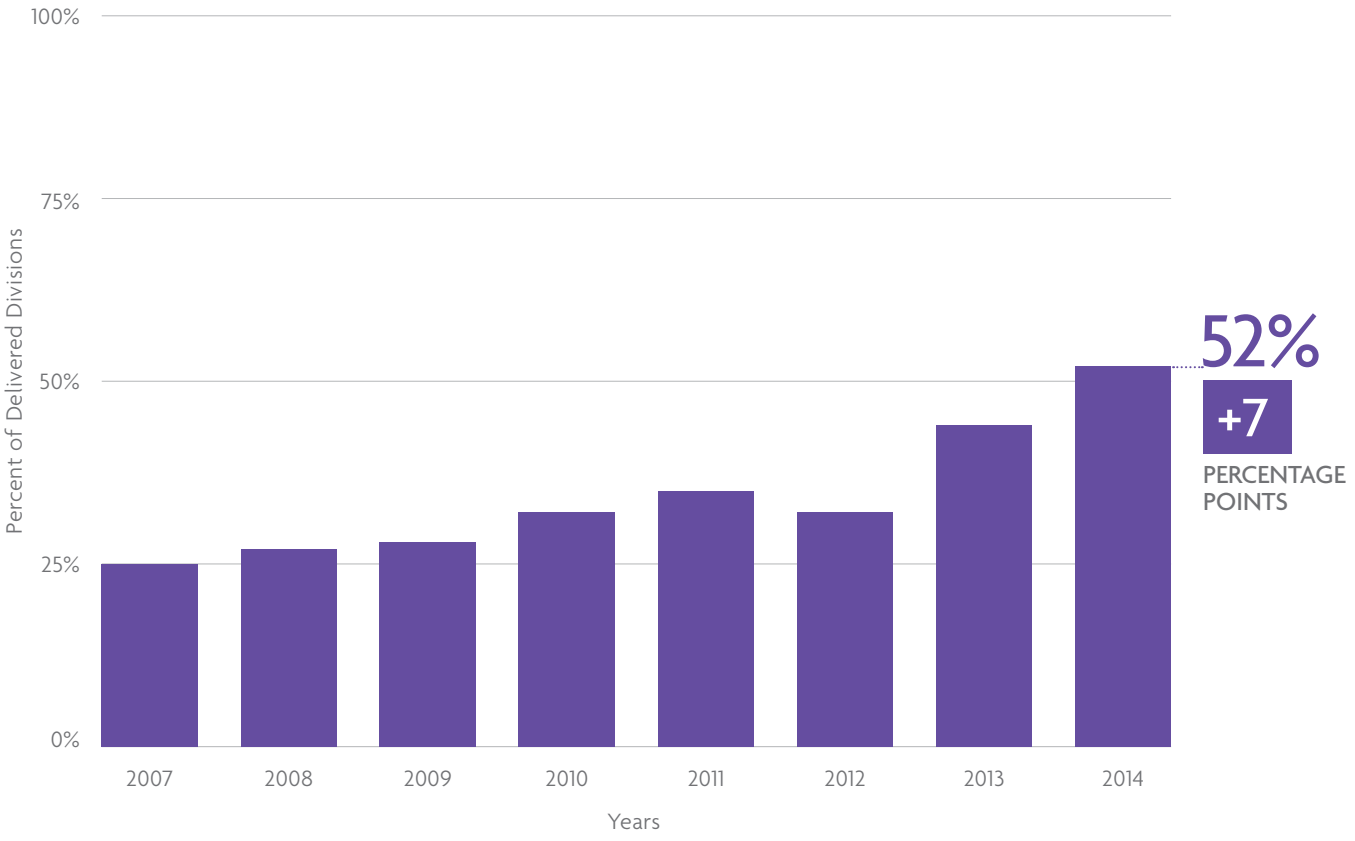
Rise in Candidates Combining ARE and IDP

More than half of all ARE divisions were taken before the completion of IDP.

Of all the divisions taken in 2014, 52 percent were taken prior to the completion of IDP (known as early eligibility). Currently, 49 of 54 jurisdictions allow this overlap.



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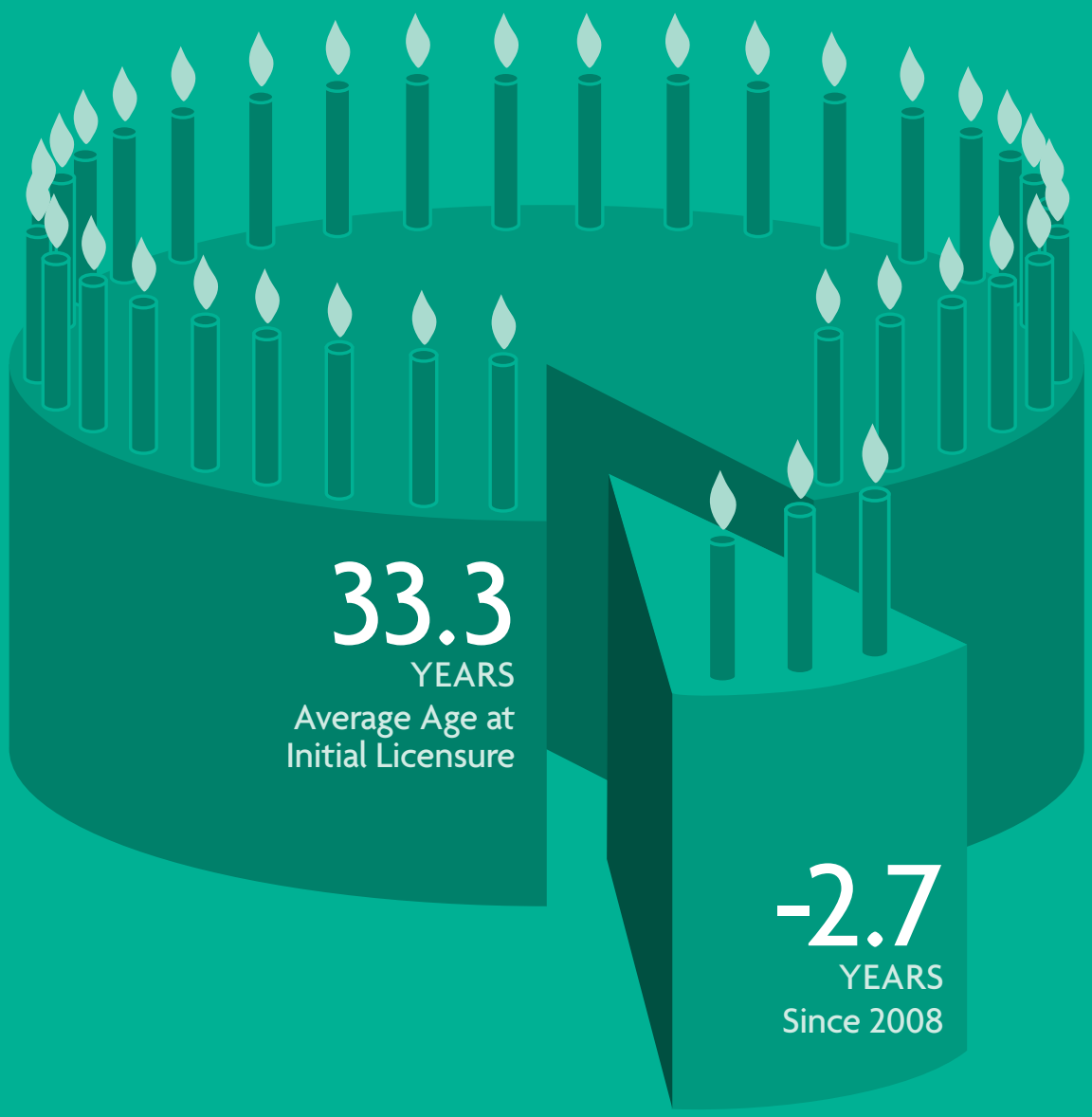
Architecture Profession Experiences a Youth Movement

Aspiring architects are starting and finishing the path to licensure at a younger age, with many students beginning the process before graduation. As a result, the average age of a newly licensed architect—33.3 in 2014—is at its lowest since 2001. Requirement changes by licensing boards have played a major role in reducing these numbers. Exam candidates in most jurisdictions now have the option to start testing prior to completing IDP experience requirements. The combined result: new architects are entering the profession at a younger age.



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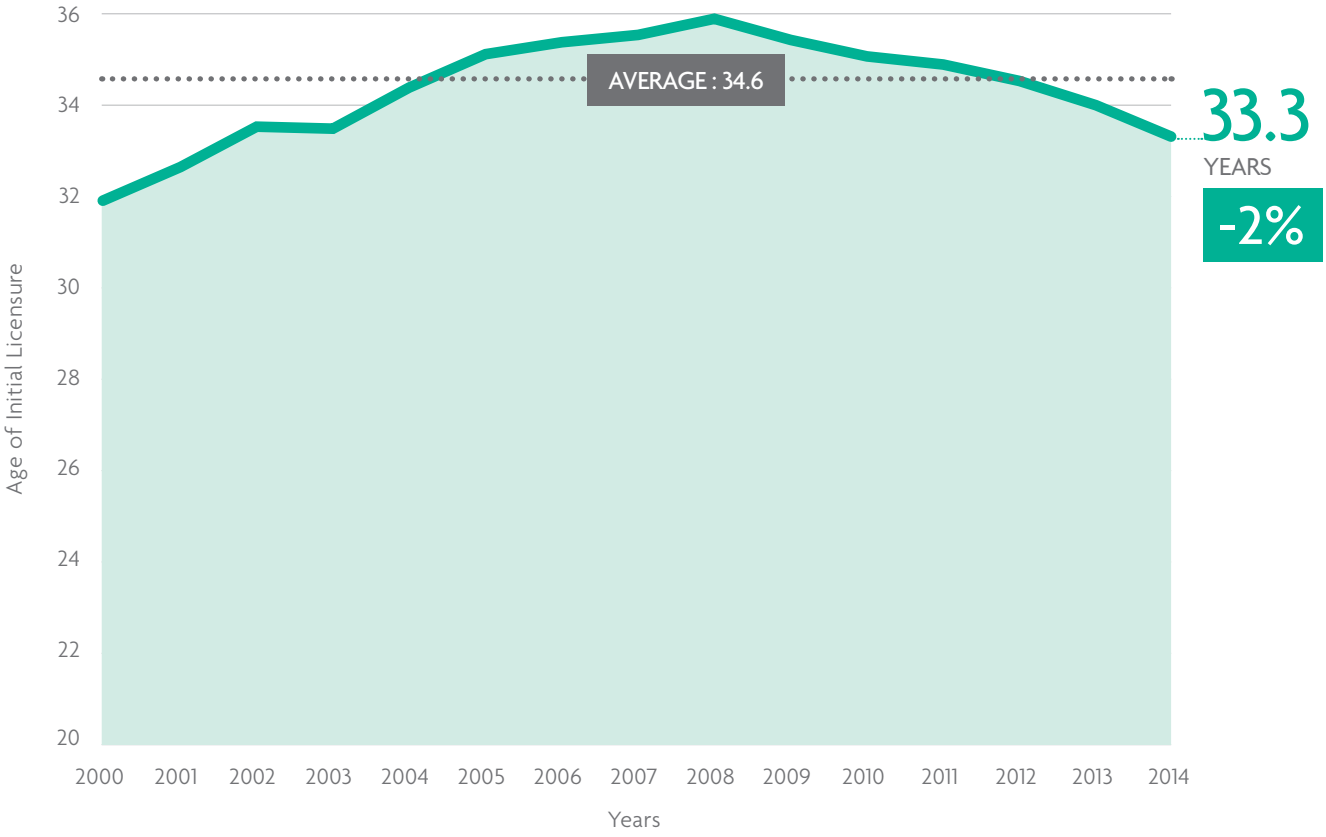
New Architects Are Younger

The average age of an architect upon initial licensure was at a 13-year low.

The average age of an architect upon initial licensure, 33.3 in 2014, was at its lowest since 2001. This is 2.7 years below the 2008 peak and a full year below the 15-year average.



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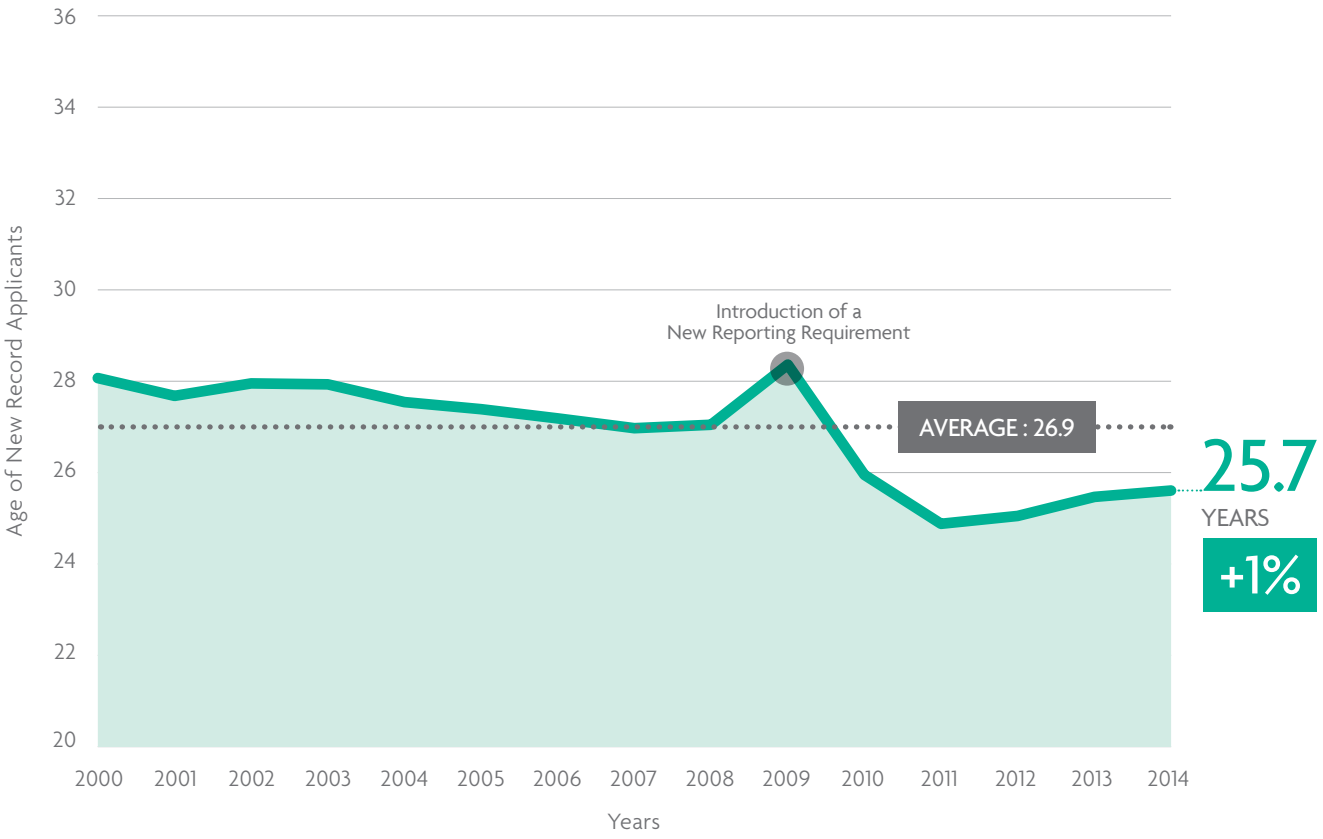
An Earlier Start

The average age of aspiring architects starting the path to licensure remained below the 15-year average.

The average age of an aspiring architect in 2014 was 25.7, slightly up from 2013, but down significantly from 2000.

Effective July 1, 2009, NCARB implemented a new reporting requirement that required candidates to submit IDP experience within eight months.



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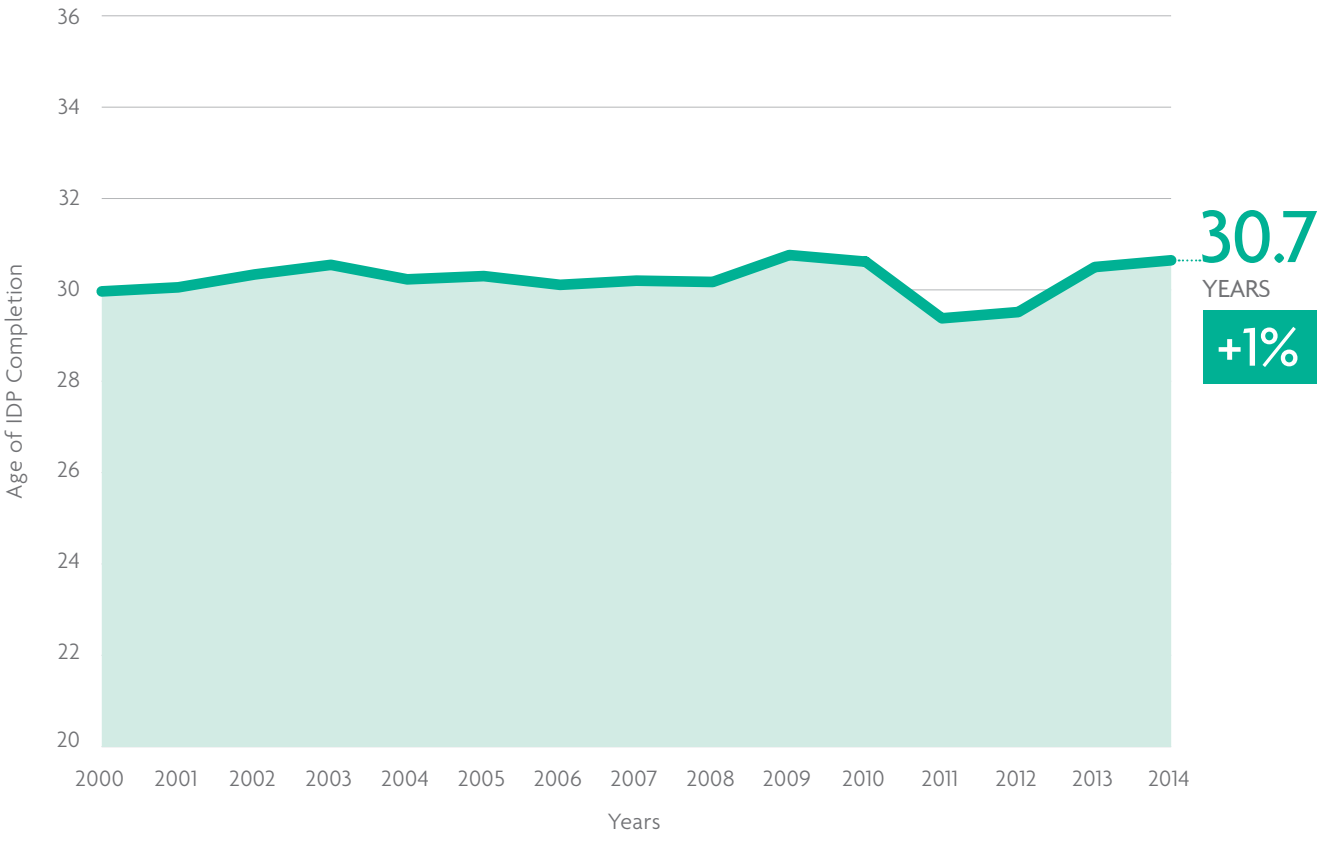
Age at IDP Completion Stays Consistent

The average age of an aspiring architect completing IDP increased slightly in 2014.

The average age for IDP completion was 30.7 in 2014. This is slightly above the 15-year average of 30.3.



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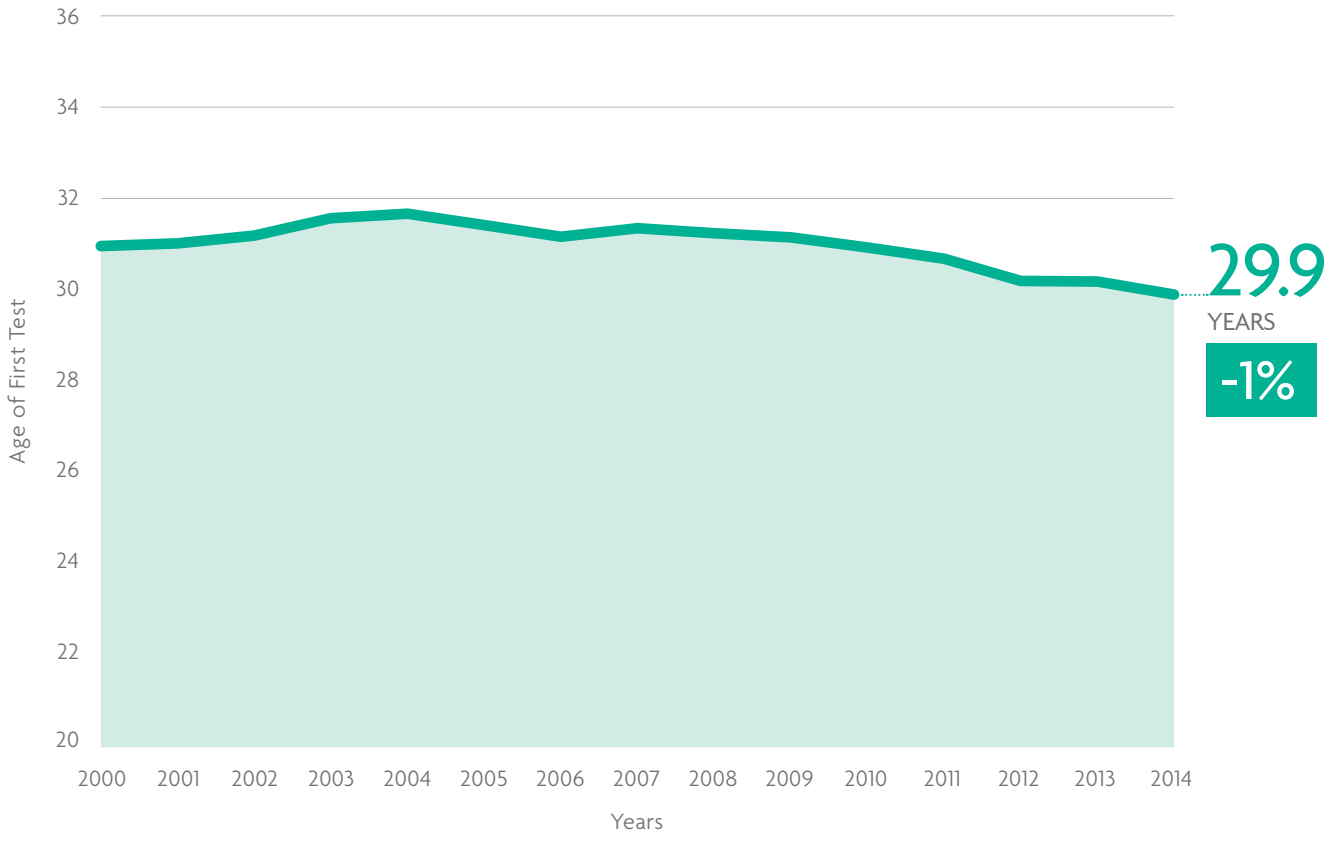
Age of New Test Takers Drops

The average age of a new exam candidate reached a historic low in 2014.

In 2014, the average age of first-time ARE test takers was 29.9, down from 31.7 in 2004. Most licensing boards now allow candidates to start the examination process prior to completing the IDP. A growing number of candidates are taking advantage of getting started earlier on the exam.



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Advantage: NAAB-Accredited Programs

Education, along with experience and examination, is a vital step on the path to licensure. Today, there are more than 150 programs at 123 institutions that are accredited by the National Architectural Accrediting Board (NAAB). NCARB's 2014 data suggests that graduates from NAAB-accredited programs are better equipped to pursue their architectural aspirations.

24,989
Students Enrolled in NAAB-Accredited Programs*

**This data is provided to NAAB by accredited programs and was published in the 2014 NAAB Annual Report, available at www.naab.org.*

69%
of New Exam Candidates Have Graduated From a NAAB-Accredited Program

NON-ACCREDITED
ACCREDITED

69%
ARE Success Rate for Graduates From NAAB-Accredited Programs
Compared to 58% of graduates from non-accredited programs.

2.4 YEARS
Time it Takes Graduates From NAAB-Accredited Programs to Complete the ARE
Almost half a year (0.46%) sooner than graduates from non-accredited programs.

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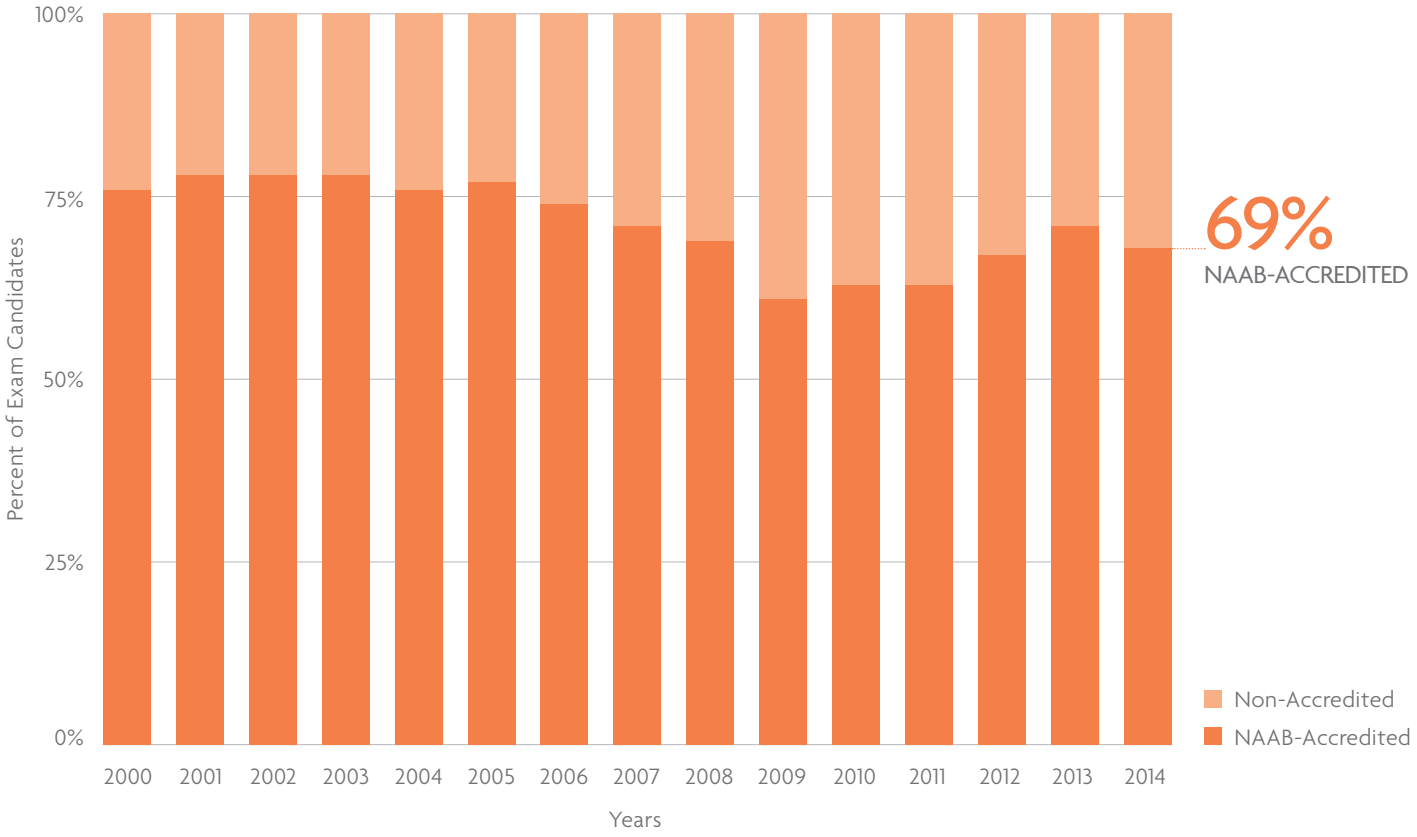
Most Candidates From NAAB-Accredited Programs

Nearly 70 percent of aspiring architects held degrees from NAAB-accredited programs.

The first step on the path to licensure involves creating an account with NCARB, known as an NCARB Record. In 2014, 69 percent of new Record holders graduated from NAAB-accredited programs.



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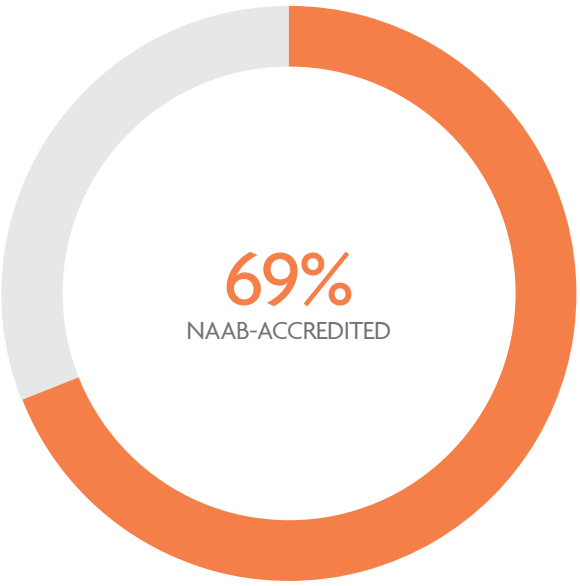
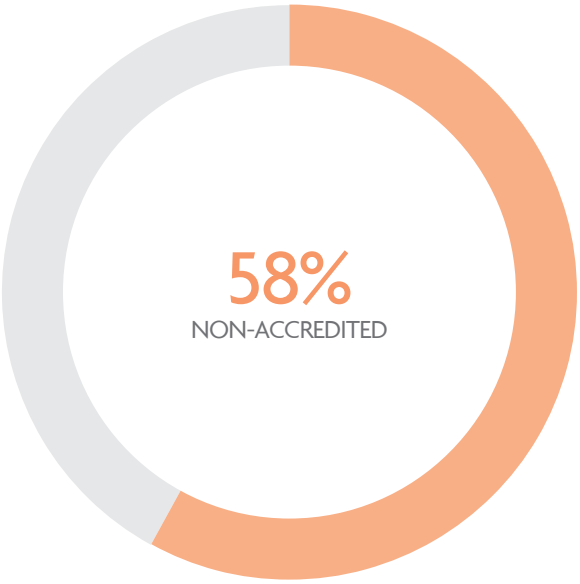
Graduates From NAAB-Accredited Programs Have the Edge

Exam candidates from NAAB-accredited programs achieved higher overall ARE success rates.

Based on all ARE 4.0 divisions taken in 2014, candidates from NAAB-accredited programs had a 69 percent success rate versus a 58 percent success rate by candidates from non-accredited programs.





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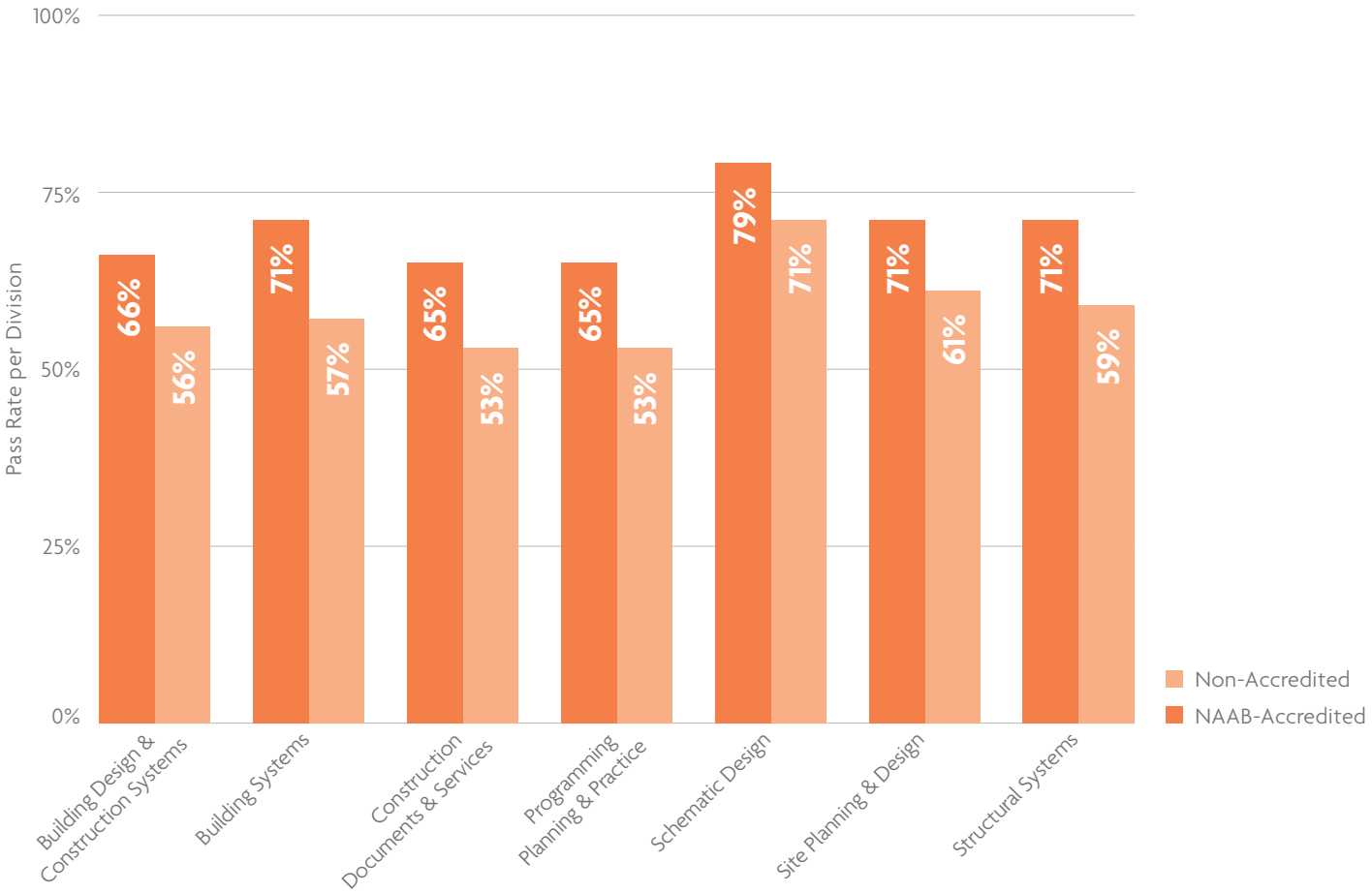
Higher ARE Division Pass Rates

Exam candidates from NAAB-accredited programs outperformed candidates from non-accredited programs across all ARE divisions.

The largest gap in pass rates occurred in Building Systems (BS). Candidates from NAAB-accredited programs had a pass rate of 71 percent compared to 59 percent for candidates from non-accredited programs.

** This data set compares the pass rates of all ARE 4.0 divisions taken from July 2008 through December 2014.*



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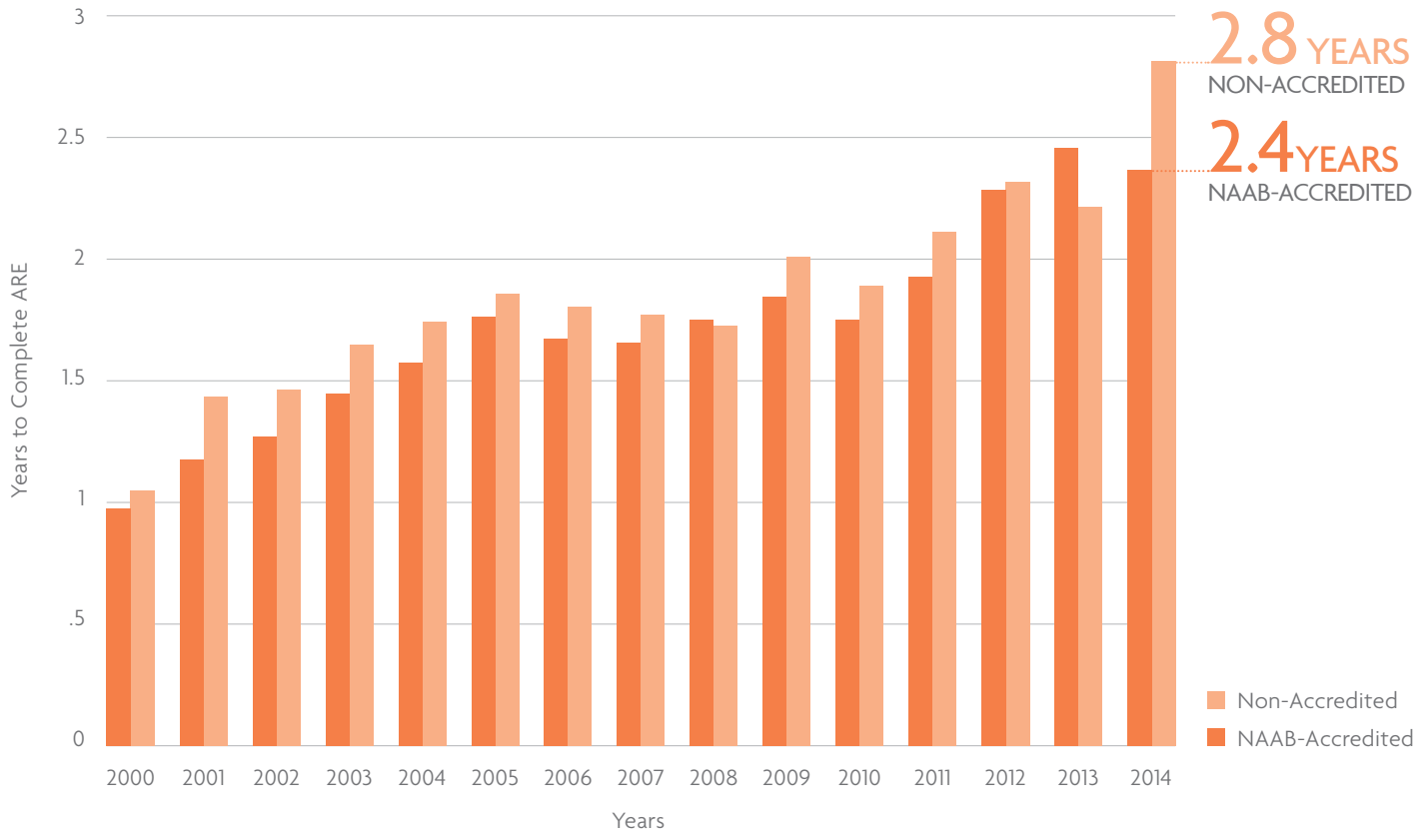
Faster ARE Completion

Exam candidates from NAAB-accredited programs completed the ARE in less time than candidates from non-accredited programs.

Candidates from NAAB-accredited programs have had faster average ARE completion times for 13 of the past 15 years. In 2014, candidates from NAAB-accredited programs completed the ARE in 2.4 years, versus 2.8 years for those from non-accredited programs.



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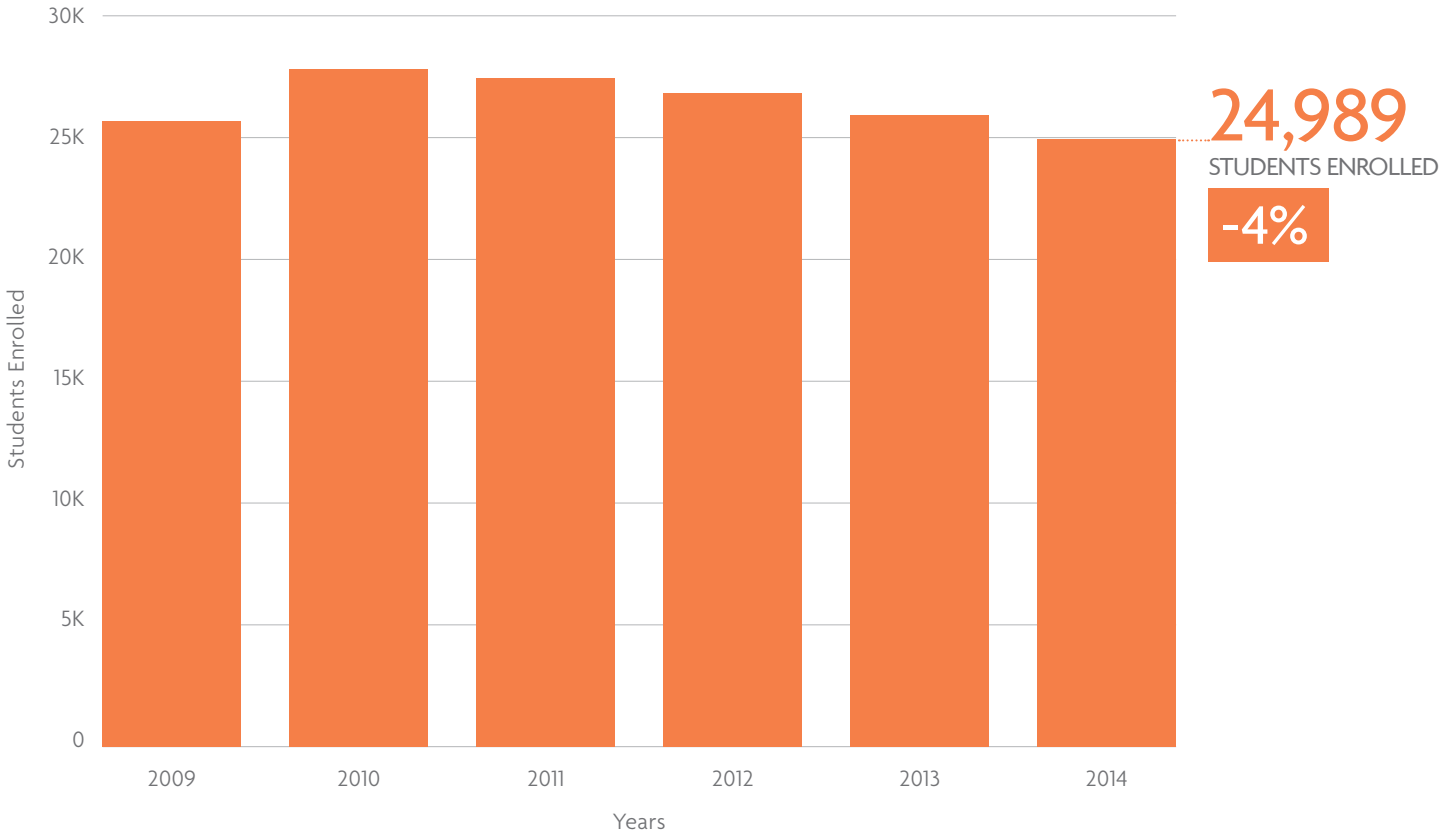
Student Enrollment Drops Slightly

The number of students enrolled in NAAB-accredited programs dropped slightly over the last two years.

The National Architectural Accrediting Board (NAAB) reported that 24,989 students were enrolled in NAAB-accredited architecture programs during the 2013-2014 school year.

This data is provided to NAAB by accredited programs and was published in various NAAB Annual Reports, available at www.naab.org. NAAB is the sole agency authorized to accredit U.S. professional degree programs in architecture. (Note: This does not include students enrolled in non-accredited architect programs or students who intend to join architect programs after completing other four-year preprofessional degrees.)



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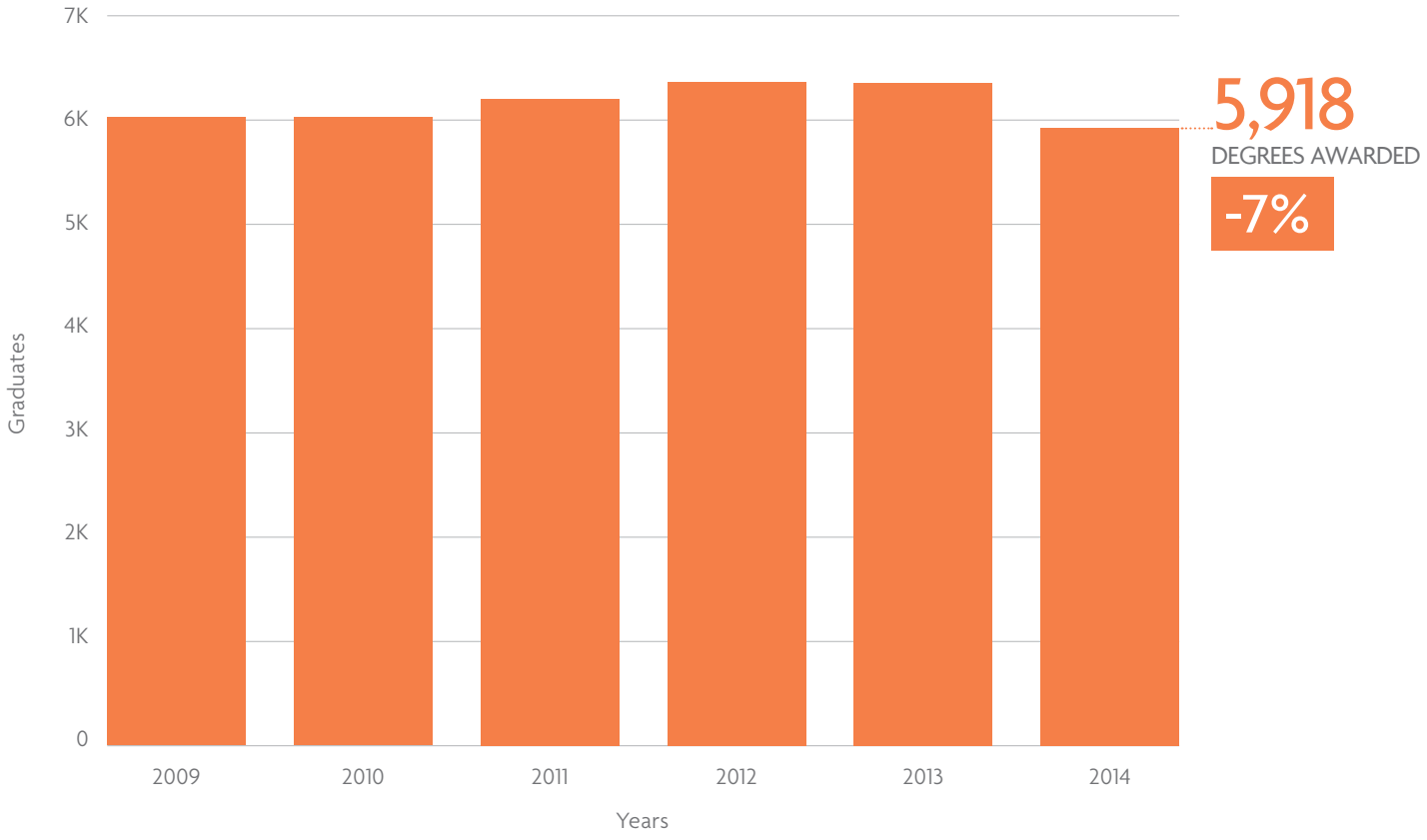
Lower Number of Graduates

The number of degrees awarded from NAAB-accredited programs was slightly lower in 2014.

The National Architectural Accrediting Board (NAAB) reported that there were 5,918 degrees awarded during the 2013-2014 school year.

This data is provided to NAAB by accredited programs and was published in various NAAB Annual Reports, available at www.naab.org. NAAB is the sole agency authorized to accredit U.S. professional degree programs in architecture. (Note: This does not include students enrolled in non-accredited architect programs or students who intend to join architect programs after completing other four-year preprofessional degrees.)



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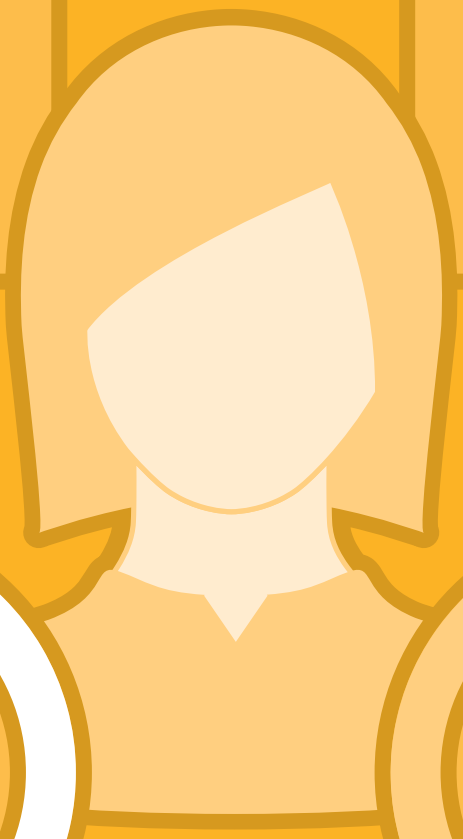
More Women Enter the Profession

The pipeline of aspiring architects suggests that women continue to move forward in the profession. Women generally start earlier than men—getting a head start on the IDP and the ARE. And the proportions of IDP and ARE completions by women has steadily grown in the 21st century. Among practitioners, women are still under represented, as indicated by the percentage of women Certificate holders and IDP supervisors. However, this should improve over time given the increasing number of women on the path to licensure.

24.8 YEARS
Age Women Start Licensure Process
Compared to 26.2 years for men

29 YEARS
Age Women Start the ARE
Compared to 30.5 years for men



38%
Proportion of IDP Completions by Women

35%
Proportion of ARE Completions by Women

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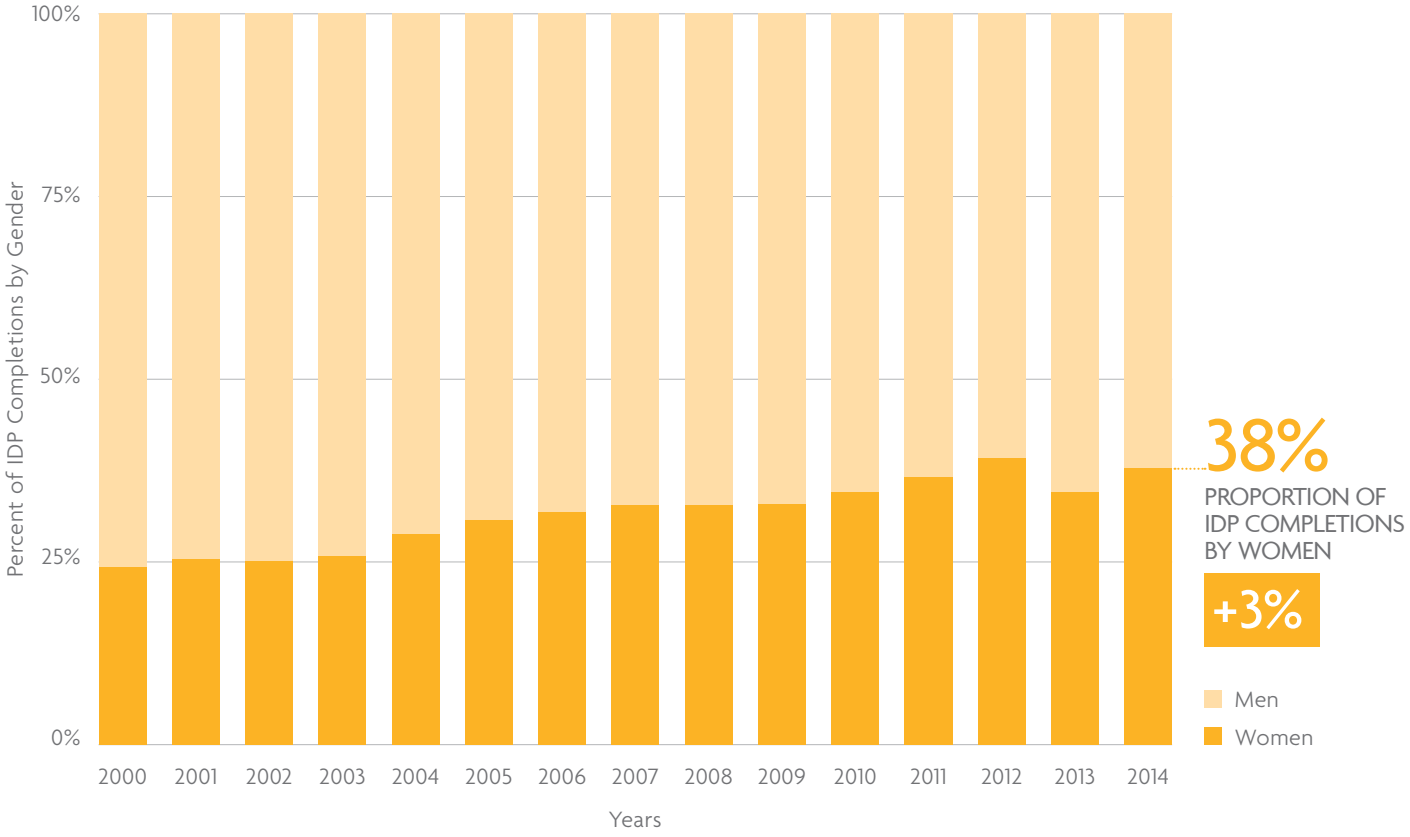
Gender Balance for IDP Improving

Nearly 40 percent of IDP completions were by women in 2014.

Women made up 38 percent of those who completed the IDP in 2014. This was an increase from the 35 percent of IDP completions achieved by women in 2013. The 15-year trend indicates steady, positive growth in the proportion of aspiring women architects. In 2000, less than 25 percent of IDP completions were achieved by women.



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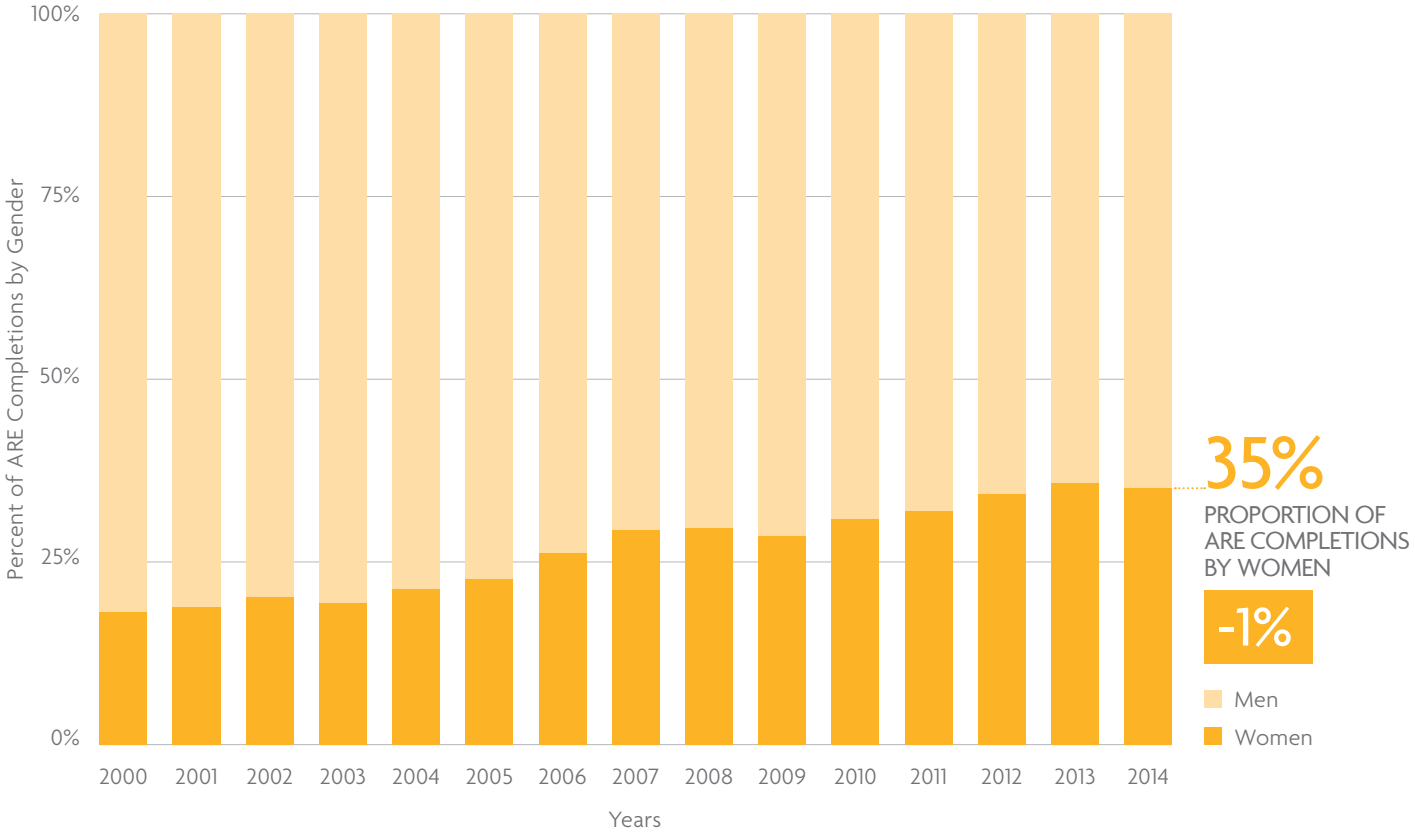
An Upward Trend in ARE Completions

Women accounted for 35 percent of ARE completions—the second highest percentage on record.

The percentage of ARE completions by women in 2014 nearly doubled since 2000.



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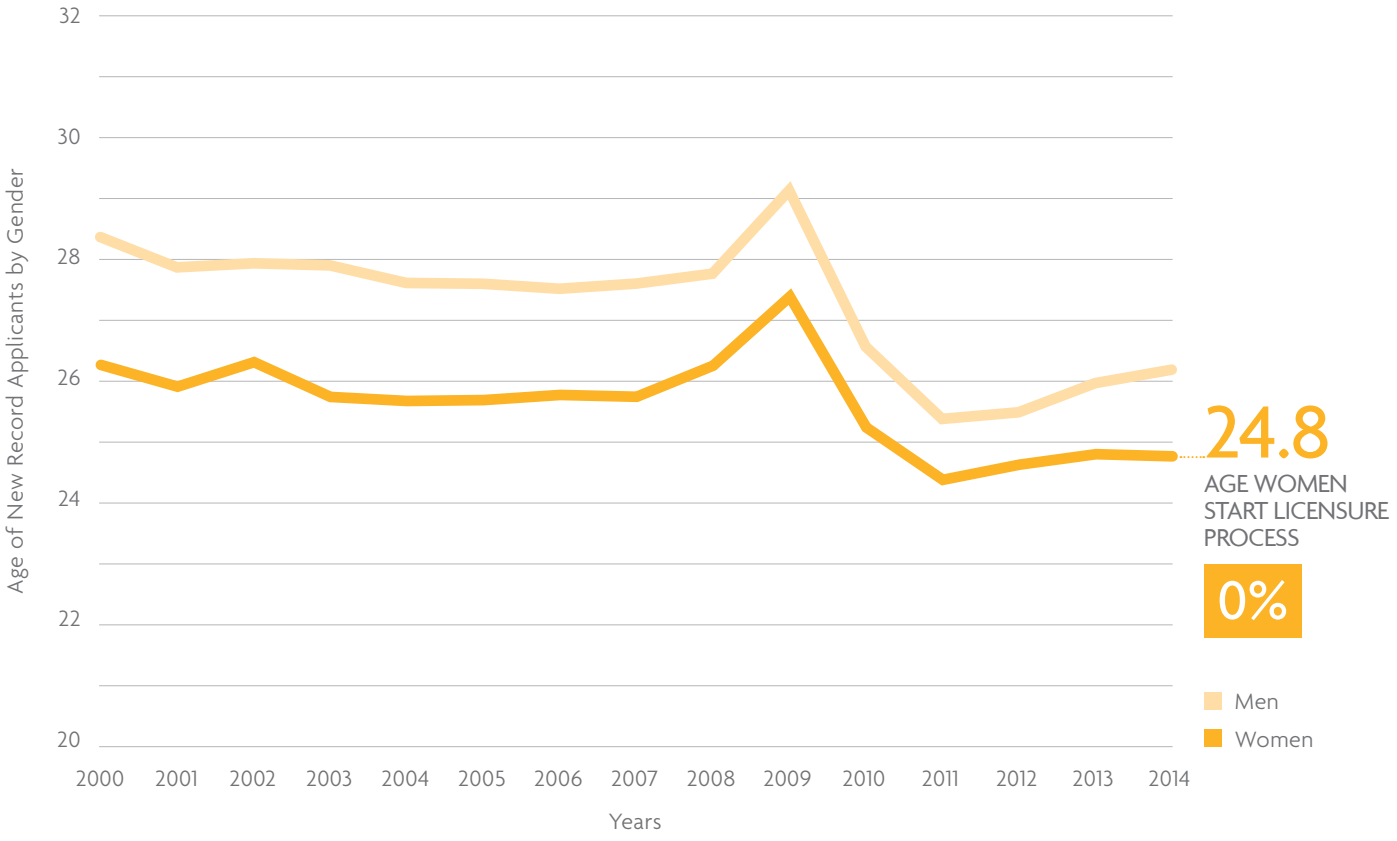
Getting a Head Start

Aspiring women architects started the licensure process earlier than men.

The average age of women starting the path to licensure in 2014 was 24.8, more than a year younger than the average age of men. This age disparity has stayed consistent over the last 15 years.



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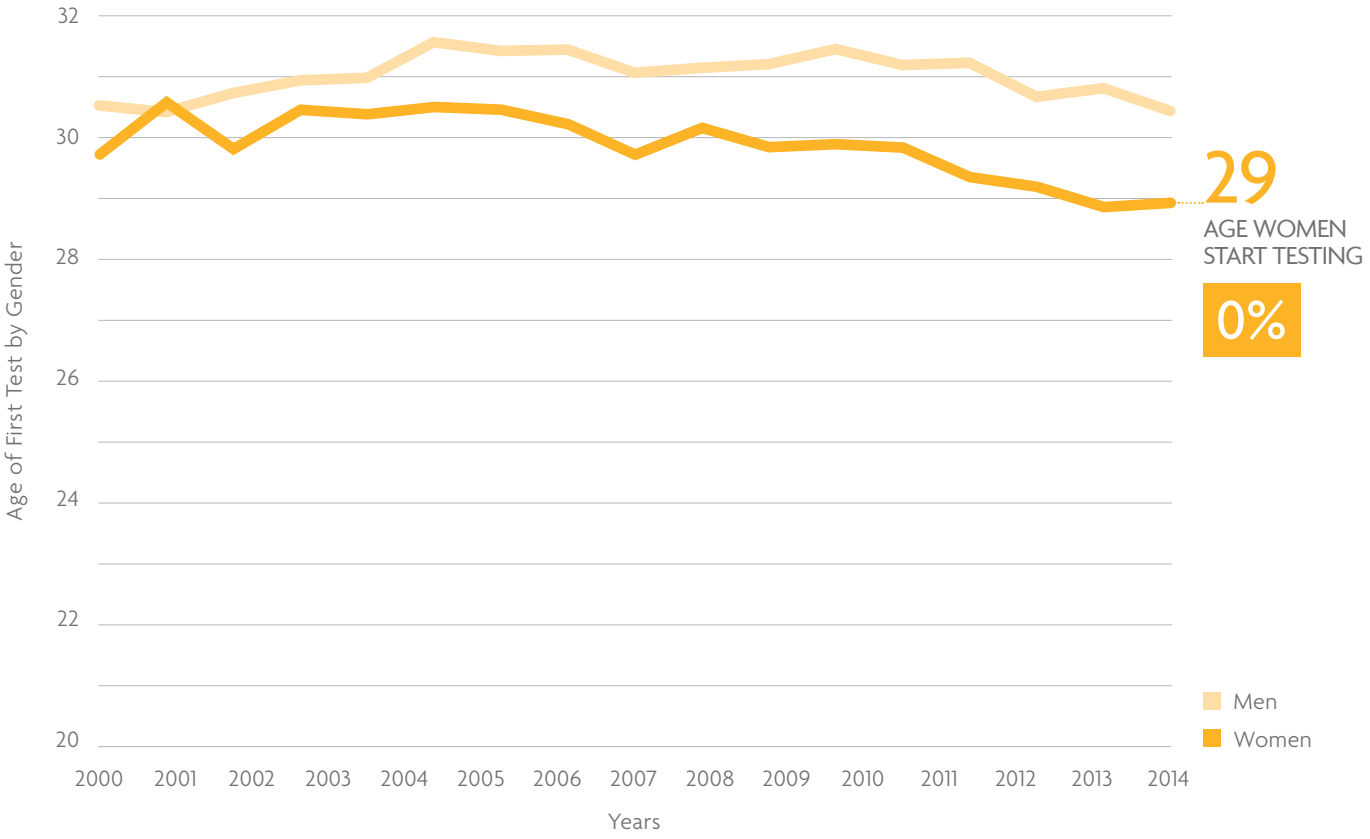
Women Testing Earlier

Women candidates started taking the ARE at a younger age than men.

Women, on average, took their first division at the age of 29 in 2014. Men are slightly older when starting the ARE, beginning at the average age of 30.5.



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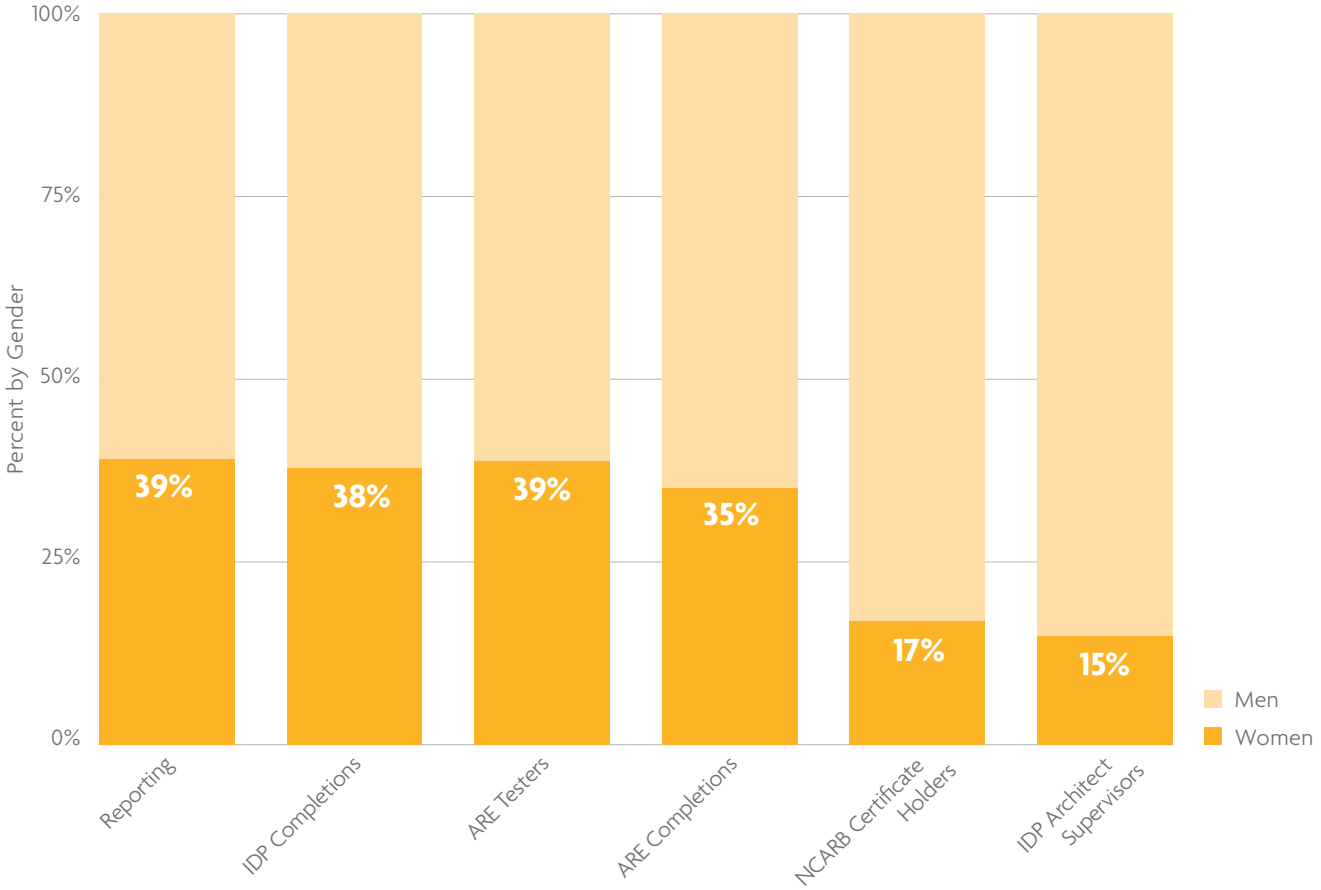
More Women on the Path

The proportion of women practitioners is set to increase.

A 2014 comparison of the ratio of women and men at different stages of their architectural careers indicated that the proportion of women practitioners is likely to rise. Among architects, women are still under represented, as indicated by the percentage of women Certificate holders and IDP supervisors. However, with women representing more than a third of those on the path to licensure, this should improve over time.



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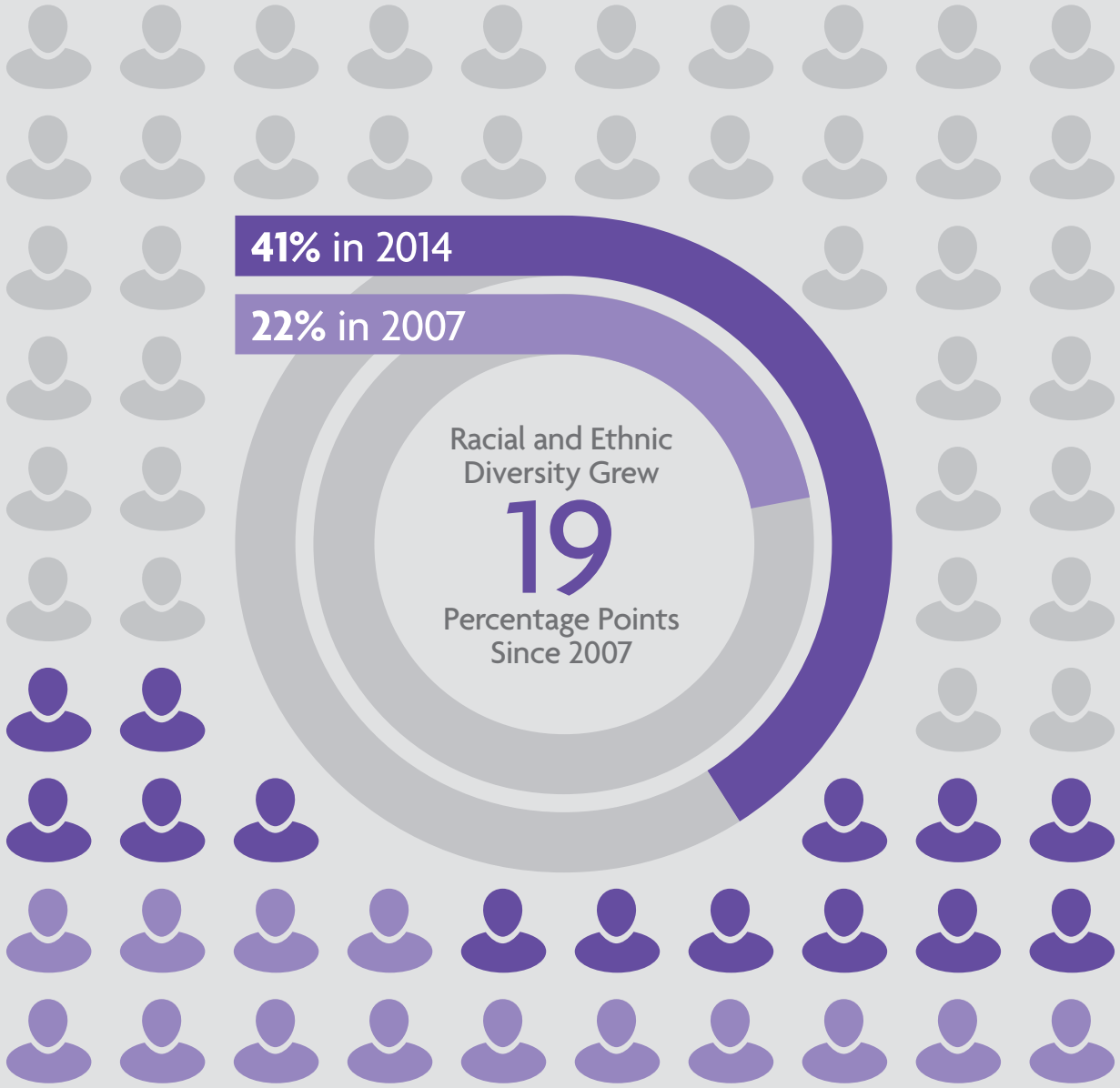
Profession's Racial and Ethnic Diversity Gains Ground

NCARB's 2014 data finds that the number of aspiring architects from racial and ethnic minority groups is slowly growing, with the potential to represent a larger proportion of the future architect workforce.



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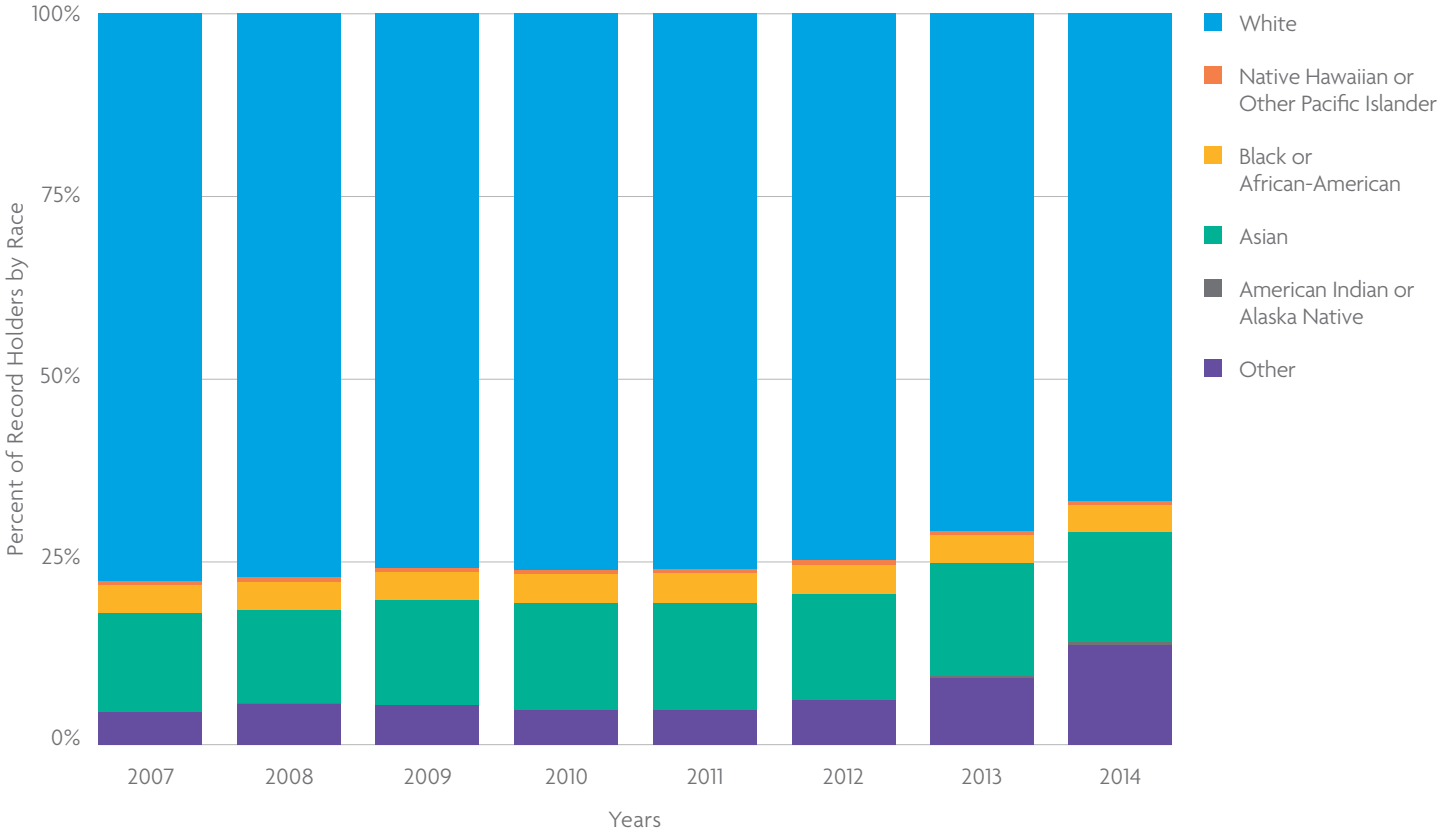
Racial Diversity Grows Among Record Holders

For the fourth-straight year, NCARB Record holders became more racially diverse.

Applicants who identified themselves as non-white represented 33 percent of new NCARB Record holders in 2014. This compares favorably to 22 percent of the non-white U.S. population, based on 2010 Census Bureau data.



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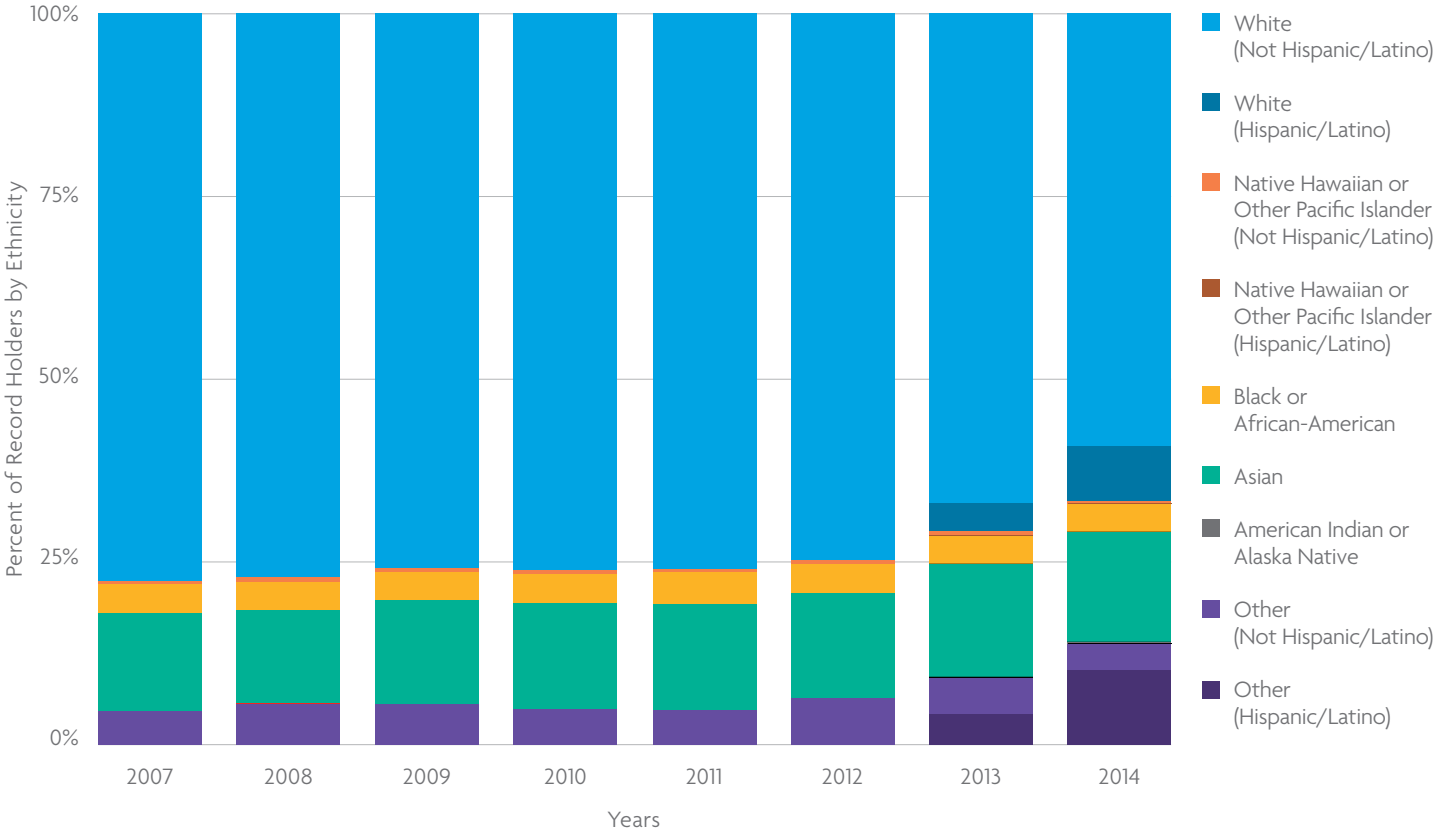
Ethnicity Adds to the Expanding Mosaic

The percentage of NCARB Record holders who are Hispanic/Latino was on the rise in 2014.

When Hispanic/Latino ethnicity is factored in, minorities made up 41 percent of the talent pool in 2014. This compares to 38 percent of racial and ethnic minorities who make up the U.S. population, based on the 2010 U.S. Census Bureau data. The largest minority groups were: 15 percent Asian, 10 percent Other (Hispanic/Latino), 4 percent Other (Not Hispanic/Latino), and 4 percent Black or African-American.



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Inside NCARB

The 14-member NCARB Board of Directors is made up of volunteers and includes 12 architects, one public member, and one executive from a licensing board. NCARB also relies on the work of hundreds of volunteer practitioners and aspiring architects. These volunteers make up committees on education, experience, examination, and other subject-specific issues to help guide NCARB and the 54 U.S. licensing boards.

This section provides additional data about the path to licensure, the wide range of ages of IDP supervisors, the number of NCARB volunteers that help guide the profession, and the makeup of the 54 U.S. licensing boards.

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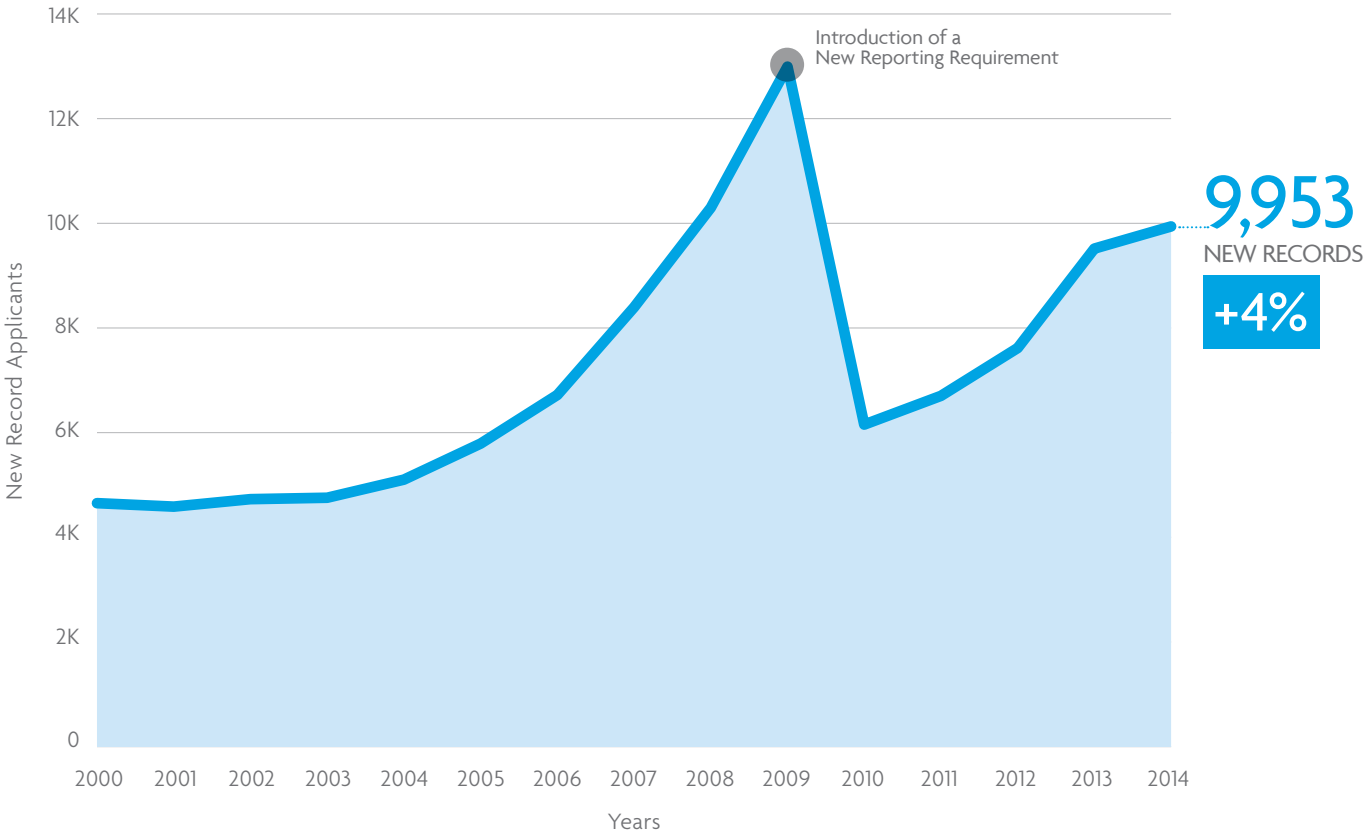
Nearly 10,000 Start the Path to Licensure

The number of aspiring architects beginning the path to licensure continued to grow.

In 2014, 9,953 new aspiring architects started the path to licensure by creating an NCARB Record, up 61 percent since 2000 and up 4 percent from last year.

Effective July 1, 2009, NCARB implemented a new reporting requirement that required candidates to submit IDP experience within eight months.



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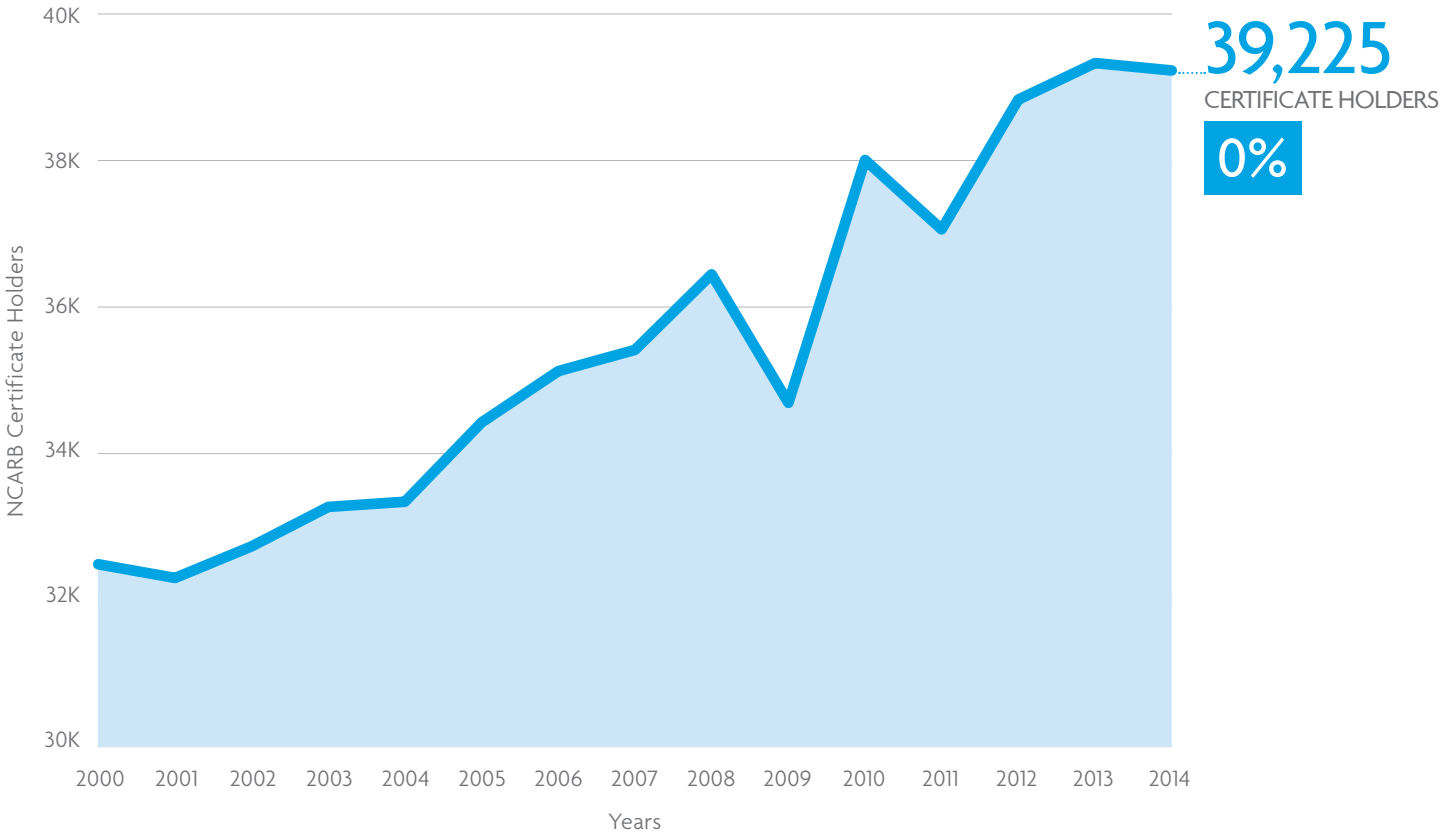
Architects Continue to Value Certification

More than 39,000 architects were NCARB Certificate holders.

This represents a 20 percent increase since 2000, when NCARB reported 32,552 Certificate holders.



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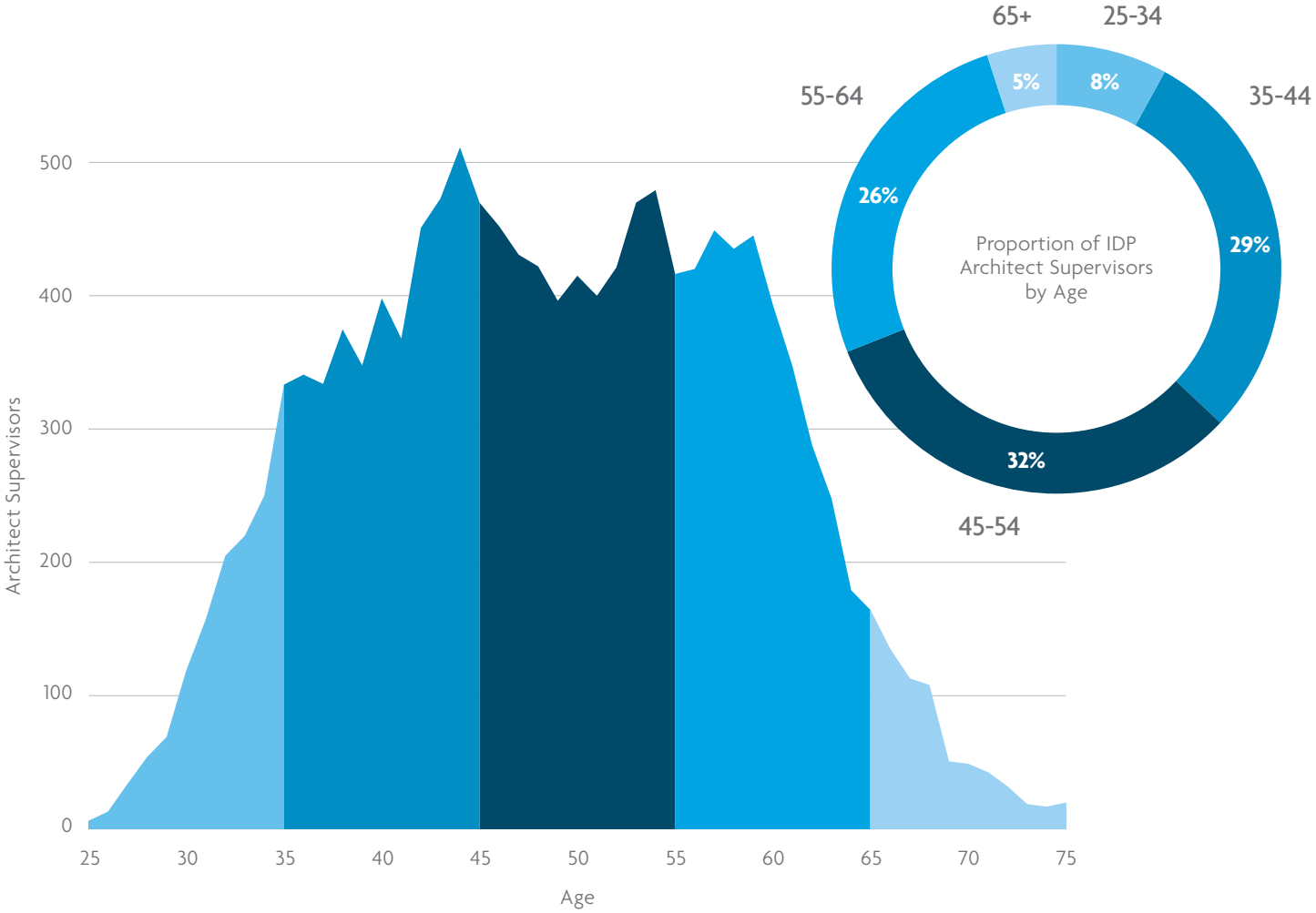
IDP Supervisors: A Broad Range of Ages

The average age of an IDP architect supervisor was 49.2 in 2014.

Aspiring architects reported to IDP supervisors of widely varying ages and levels of experience. The most common age of an IDP architect supervisor was between 45-54.



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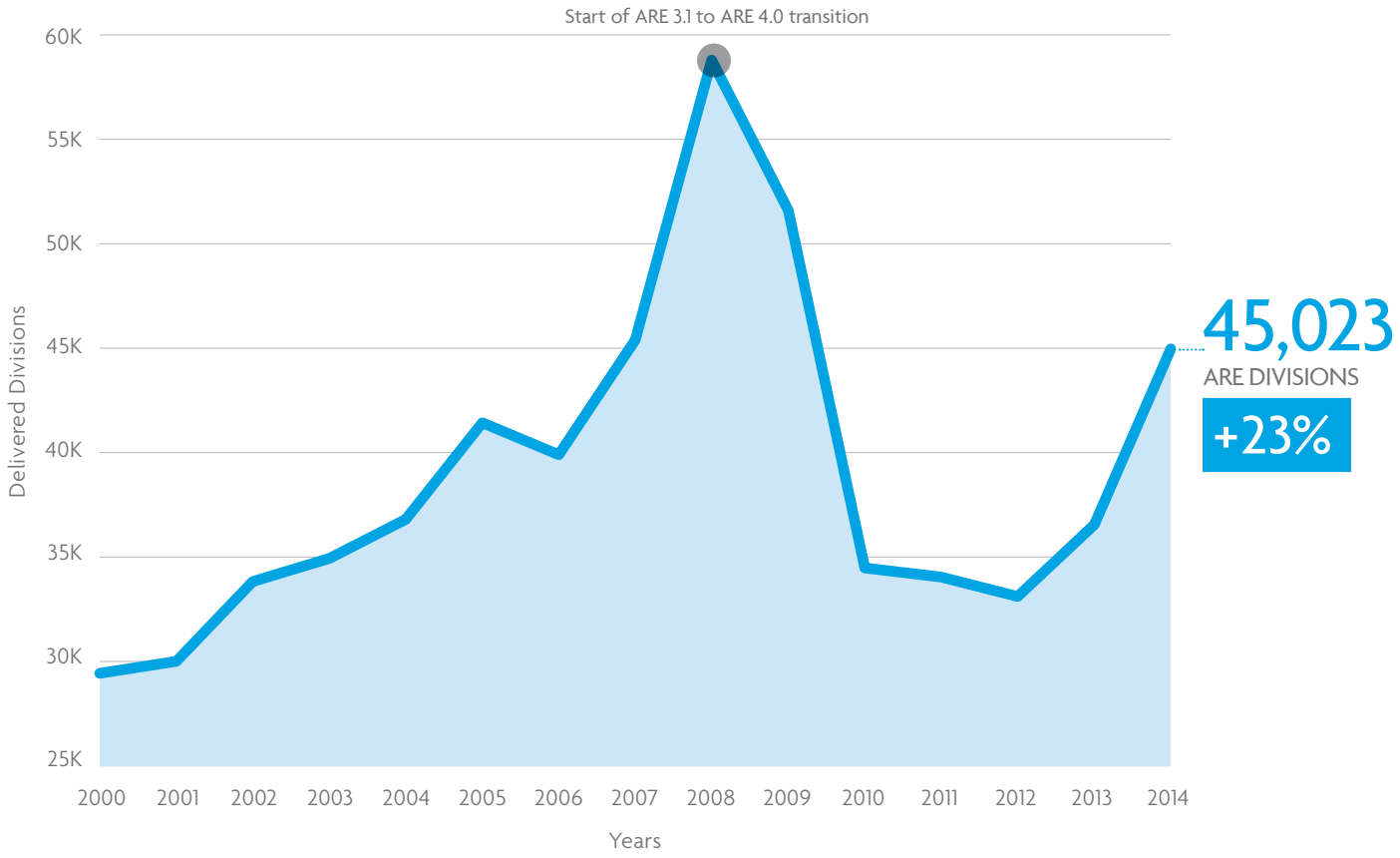
Exam Candidates Test More Frequently

For the second-straight year, the number of ARE divisions administered increased.

The 45,023 ARE divisions administered in 2014 represent a 23 percent increase since 2013. This is the highest number of ARE divisions administered since 2009, when many candidates rushed to complete the exam before it transitioned from ARE 3.1 to ARE 4.0.



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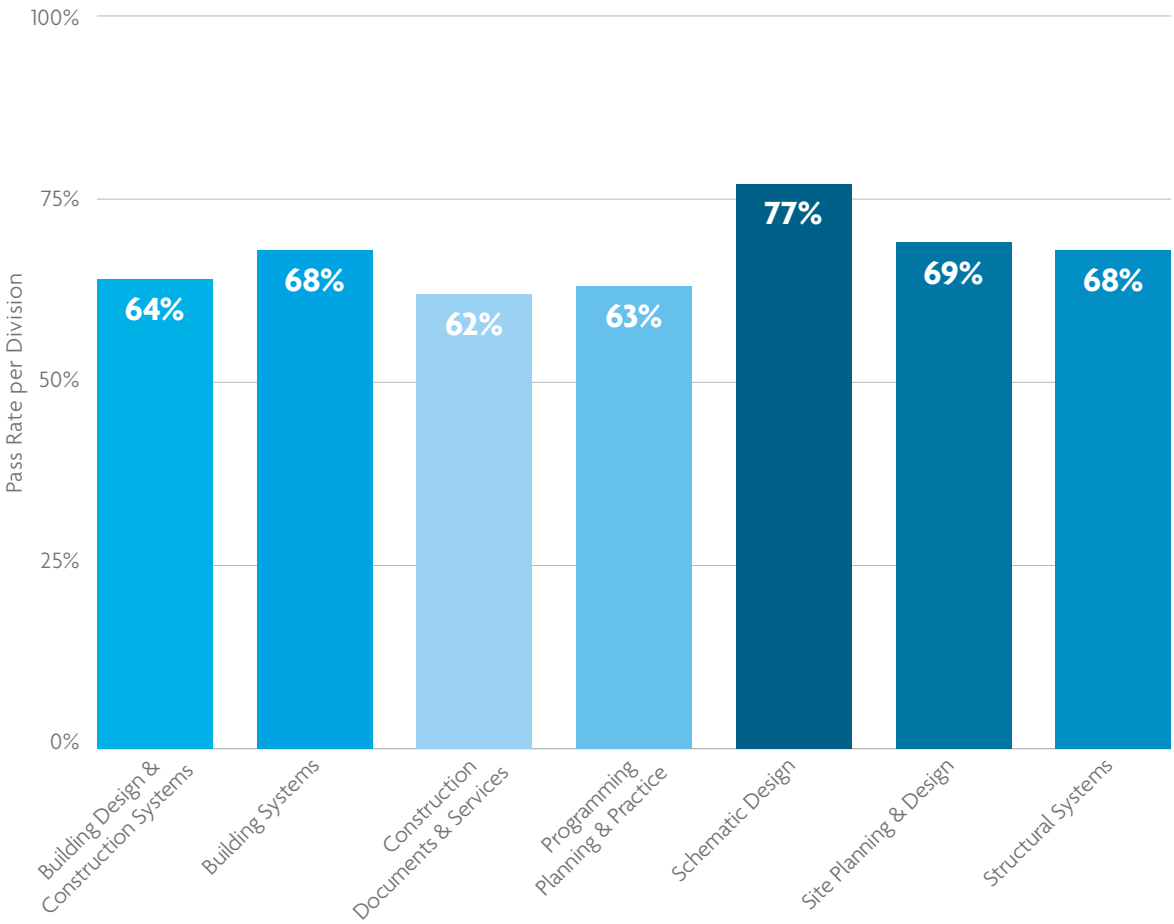
ARE Division Pass Rates Between 62 and 77 Percent

Schematic Design had the highest pass rate at 77 percent in 2014.

The ARE 4.0 division with the lowest pass rate was Construction Documents & Services. Exam Candidates must pass all seven divisions to complete the ARE.



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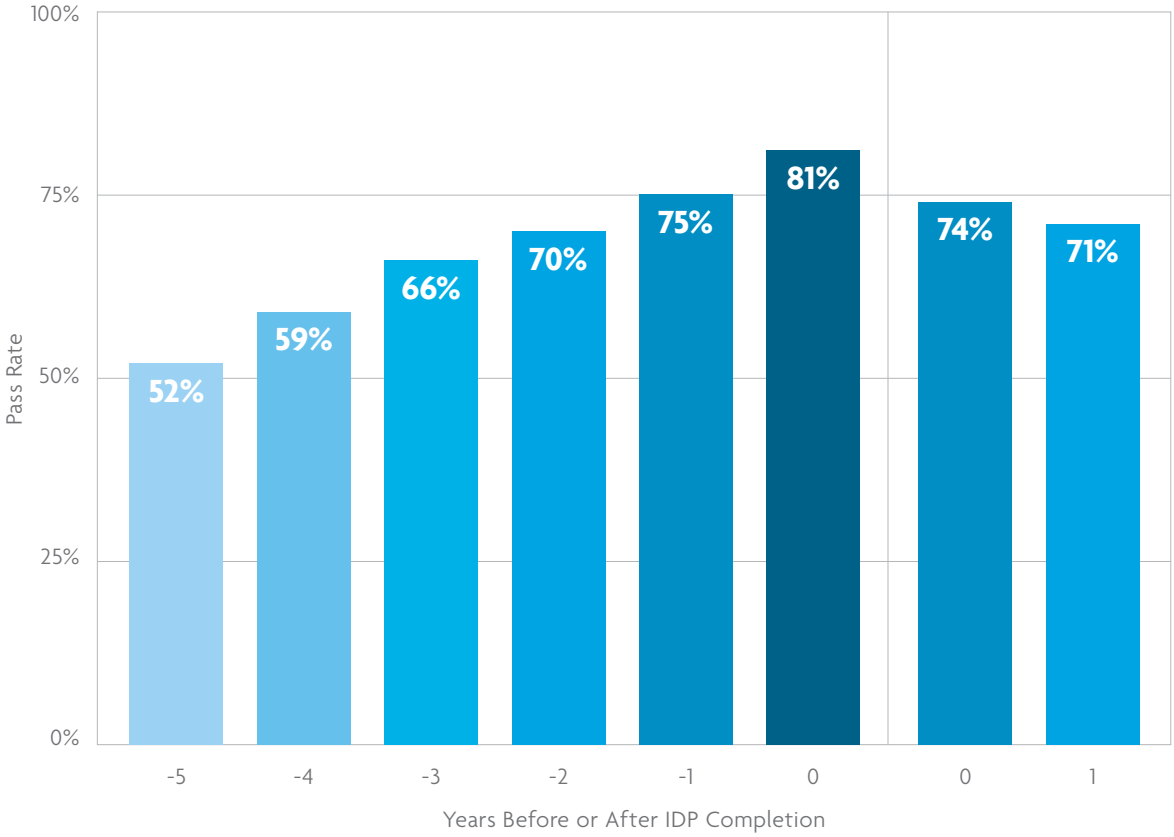
IDP Experience Impacts ARE Pass Rate

Exam Candidates who were close to completing IDP experience requirements had the highest ARE division pass rates.

Of candidates who took advantage of early eligibility—taking the exam before completing IDP—those who tested right before completing IDP had the highest success rate: 81 percent.



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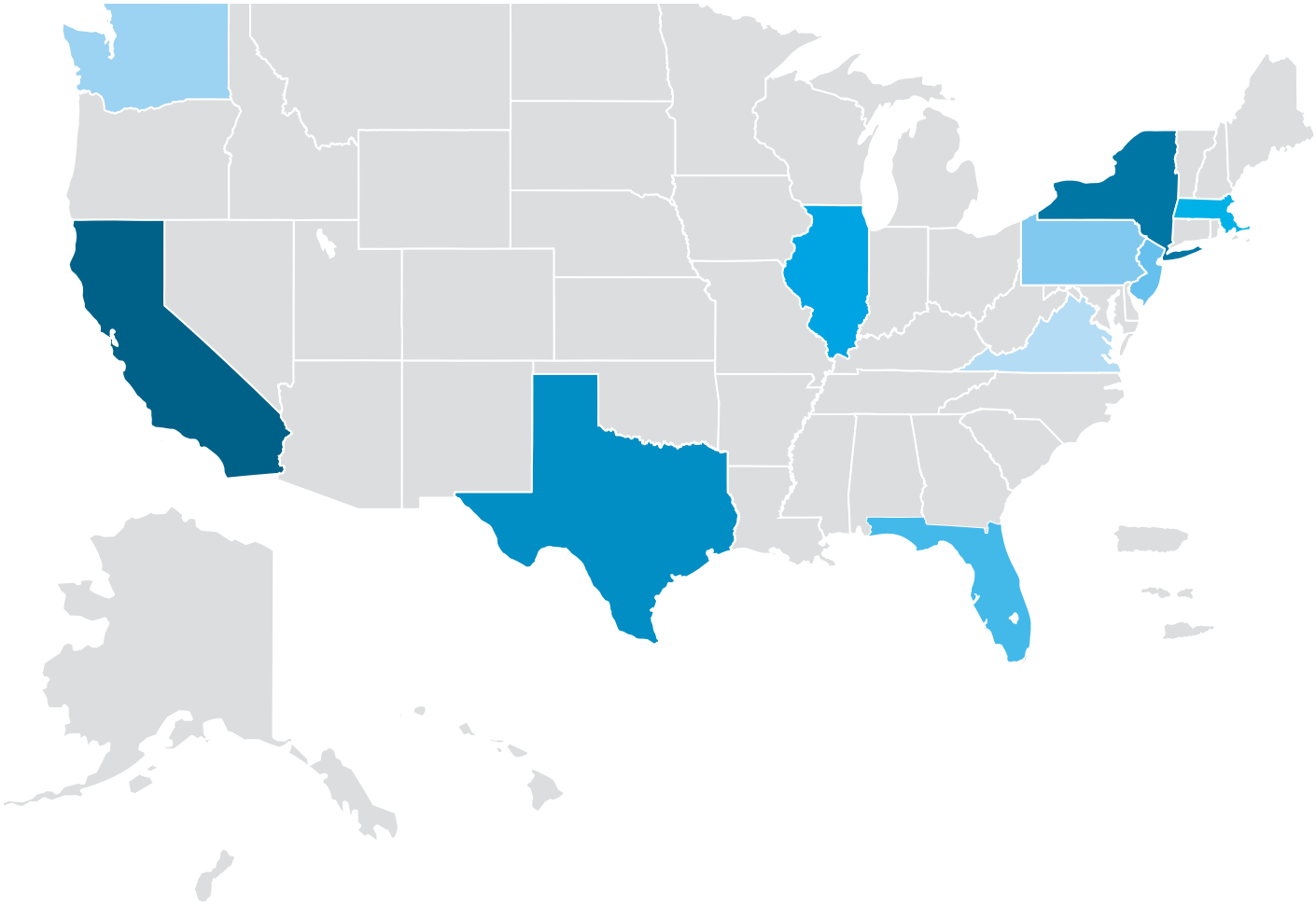
Prospective Architects

These 10 jurisdictions had the highest number of aspiring architects in 2014.

- California: 8,783
- New York: 7,630
- Texas: 4,276
- Illinois: 2,822
- Massachusetts: 2,543
- Florida: 2,494
- New Jersey: 2,029
- Pennsylvania: 1,774
- Washington: 1,654
- Virginia: 1,454



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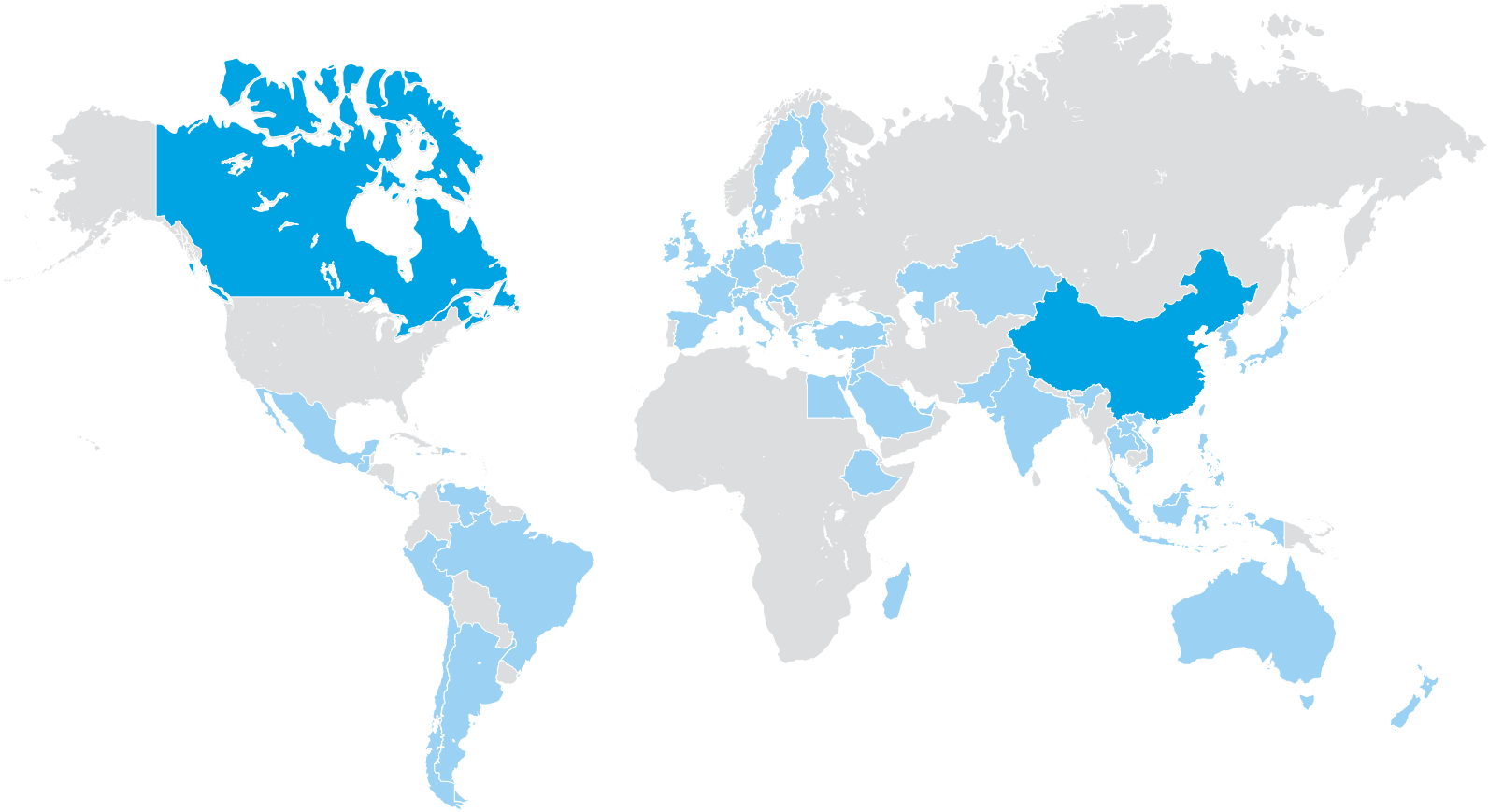
NCARB's Global Presence

Aspiring architects and Certificate holders are based around the world.

Outside the United States, the majority of Record holders were based in Canada (664), China (195), the United Kingdom of Great Britain and Northern Ireland (99), the Republic of Korea (99), Japan (35), and Germany (21).



1-115

116-700

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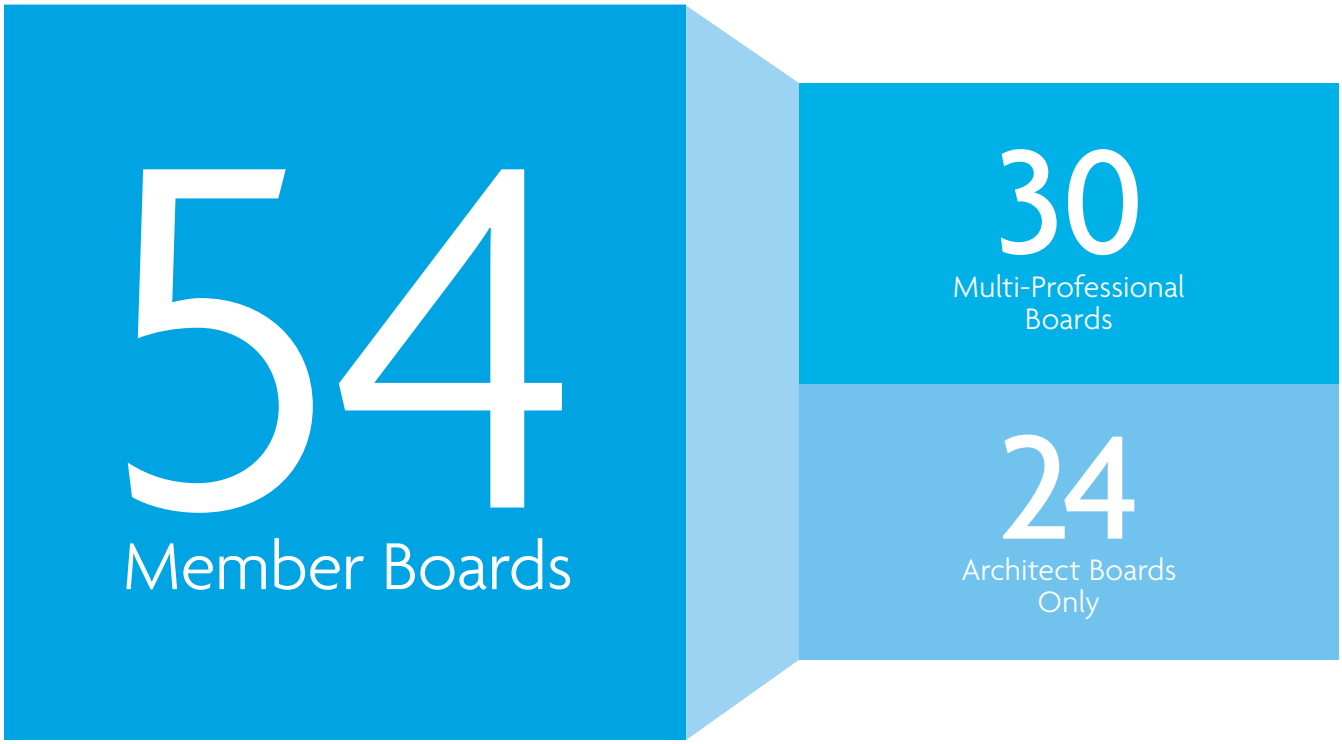
54 U.S. Licensing Boards

NCARB works with jurisdictions to lead the regulation of architects.

Fifty-four U.S. licensing boards regulate the architecture profession. In 2014, this included 28 multi-professional boards and 26 that solely regulate architects. The licensing boards were served by 419 volunteers, including 226 architects, 60 public members, and 133 who sat on joint boards and represented various professions.



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91
Women
22%

328
Men
78%

133
Sit on Joint Boards

226
Architects

60
Public Members

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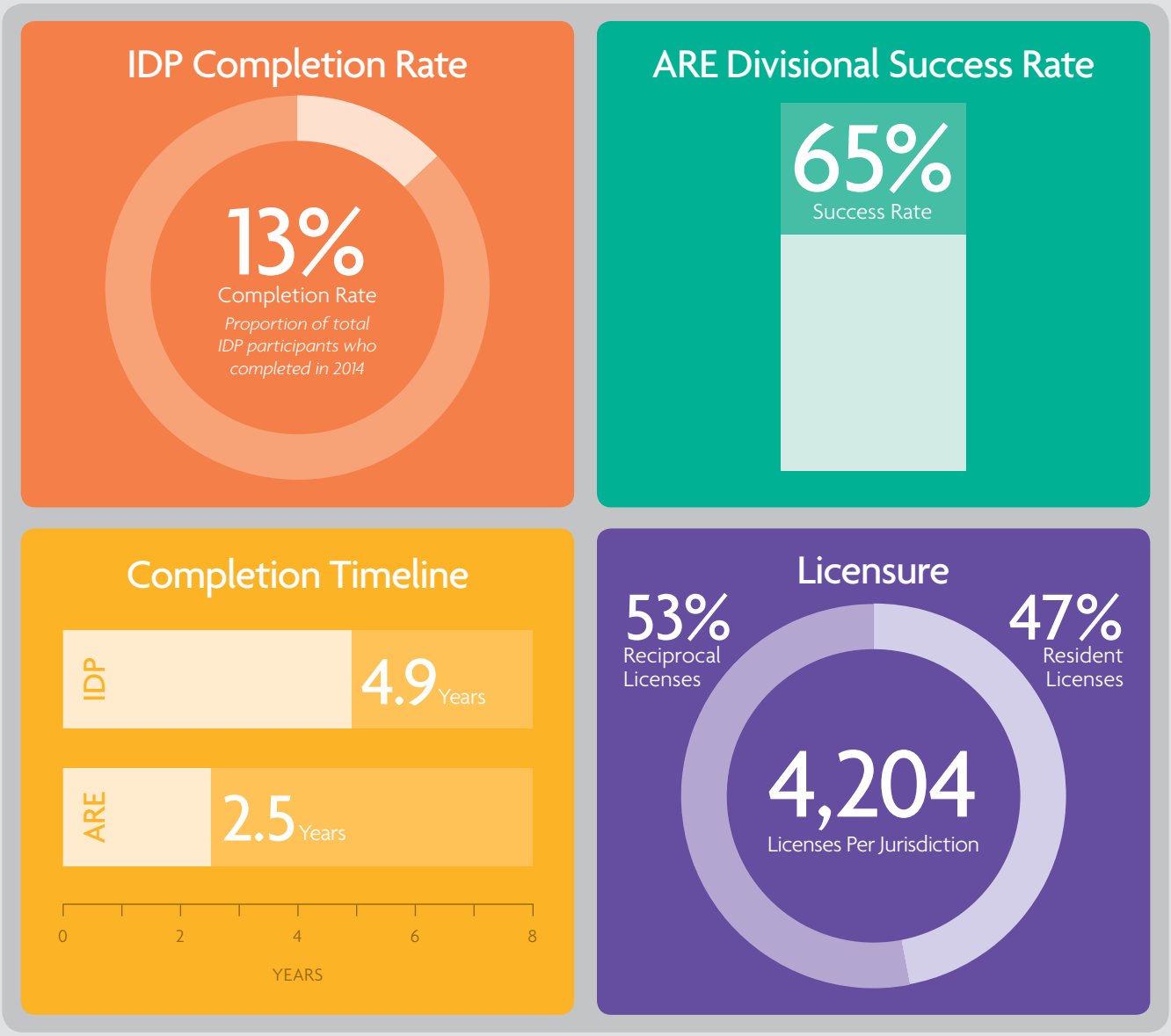
Jurisdictions by the Numbers

The following section includes baseline comparisons for NCARB's 54 Member Boards, which include all 50 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. Each page includes a 2014 snapshot of the jurisdiction's IDP completion rate, ARE divisional success rate, number of licenses, and completion time for the ARE and IDP.

2014 National Averages



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54 Jurisdictions

Alabama 48
Alaska 49
Arizona 50
Arkansas 51
California 52
Colorado 53
Connecticut 54
Delaware 55
District of Columbia 56
Florida 57
Georgia 58
Guam 59
Hawaii 60
Idaho 61
Illinois 62
Indiana 63
Iowa 64
Kansas 65
Kentucky 66
Louisiana 67
Maine 68
Maryland 69
Massachusetts 70
Michigan 71
Minnesota 72
Mississippi 73
Missouri 74
Montana 75
Nebraska 76
Nevada 77
New Hampshire 78
New Jersey 79
New Mexico 80
New York 81
North Carolina 82
North Dakota 83
Ohio 84
Oklahoma 85
Oregon 86
Pennsylvania 87
Puerto Rico 88
Rhode Island 89
South Carolina 90
South Dakota 91
Tennessee 92
Texas 93
U.S. Virgin Islands 94
Utah 95
Vermont 96
Virginia 97
Washington 98
West Virginia 99
Wisconsin 100
Wyoming 101

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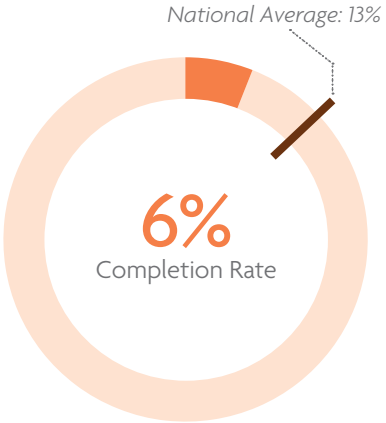
Alabama

IDP

251
Aspiring Architects Reporting Hours

14
Completions



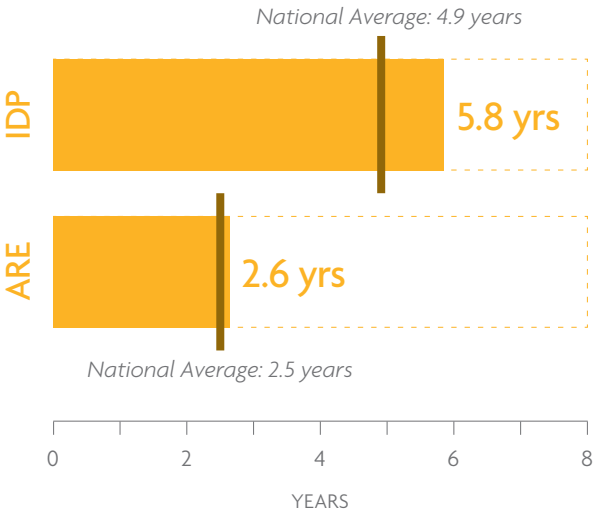
ARE

113
Eligible Testers

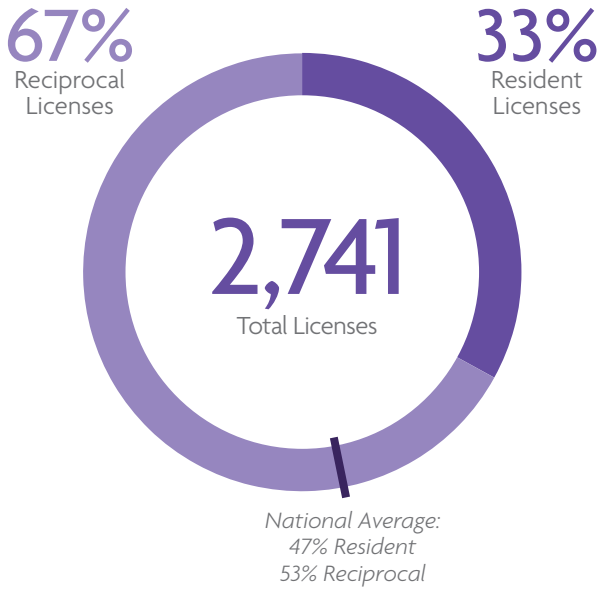
236
Divisions Taken

19
Completions

COMPLETION TIMELINE



LICENSURE



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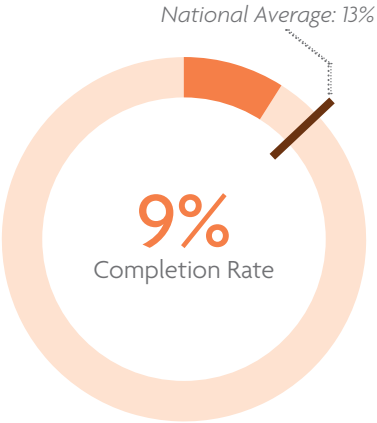
Alaska

IDP

168
Aspiring Architects Reporting Hours

15
Completions

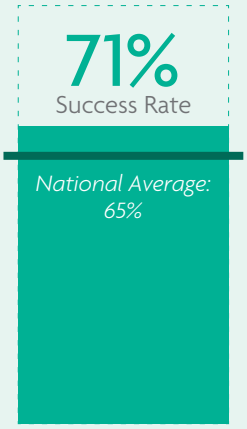


ARE

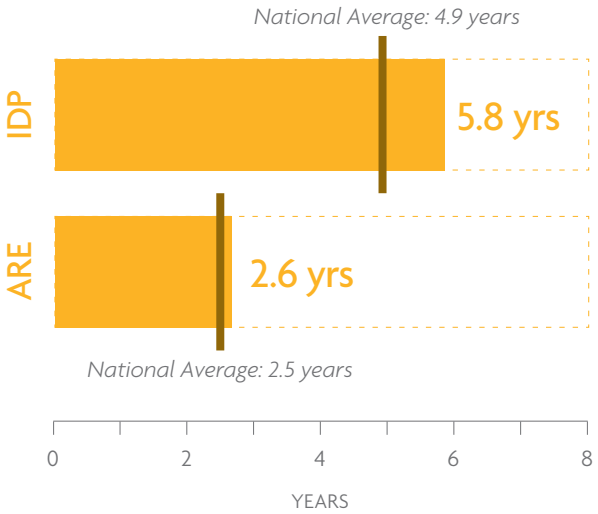
31
Eligible Testers

97
Divisions Taken

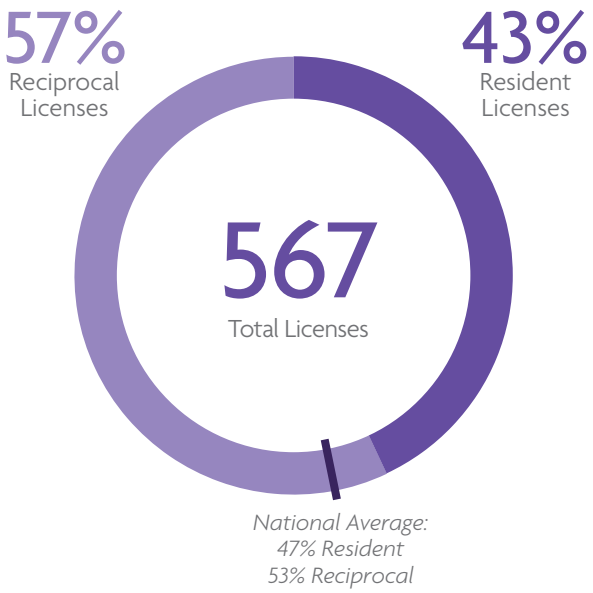
10
Completions



COMPLETION TIMELINE



LICENSURE



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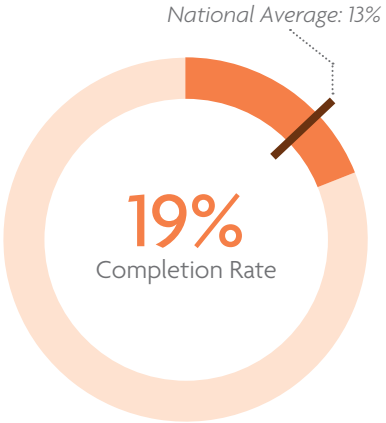
Arizona

IDP

360
Aspiring Architects Reporting Hours

68
Completions



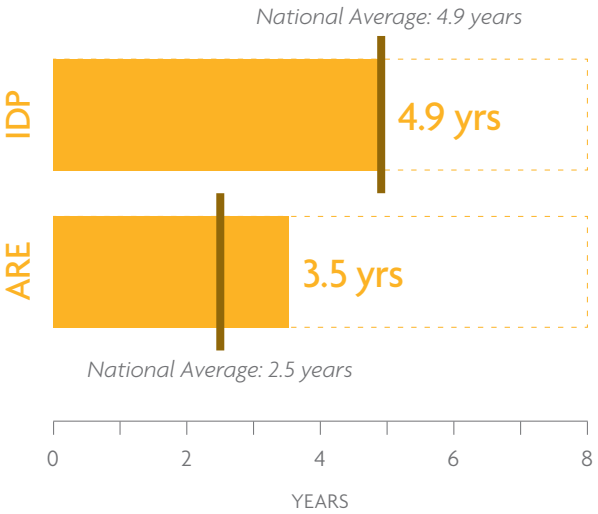
ARE

318
Eligible Testers

825
Divisions Taken

64
Completions

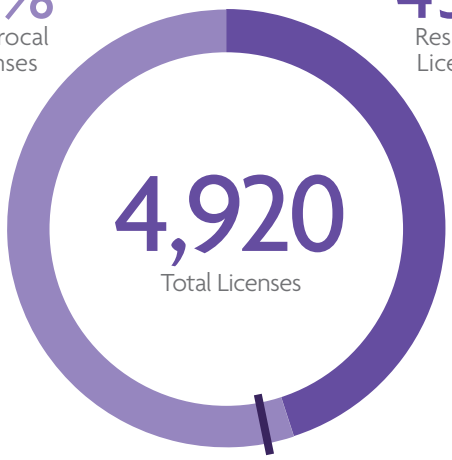
COMPLETION TIMELINE



LICENSURE

55%
Reciprocal Licenses

45%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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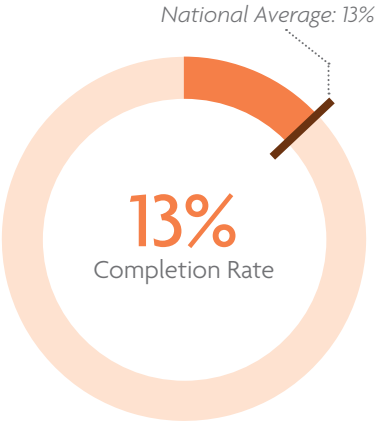
Arkansas

IDP

113
Aspiring Architects Reporting Hours

15
Completions

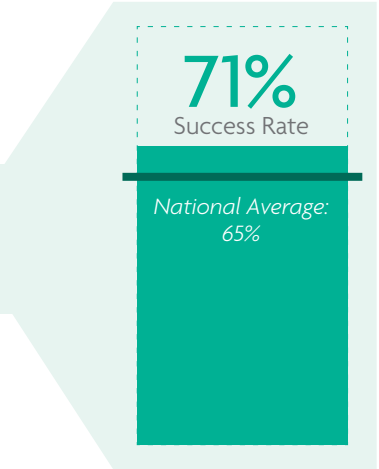


ARE

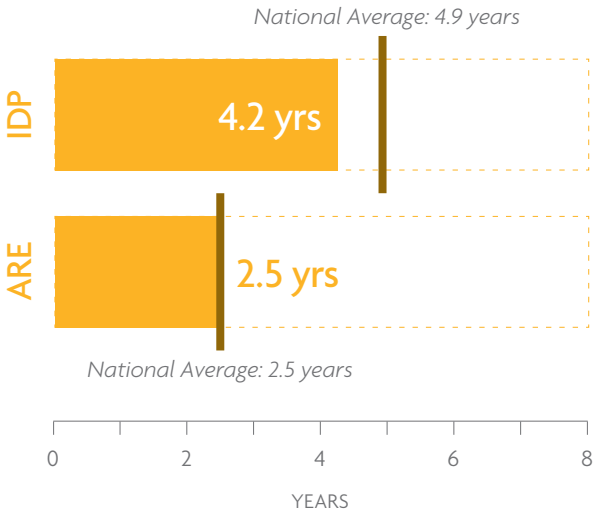
83
Eligible Testers

233
Divisions Taken

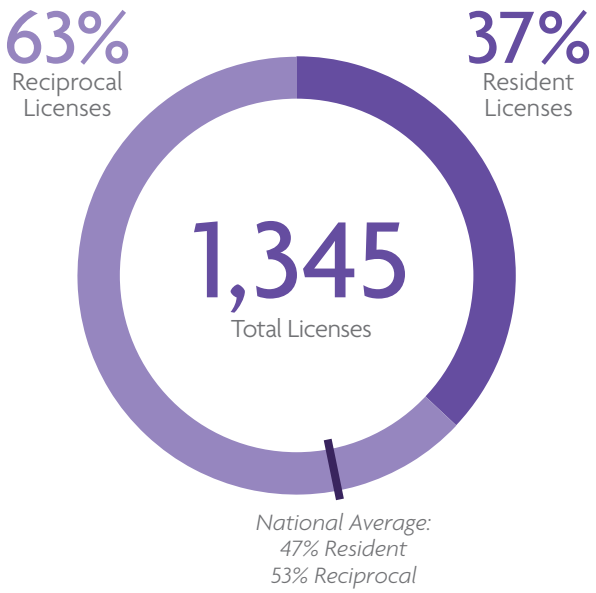
23
Completions



COMPLETION TIMELINE



LICENSURE



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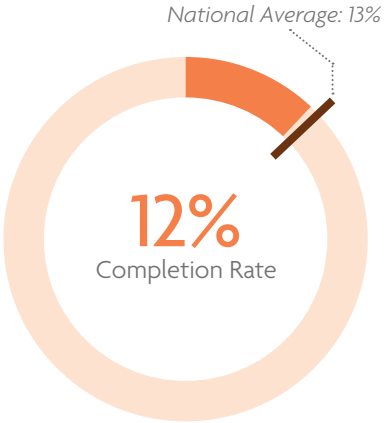
California

IDP

4,109
Aspiring Architects Reporting Hours

509
Completions



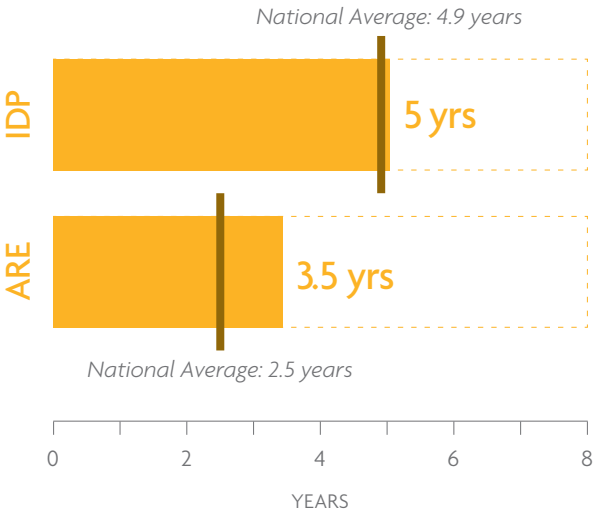
ARE

3,057
Eligible Testers

7,108
Divisions Taken

434
Completions

COMPLETION TIMELINE



LICENSURE

19%
Reciprocal Licenses

81%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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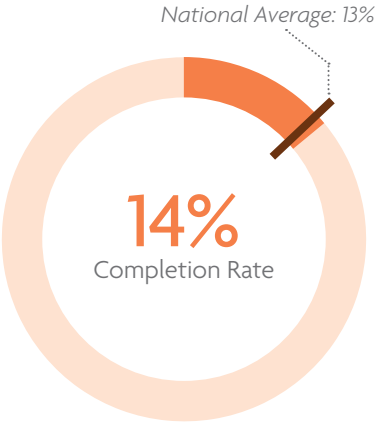
Colorado

IDP

640
Aspiring Architects Reporting Hours

91
Completions

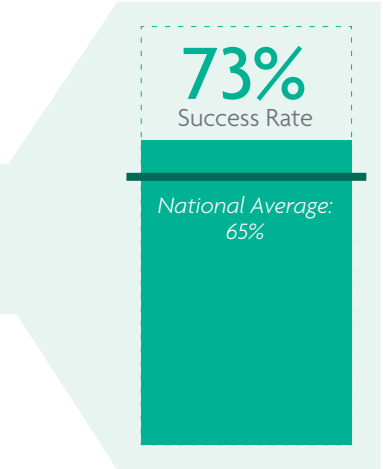


ARE

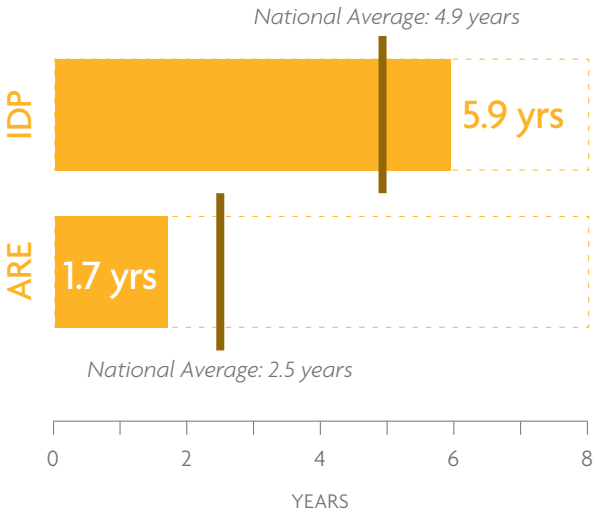
530
Eligible Testers

1,610
Divisions Taken

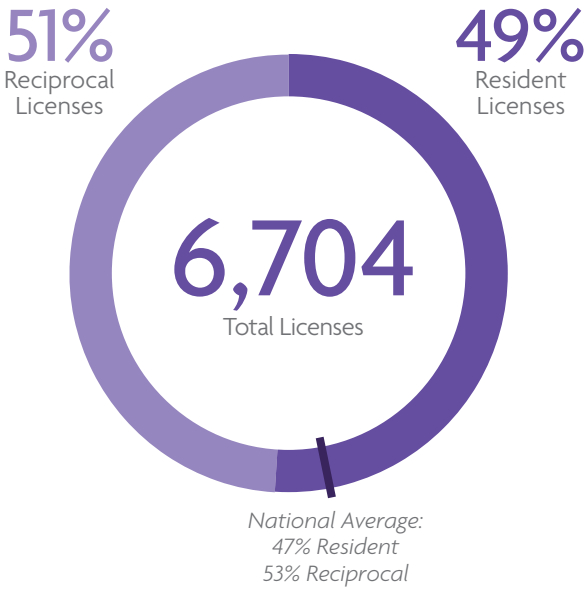
125
Completions



COMPLETION TIMELINE



LICENSURE



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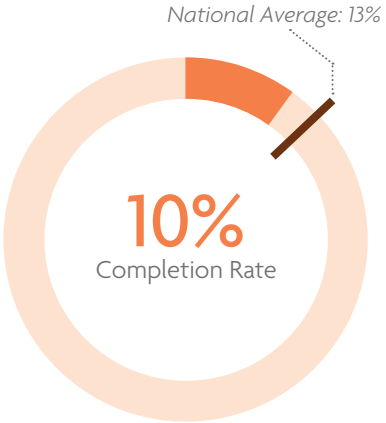
Connecticut

IDP

341
Aspiring Architects Reporting Hours

35
Completions

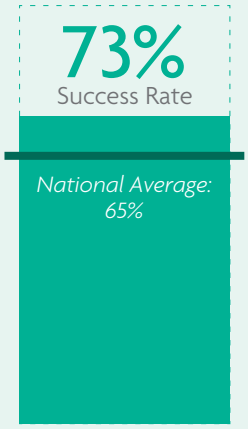


ARE

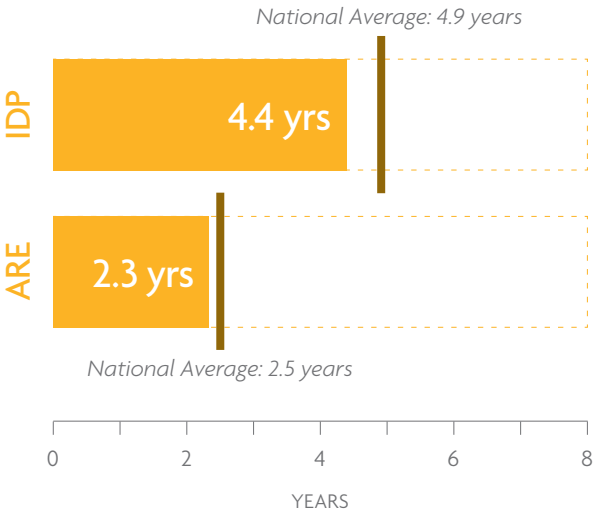
84
Eligible Testers

208
Divisions Taken

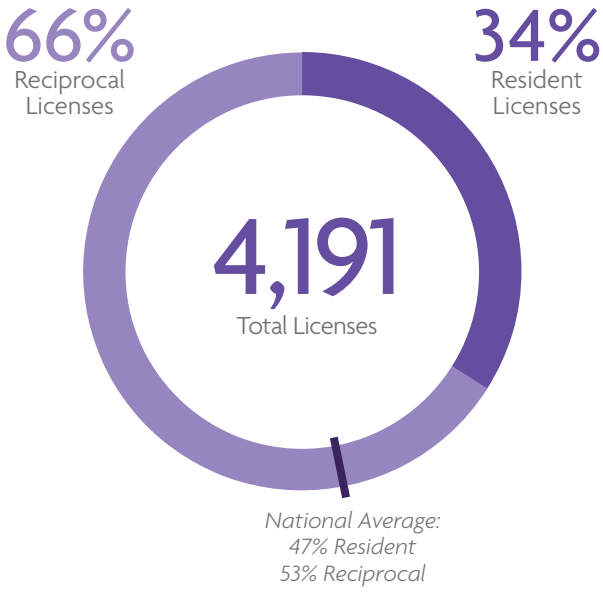
25
Completions



COMPLETION TIMELINE



LICENSURE



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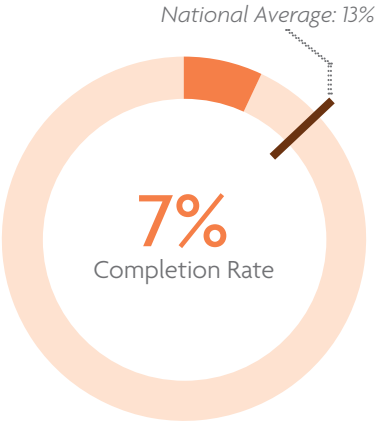
Delaware

IDP

14
Aspiring Architects Reporting Hours

1
Completions



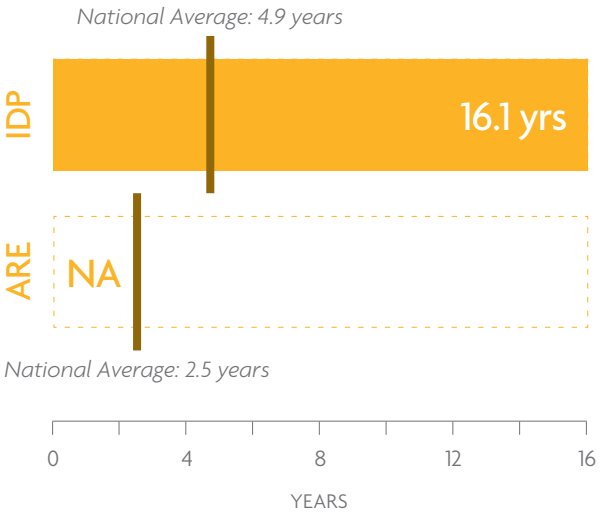
ARE

8
Eligible Testers

12
Divisions Taken

1
Completions

COMPLETION TIMELINE



LICENSURE

93%
Reciprocal Licenses

7%
Resident Licenses

National Average:
47% Resident
53% Reciprocal

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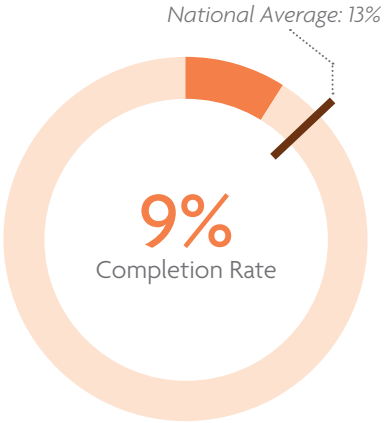
District of Columbia

IDP

570
Aspiring Architects Reporting Hours

54
Completions

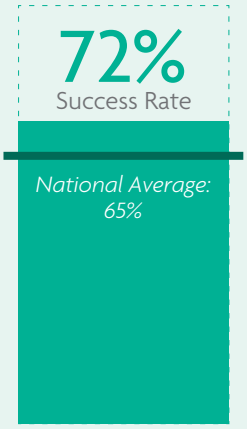


ARE

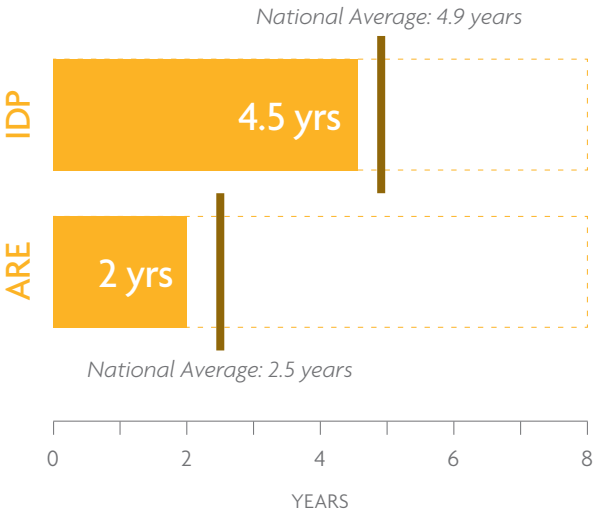
345
Eligible Testers

973
Divisions Taken

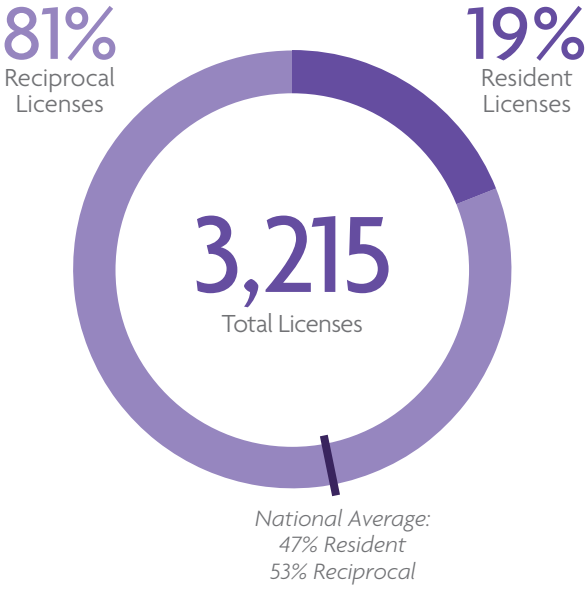
84
Completions



COMPLETION TIMELINE



LICENSURE



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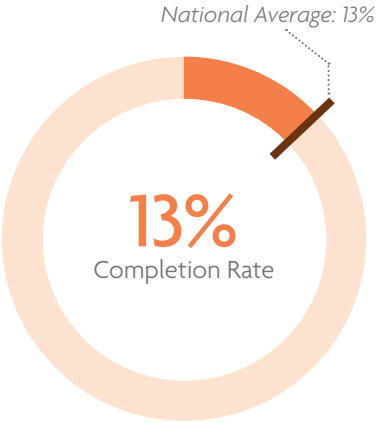
Florida

IDP

1,101
Aspiring Architects Reporting Hours

148
Completions

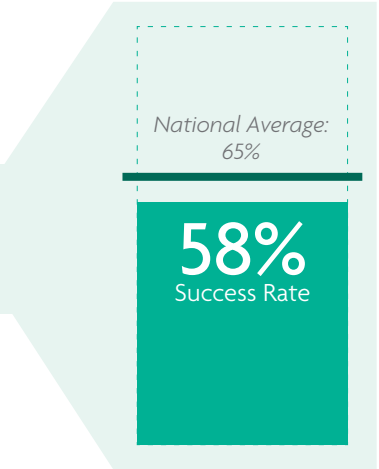


ARE

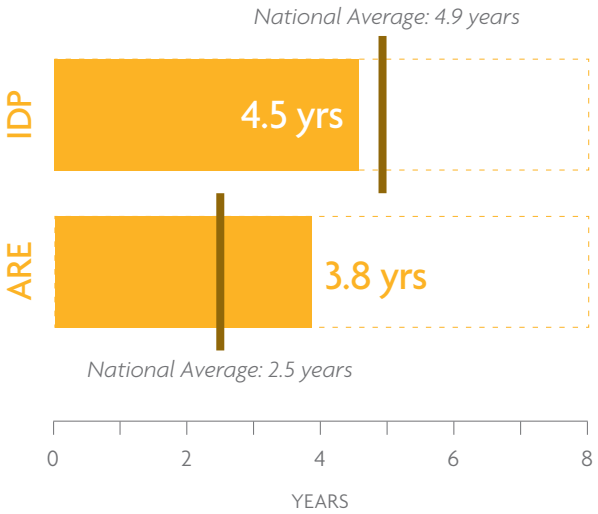
735
Eligible Testers

1,740
Divisions Taken

114
Completions



COMPLETION TIMELINE



LICENSURE

48%
Reciprocal Licenses

52%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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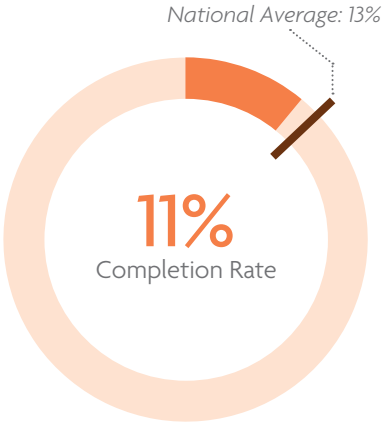
Georgia

IDP

591
Aspiring Architects Reporting Hours

66
Completions

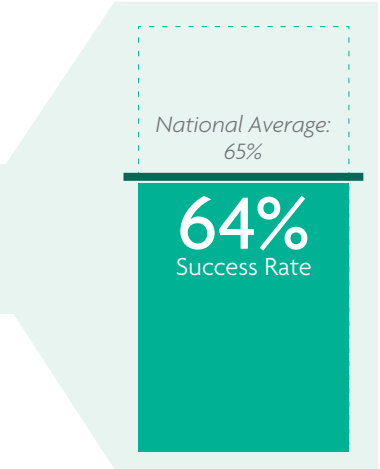


ARE

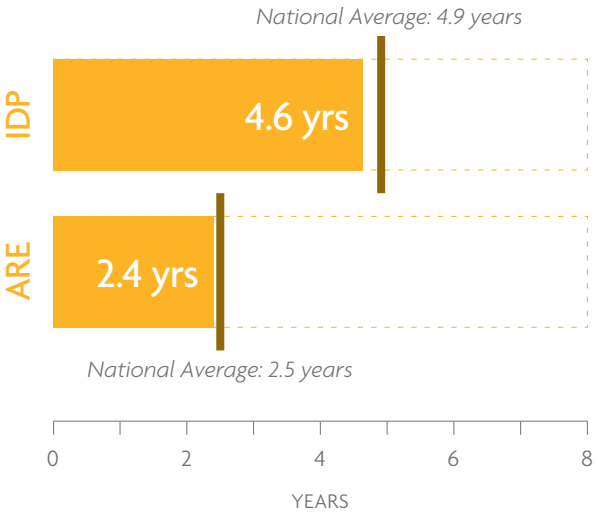
285
Eligible Testers

757
Divisions Taken

49
Completions



COMPLETION TIMELINE



LICENSURE

55%
Reciprocal Licenses

45%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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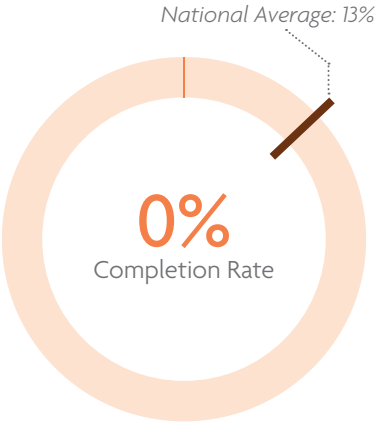
Guam

IDP

4
Aspiring Architects Reporting Hours

0
Completions

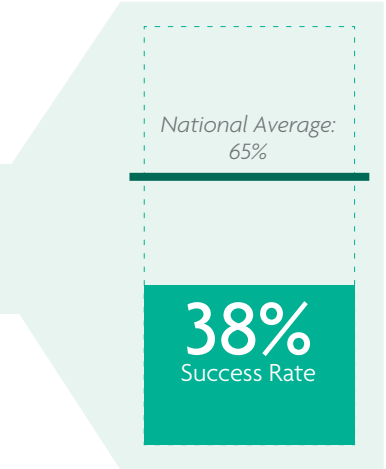


ARE

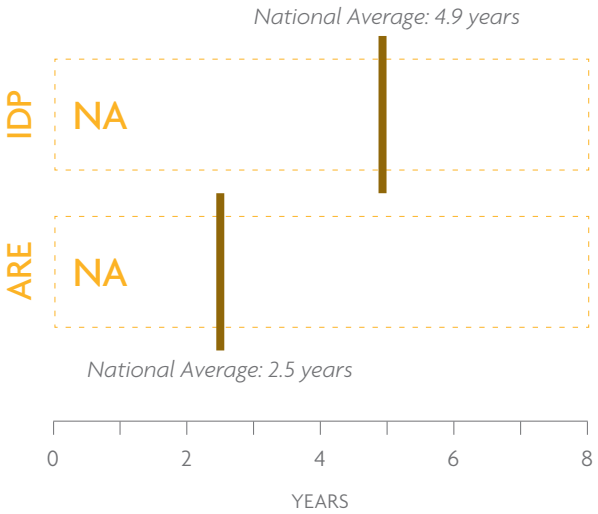
5
Eligible Testers

8
Divisions Taken

0
Completions



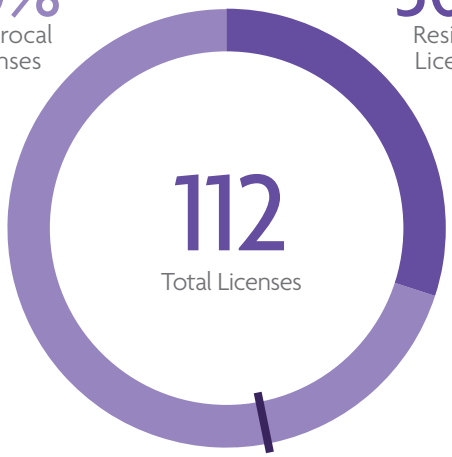
COMPLETION TIMELINE



LICENSURE

70%
Reciprocal Licenses

30%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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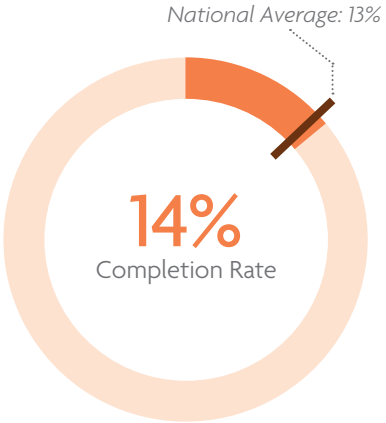
Hawaii

IDP

154
Aspiring Architects Reporting Hours

21
Completions

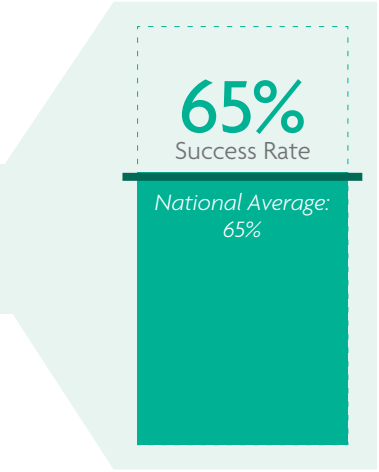


ARE

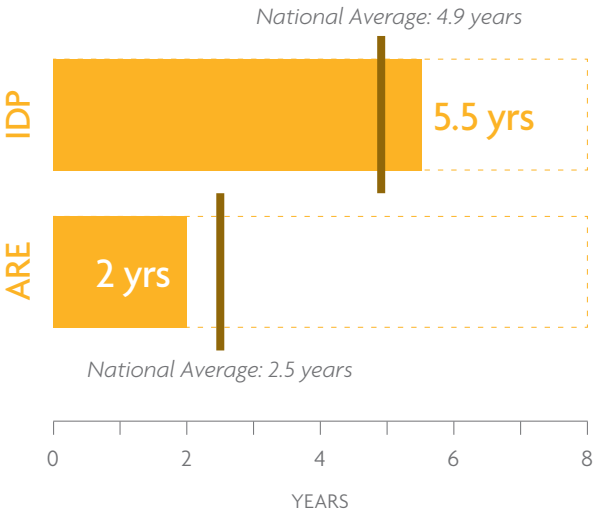
100
Eligible Testers

242
Divisions Taken

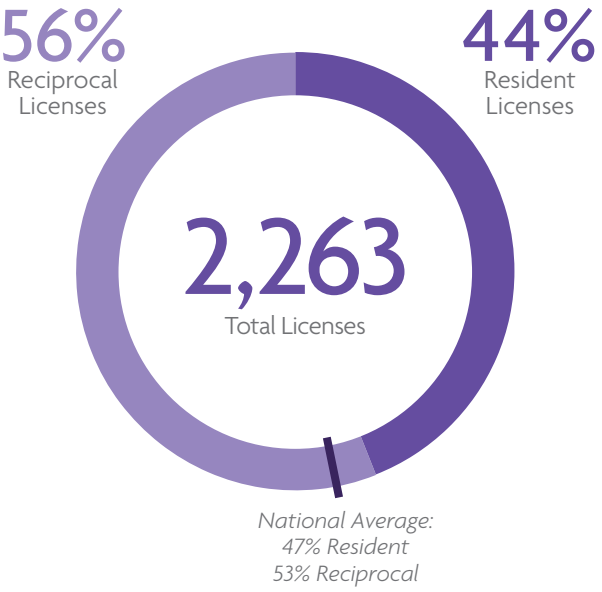
22
Completions



COMPLETION TIMELINE



LICENSURE



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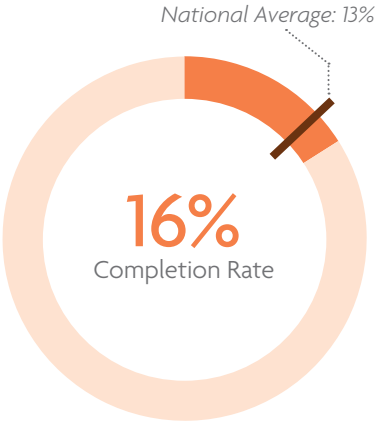
Idaho

IDP

88
Aspiring Architects Reporting Hours

14
Completions

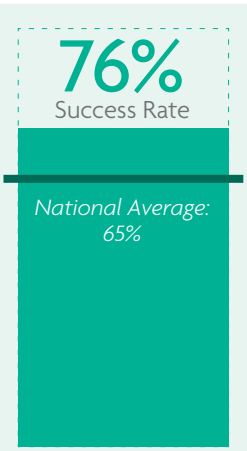


ARE

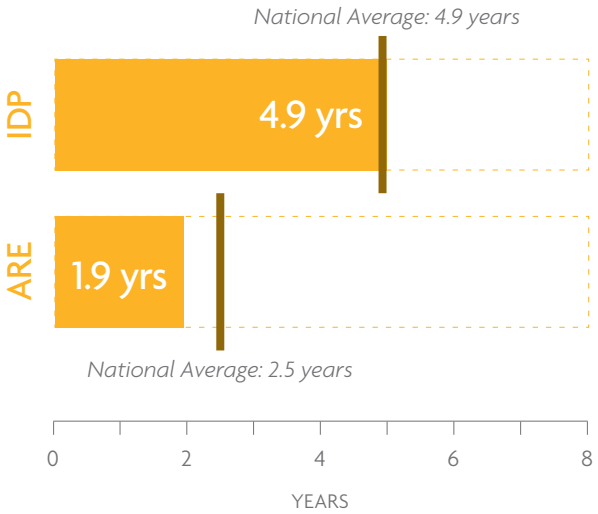
41
Eligible Testers

105
Divisions Taken

17
Completions



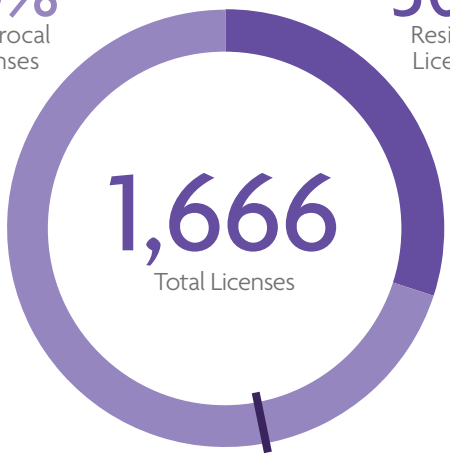
COMPLETION TIMELINE



LICENSURE

70%
Reciprocal Licenses

30%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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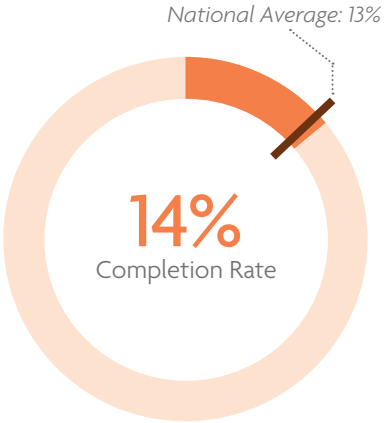
Illinois

IDP

1,437
Aspiring Architects Reporting Hours

202
Completions



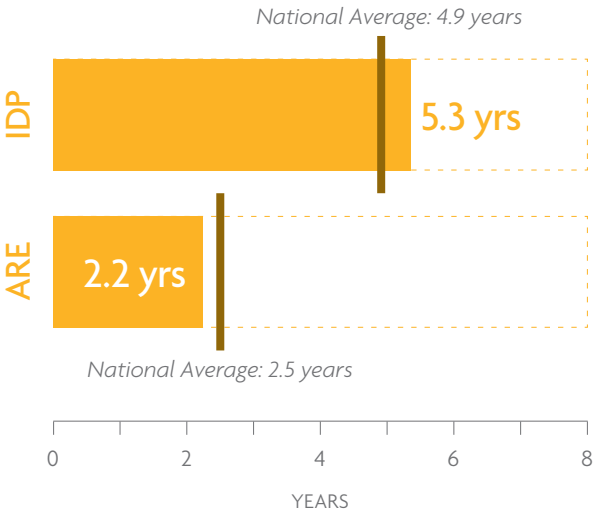
ARE

896
Eligible Testers

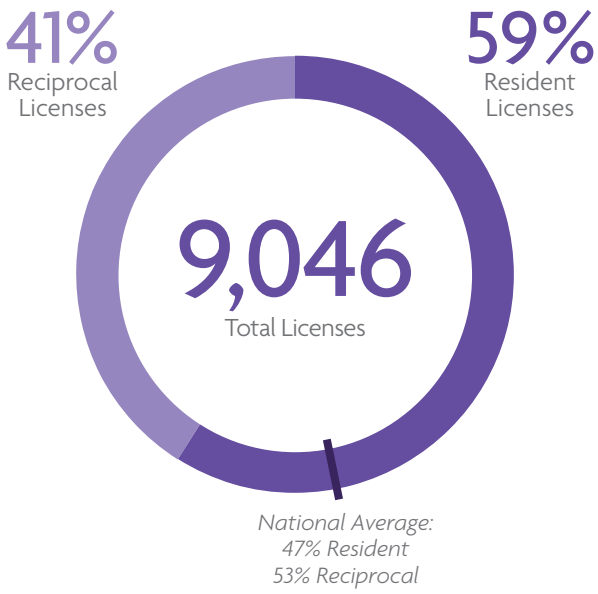
2,341
Divisions Taken

231
Completions

COMPLETION TIMELINE



LICENSURE



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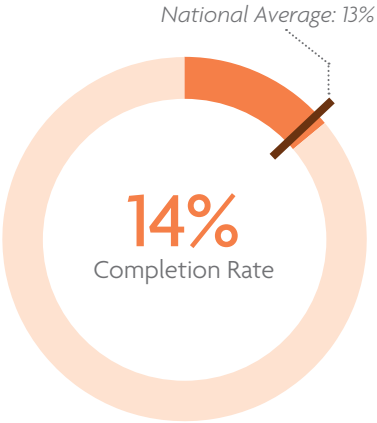
Indiana

IDP

209
Aspiring Architects Reporting Hours

29
Completions

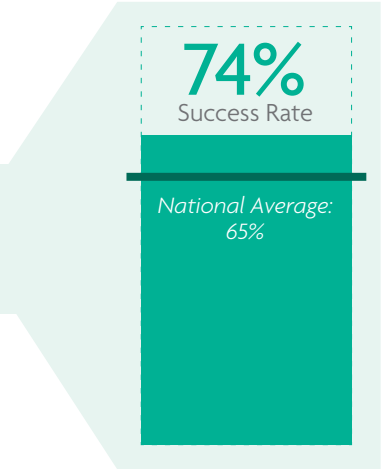


ARE

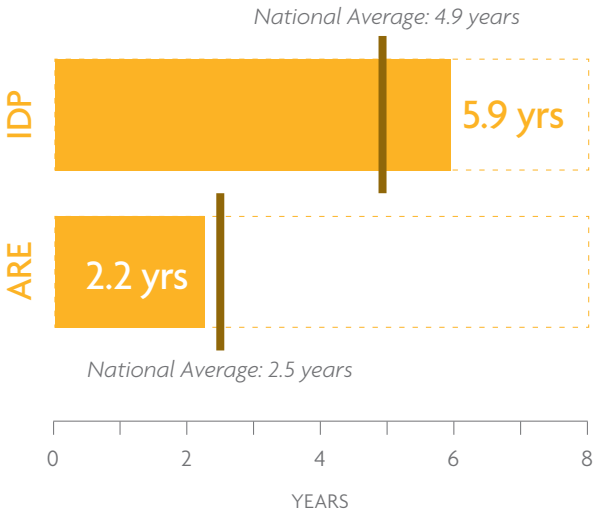
108
Eligible Testers

272
Divisions Taken

28
Completions



COMPLETION TIMELINE



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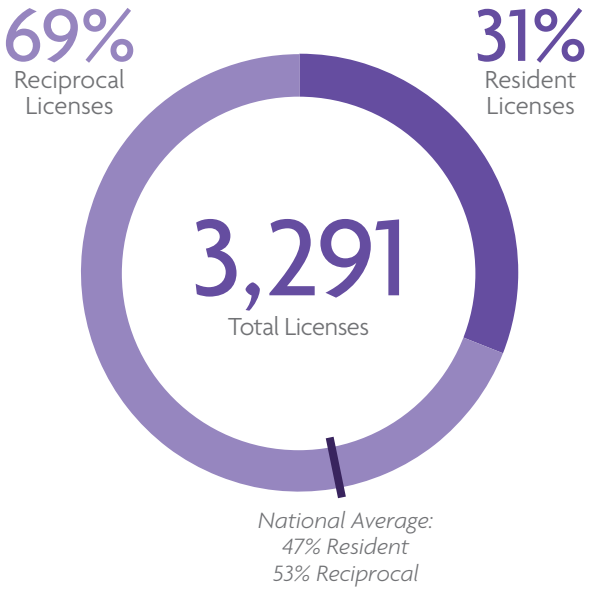

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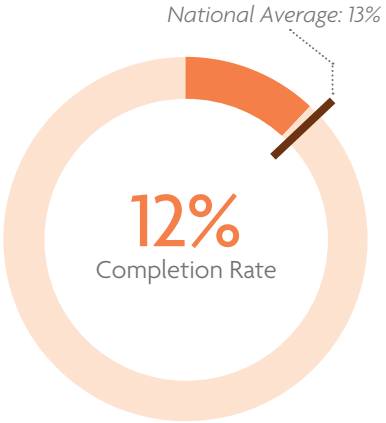
Iowa

IDP

202
Aspiring Architects Reporting Hours

24
Completions



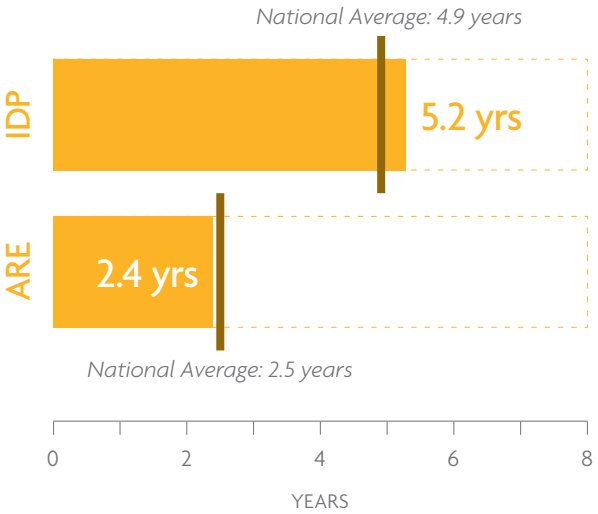
ARE

119
Eligible Testers

281
Divisions Taken

29
Completions

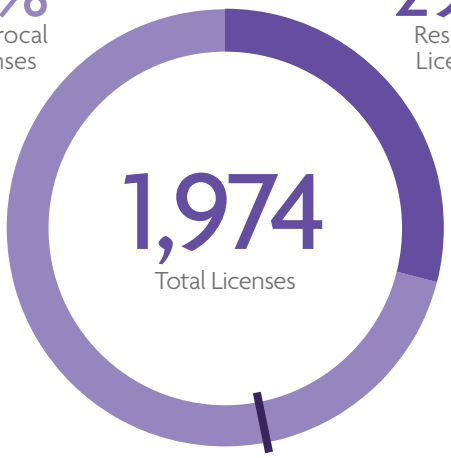
COMPLETION TIMELINE



LICENSURE

71%
Reciprocal Licenses

29%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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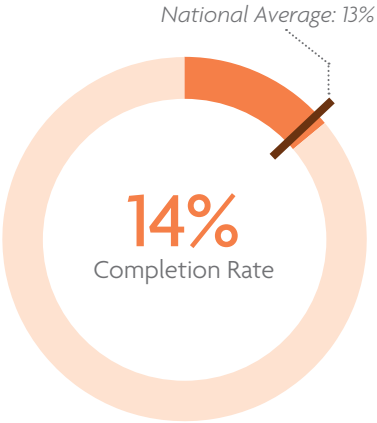
Kansas

IDP

202
Aspiring Architects Reporting Hours

28
Completions

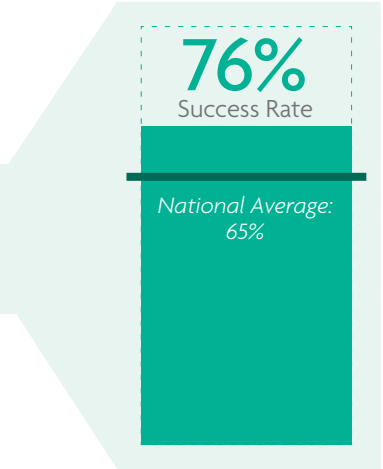


ARE

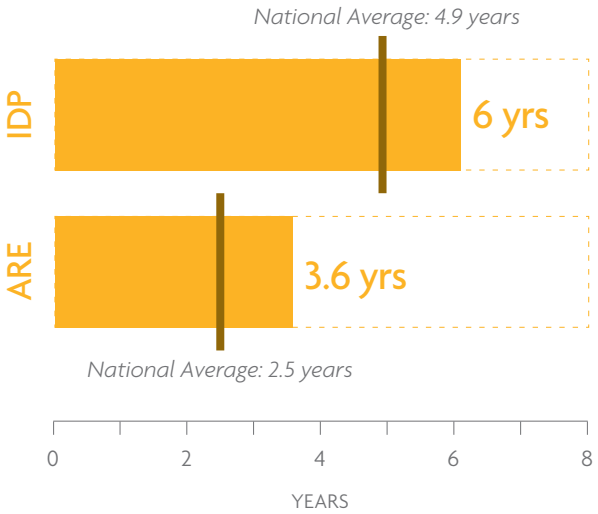
152
Eligible Testers

401
Divisions Taken

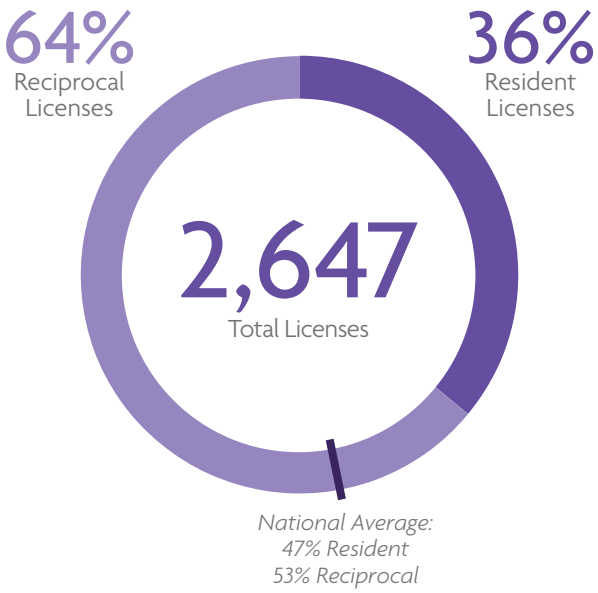
38
Completions



COMPLETION TIMELINE



LICENSURE



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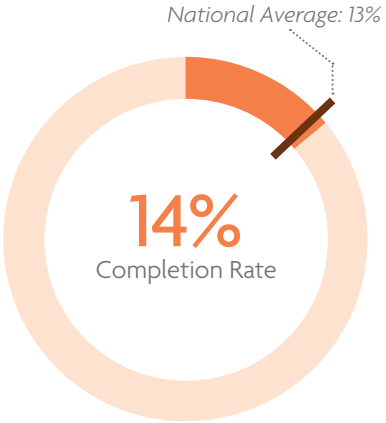
Kentucky

IDP

118
Aspiring Architects Reporting Hours

17
Completions



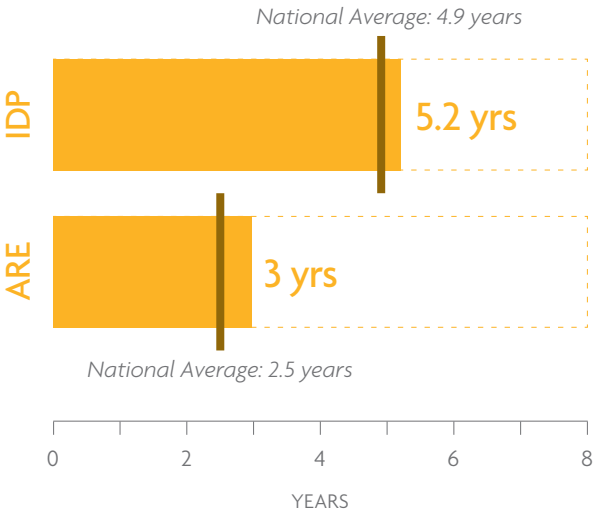
ARE

67
Eligible Testers

164
Divisions Taken

16
Completions

COMPLETION TIMELINE



LICENSURE

71%
Reciprocal Licenses

29%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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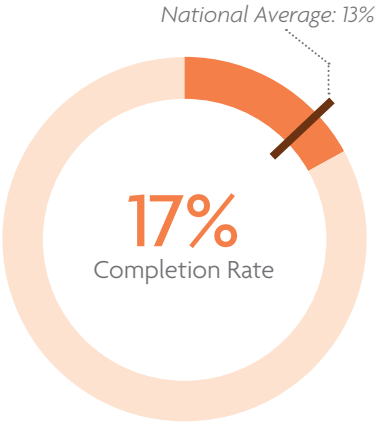
Louisiana

IDP

325
Aspiring Architects Reporting Hours

55
Completions

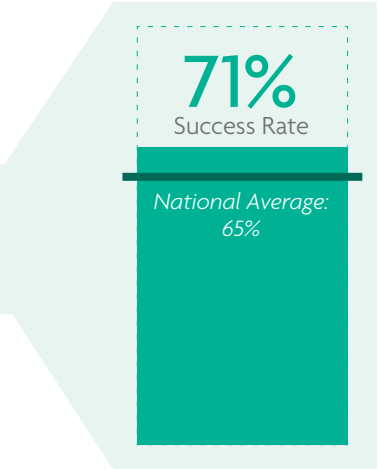


ARE

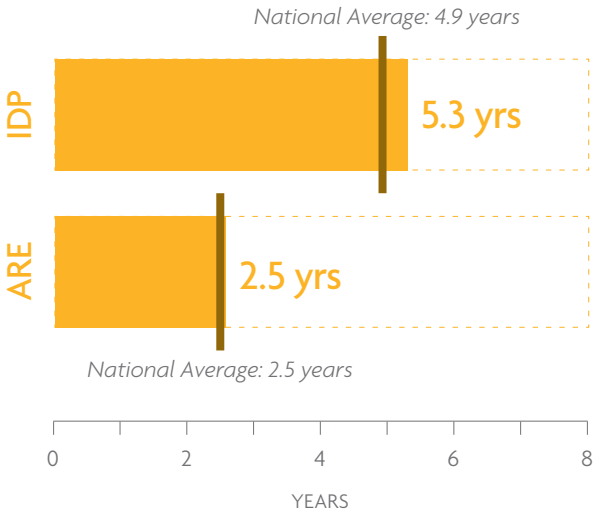
267
Eligible Testers

636
Divisions Taken

59
Completions



COMPLETION TIMELINE



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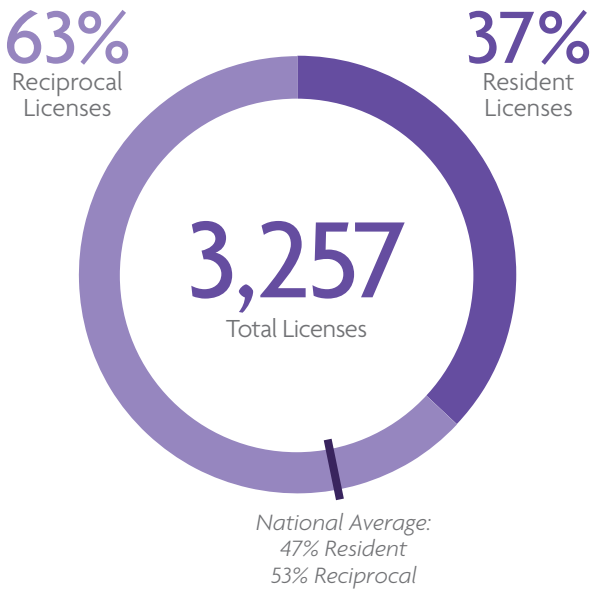

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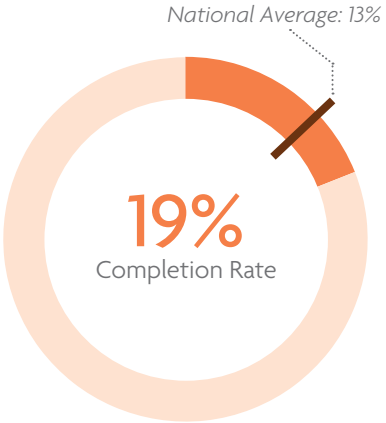
Maine

IDP

53
Aspiring Architects Reporting Hours

10
Completions

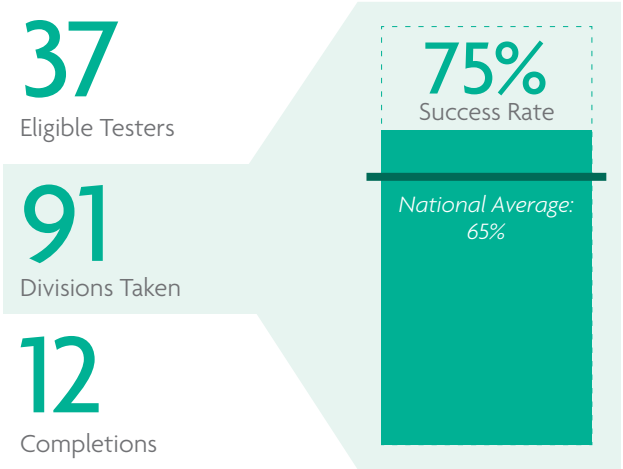


ARE

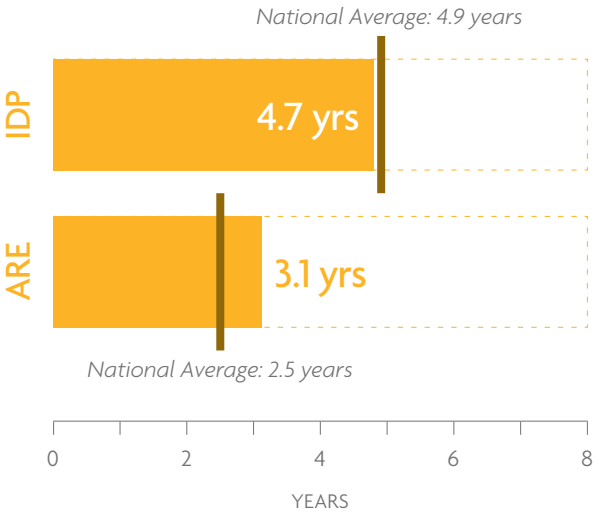
37
Eligible Testers

91
Divisions Taken

12
Completions



COMPLETION TIMELINE



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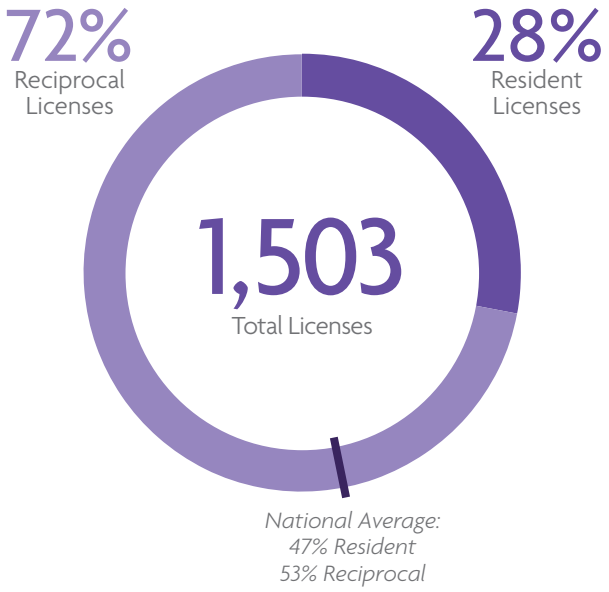

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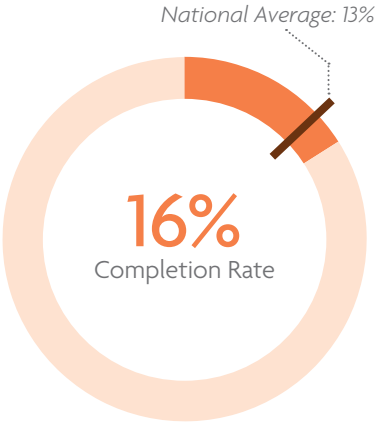
Maryland

IDP

486
Aspiring Architects Reporting Hours

78
Completions



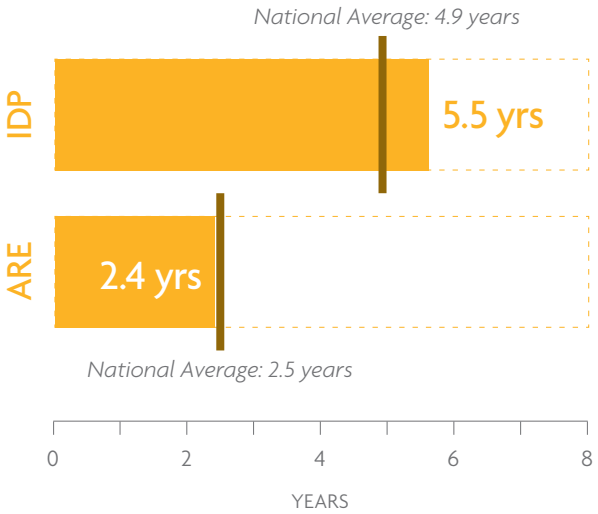
ARE

354
Eligible Testers

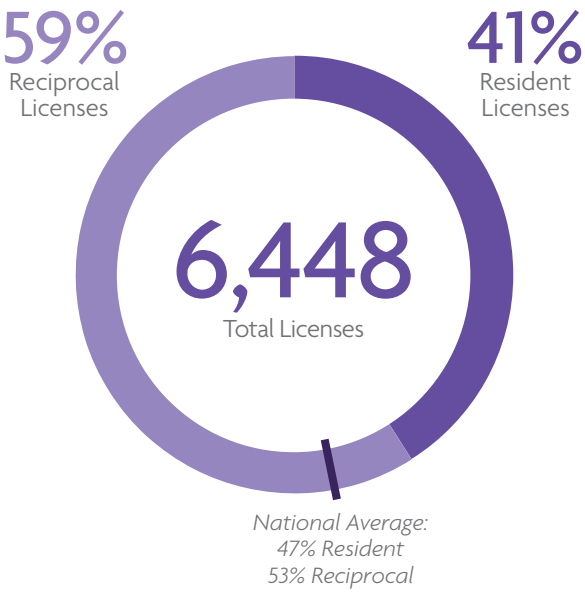
957
Divisions Taken

89
Completions

COMPLETION TIMELINE



LICENSURE



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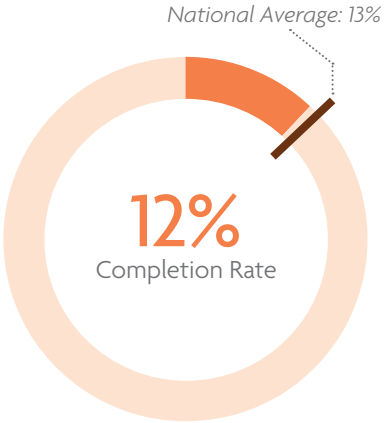
Massachusetts

IDP

1,369
Aspiring Architects Reporting Hours

163
Completions

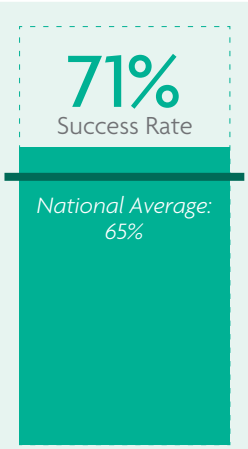


ARE

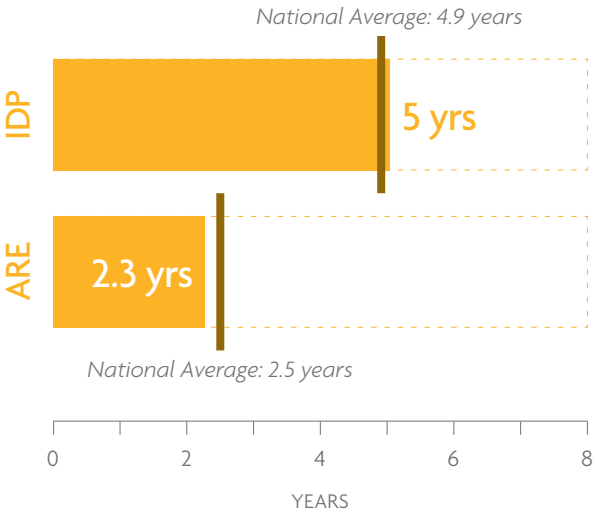
822
Eligible Testers

2,140
Divisions Taken

185
Completions



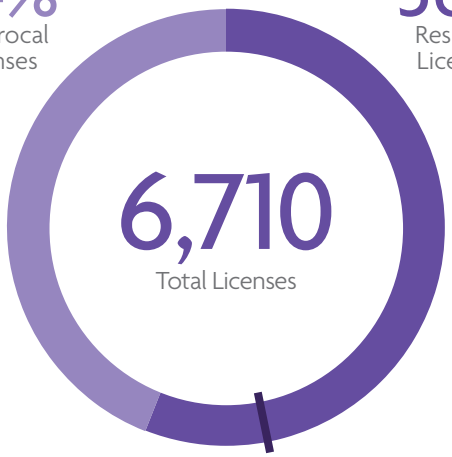
COMPLETION TIMELINE



LICENSURE

44%
Reciprocal Licenses

56%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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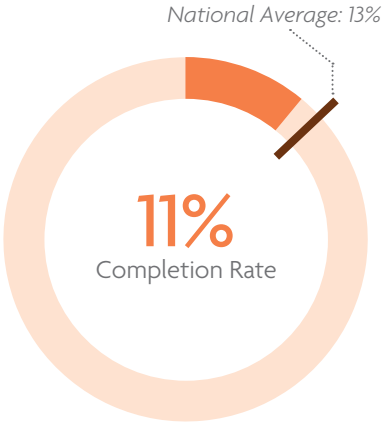
Michigan

IDP

438
Aspiring Architects Reporting Hours

49
Completions

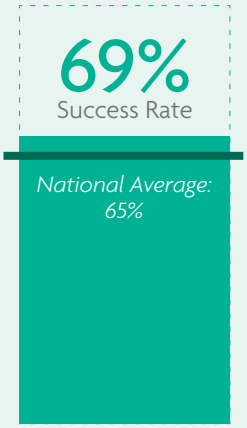


ARE

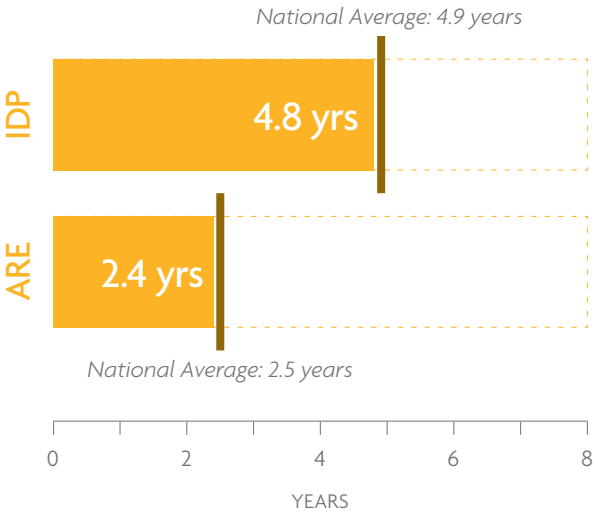
209
Eligible Testers

518
Divisions Taken

43
Completions



COMPLETION TIMELINE



LICENSURE

55%
Reciprocal Licenses

45%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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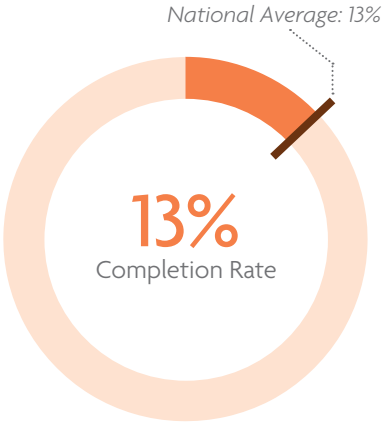
Minnesota

IDP

448
Aspiring Architects Reporting Hours

60
Completions

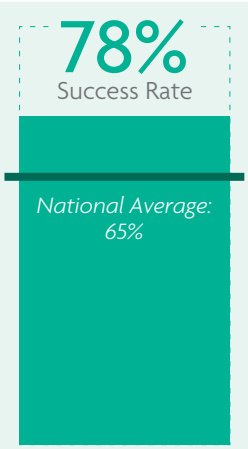


ARE

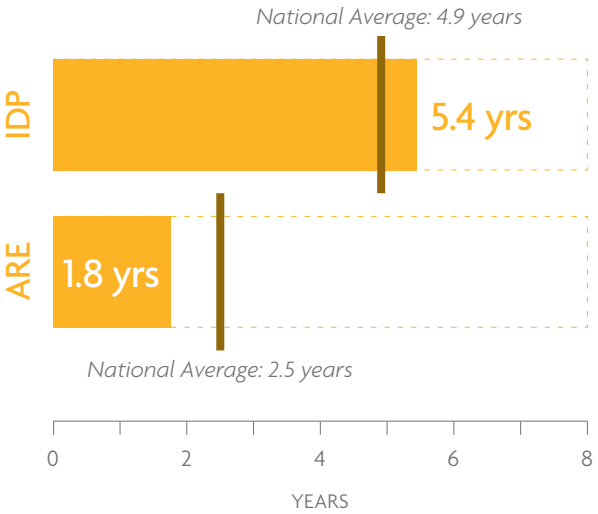
222
Eligible Testers

596
Divisions Taken

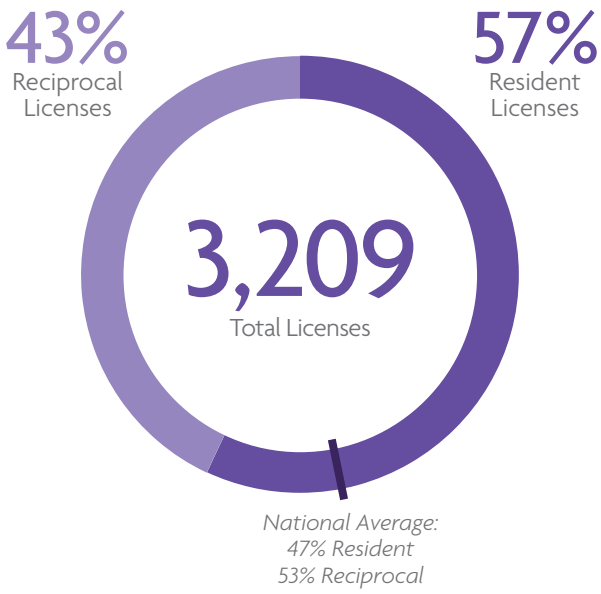
58
Completions



COMPLETION TIMELINE



LICENSURE



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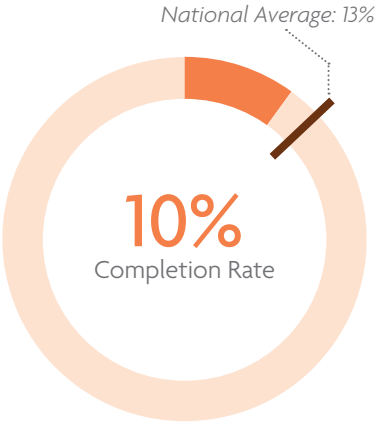
Mississippi

IDP

71
Aspiring Architects Reporting Hours

7
Completions

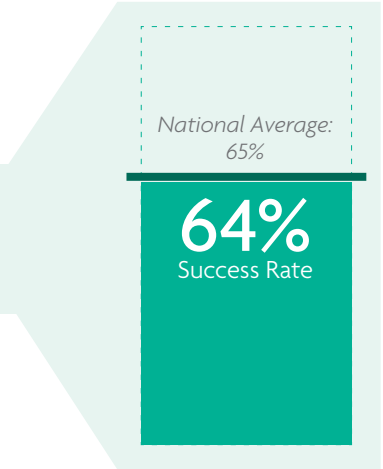


ARE

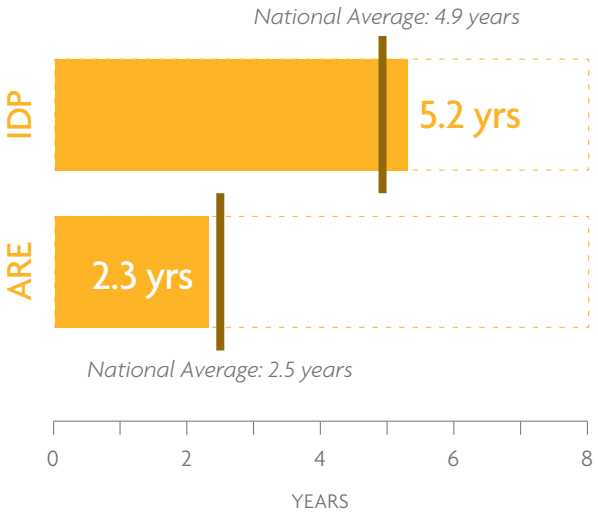
60
Eligible Testers

157
Divisions Taken

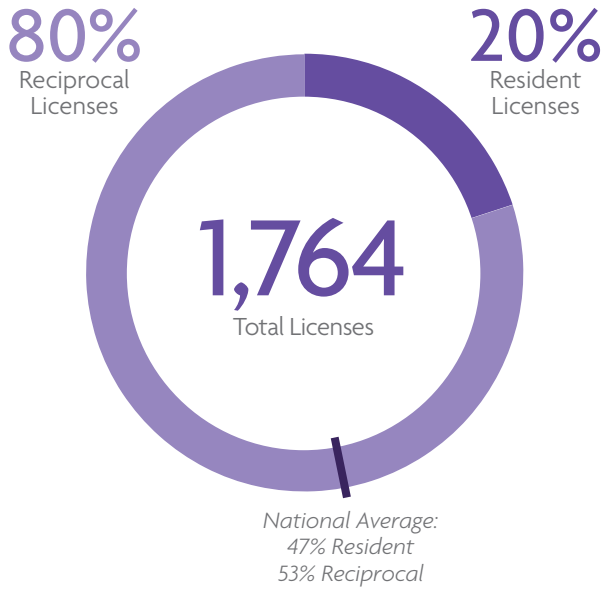
12
Completions



COMPLETION TIMELINE



LICENSURE



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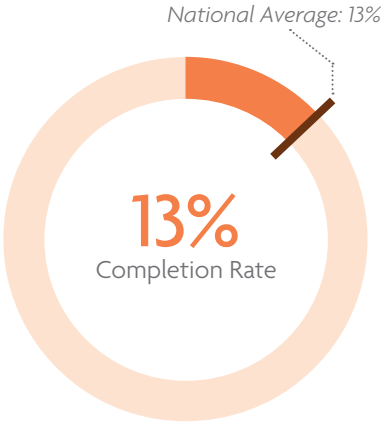
Missouri

IDP

542
Aspiring Architects Reporting Hours

68
Completions

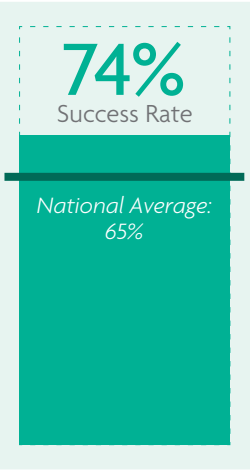


ARE

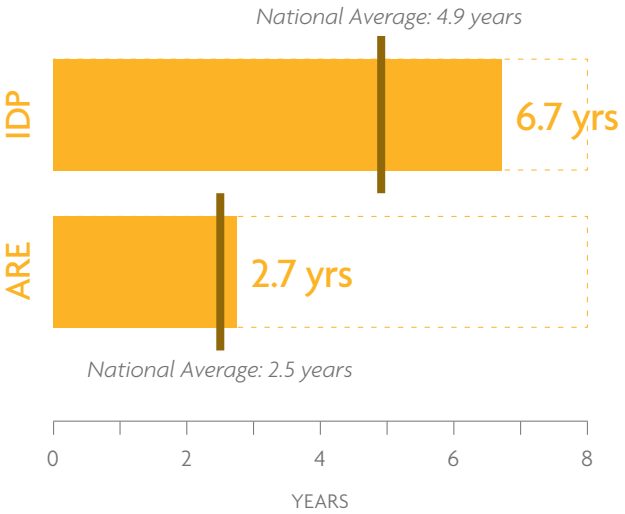
366
Eligible Testers

1,038
Divisions Taken

104
Completions



COMPLETION TIMELINE



LICENSURE

60%
Reciprocal Licenses

40%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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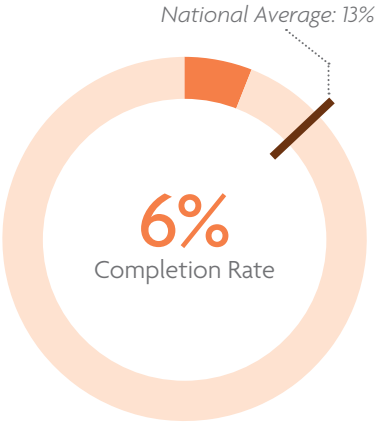
Montana

IDP

112
Aspiring Architects Reporting Hours

7
Completions

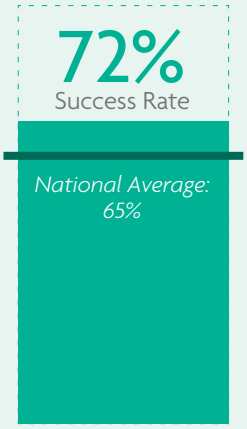


ARE

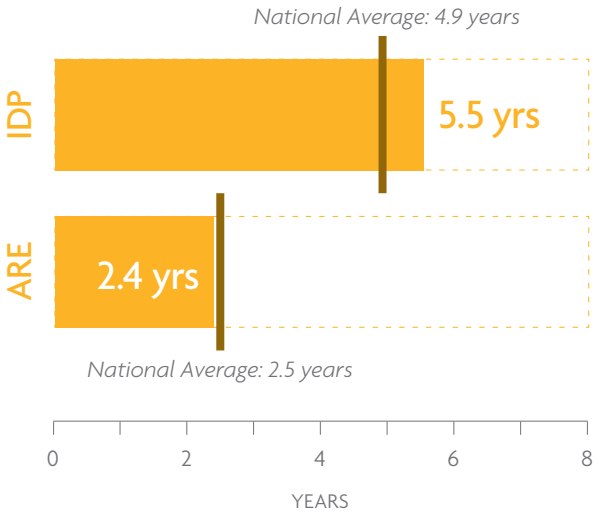
65
Eligible Testers

177
Divisions Taken

17
Completions



COMPLETION TIMELINE



LICENSURE

69%
Reciprocal Licenses

31%
Resident Licenses

National Average:
47% Resident
53% Reciprocal

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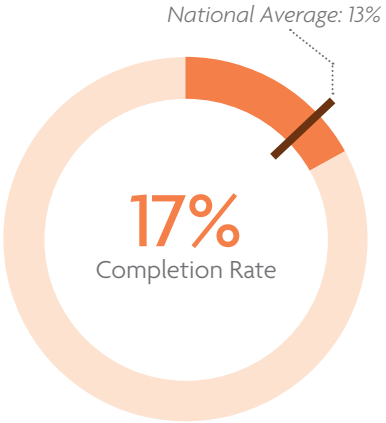
Nebraska

IDP

105
Aspiring Architects Reporting Hours

18
Completions

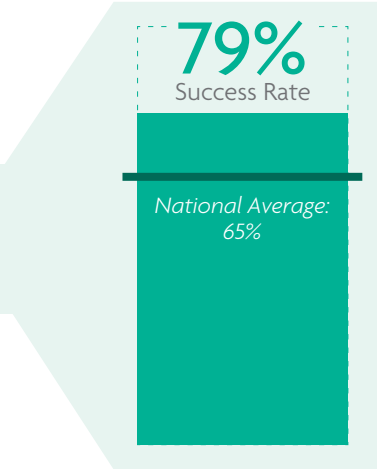


ARE

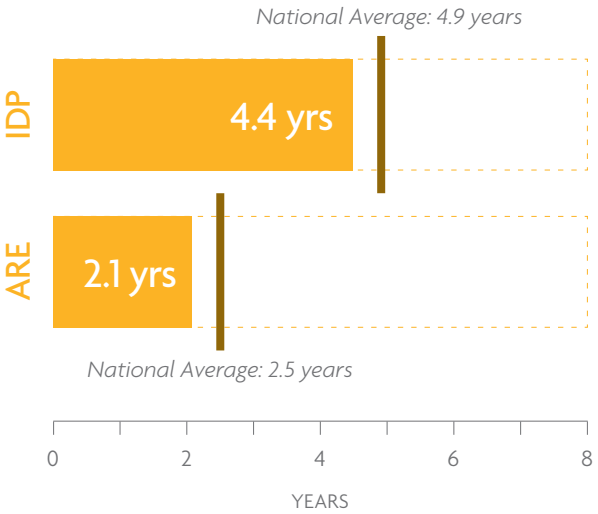
80
Eligible Testers

195
Divisions Taken

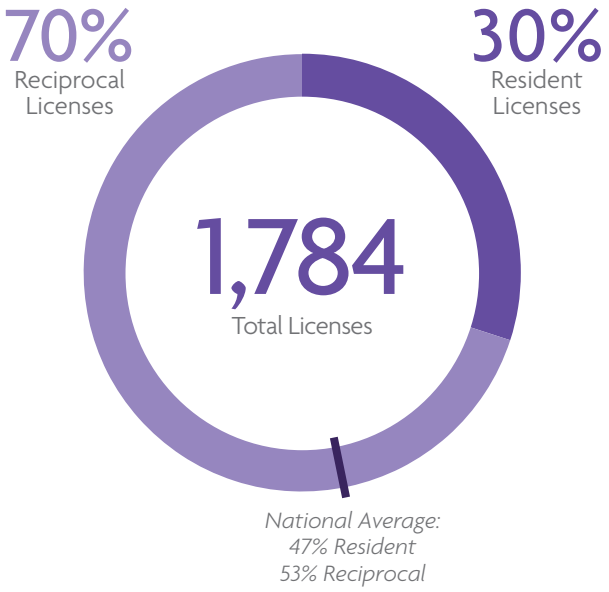
20
Completions



COMPLETION TIMELINE



LICENSURE



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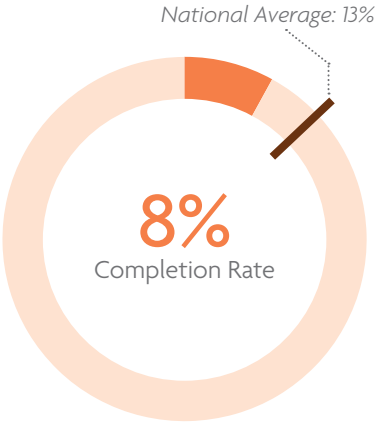
Nevada

IDP

125
Aspiring Architects Reporting Hours

10
Completions

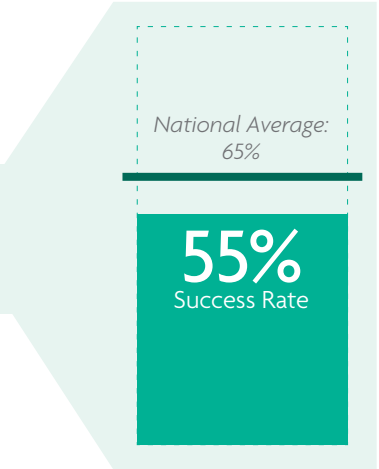


ARE

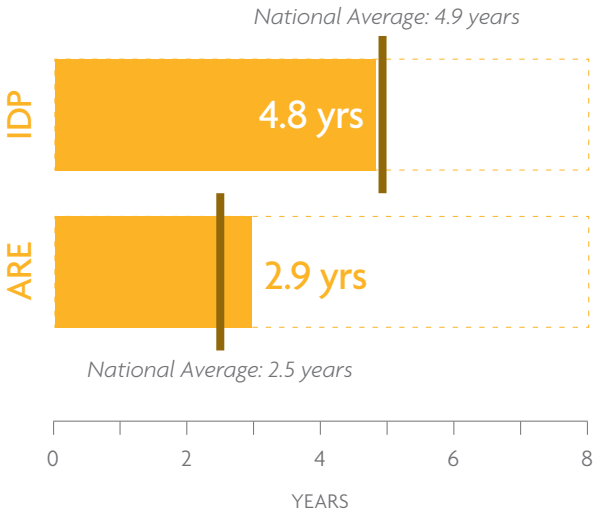
47
Eligible Testers

103
Divisions Taken

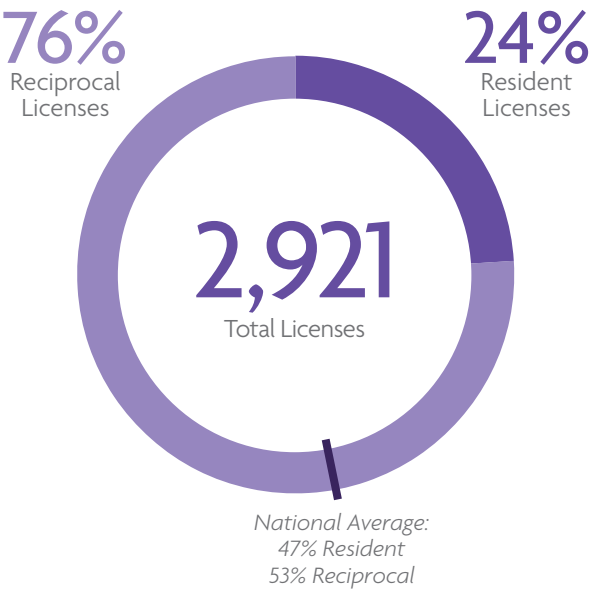
5
Completions



COMPLETION TIMELINE



LICENSURE



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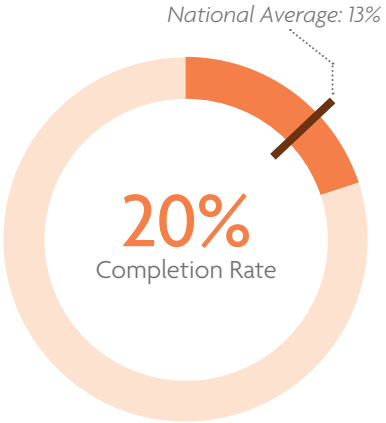
New Hampshire

IDP

55
Aspiring Architects Reporting Hours

11
Completions

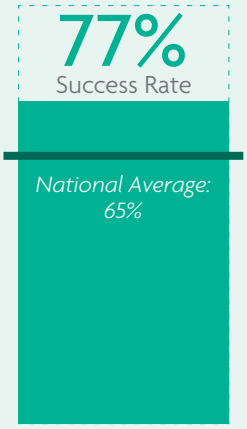


ARE

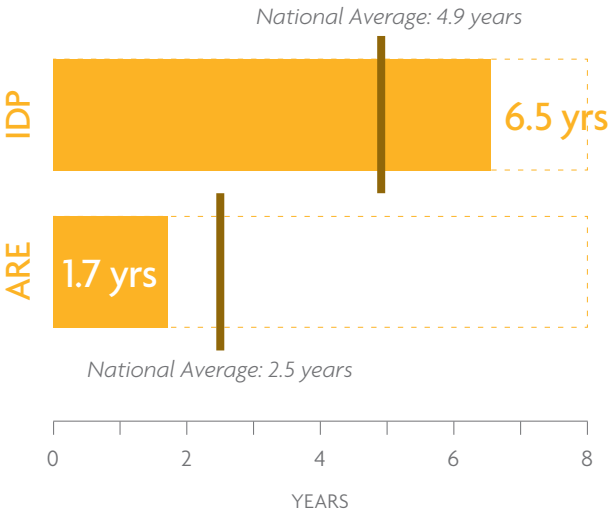
33
Eligible Testers

87
Divisions Taken

8
Completions



COMPLETION TIMELINE



LICENSURE

83%
Reciprocal Licenses

17%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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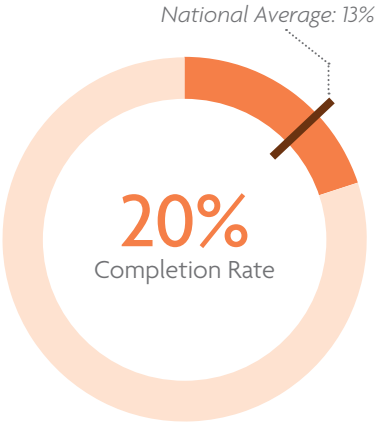
New Jersey

IDP

637
Aspiring Architects Reporting Hours

129
Completions



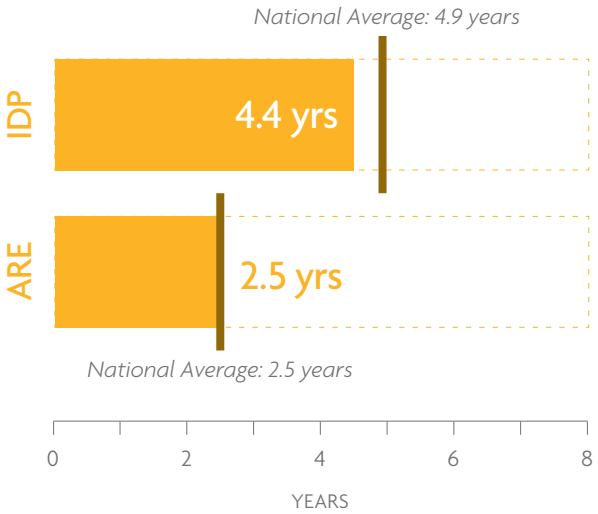
ARE

206
Eligible Testers

544
Divisions Taken

39
Completions

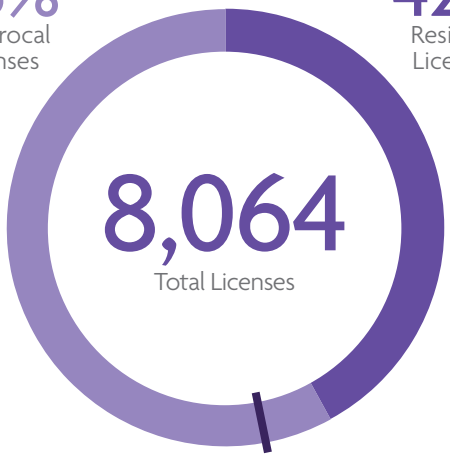
COMPLETION TIMELINE



LICENSURE

58%
Reciprocal Licenses

42%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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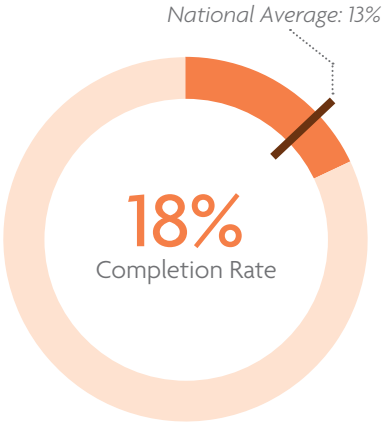
New Mexico

IDP

95
Aspiring Architects Reporting Hours

17
Completions

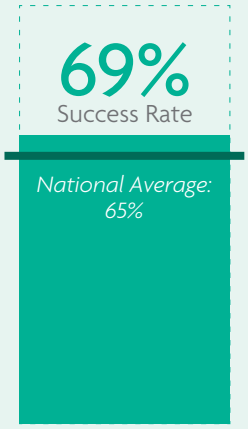


ARE

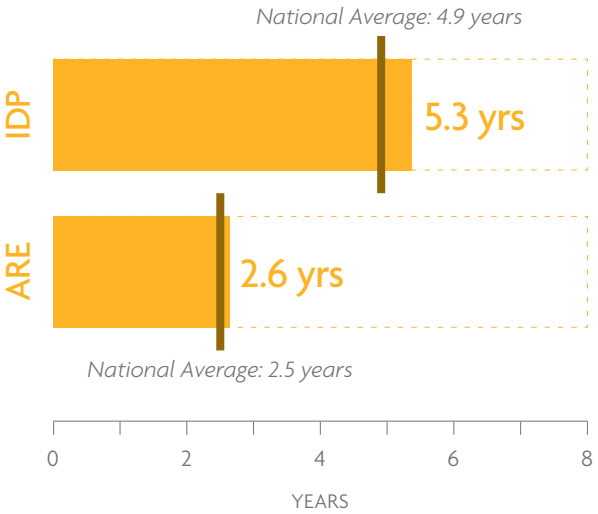
80
Eligible Testers

212
Divisions Taken

18
Completions



COMPLETION TIMELINE



LICENSURE

68%
Reciprocal Licenses

32%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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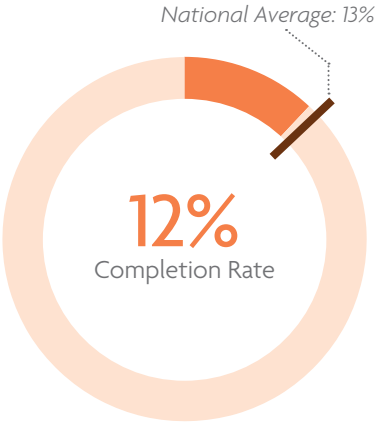
New York

IDP

4,316
Aspiring Architects Reporting Hours

515
Completions



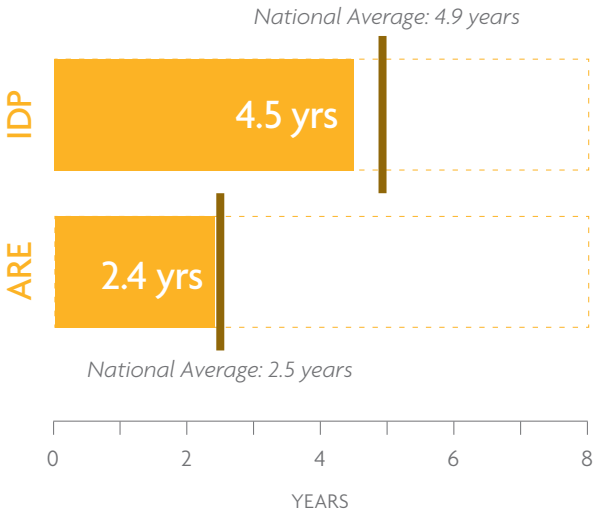
ARE

2,898
Eligible Testers

7,662
Divisions Taken

588
Completions

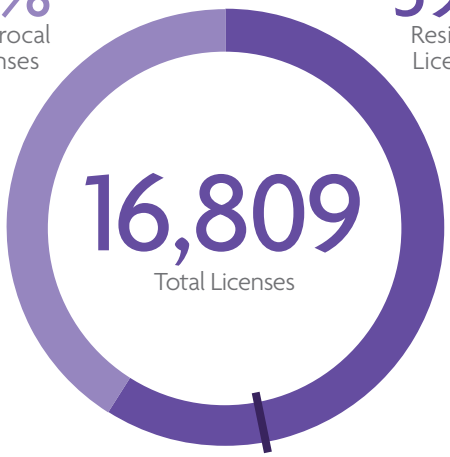
COMPLETION TIMELINE



LICENSURE

41%
Reciprocal Licenses

59%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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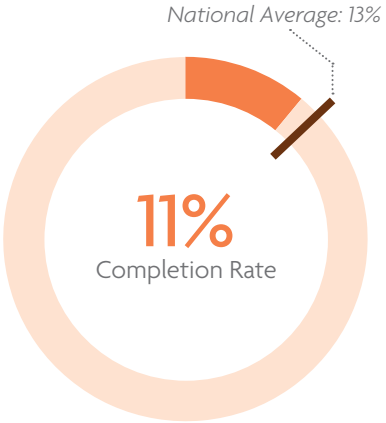
North Carolina

IDP

415
Aspiring Architects Reporting Hours

44
Completions

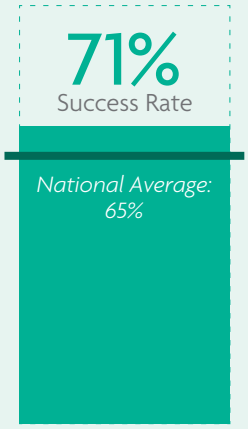


ARE

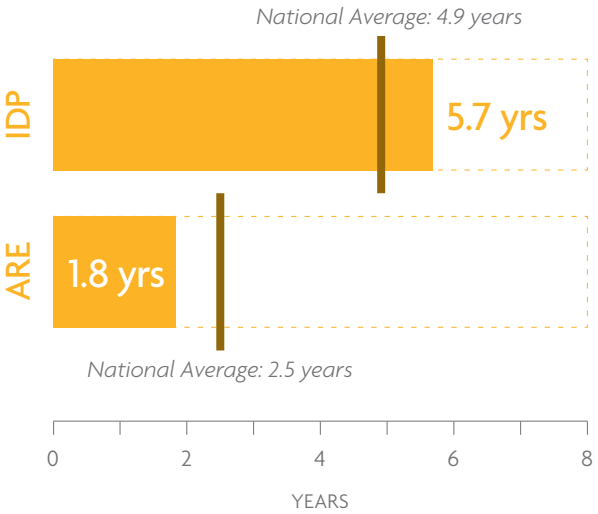
241
Eligible Testers

615
Divisions Taken

55
Completions



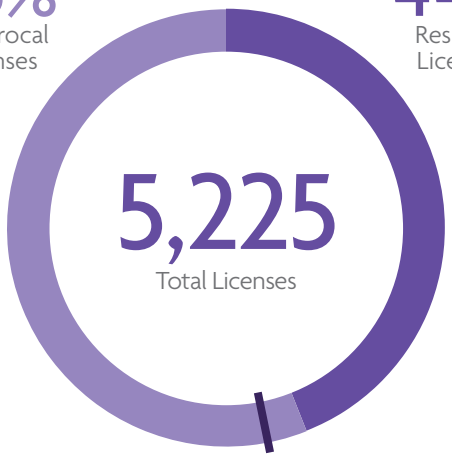
COMPLETION TIMELINE



LICENSURE

56%
Reciprocal Licenses

44%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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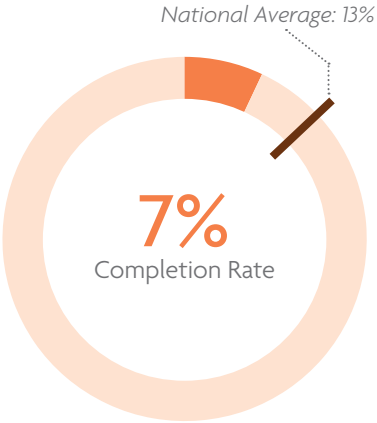
North Dakota

IDP

102
Aspiring Architects Reporting Hours

7
Completions

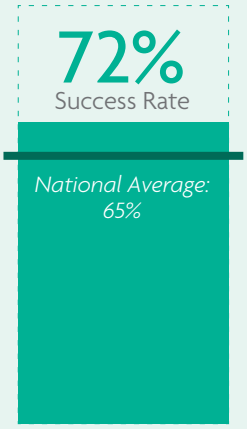


ARE

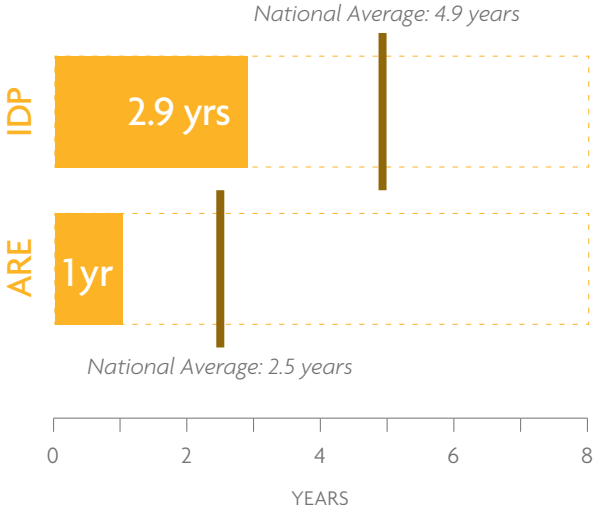
42
Eligible Testers

116
Divisions Taken

6
Completions



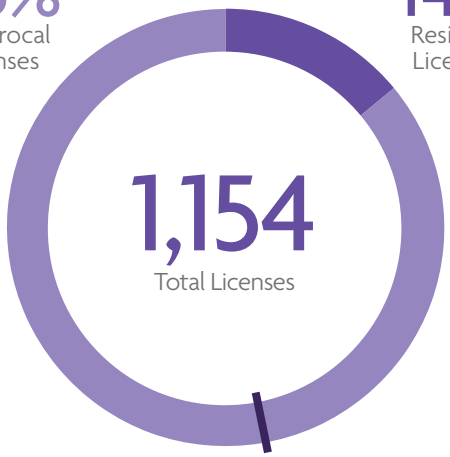
COMPLETION TIMELINE



LICENSURE

86%
Reciprocal Licenses

14%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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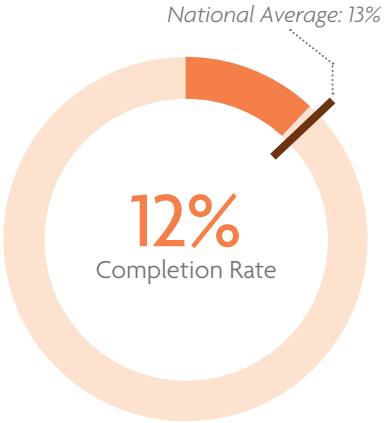
Ohio

IDP

641
Aspiring Architects Reporting Hours

75
Completions

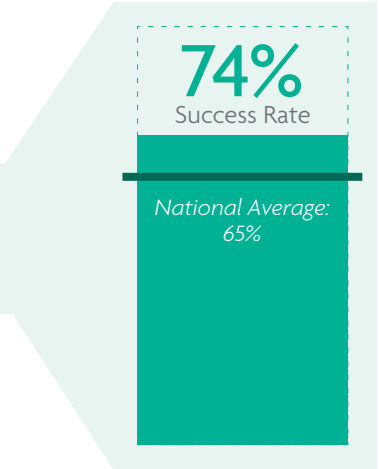


ARE

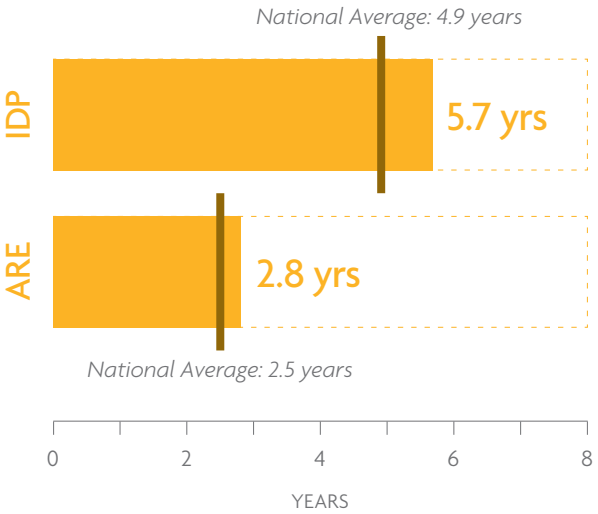
319
Eligible Testers

764
Divisions Taken

80
Completions



COMPLETION TIMELINE



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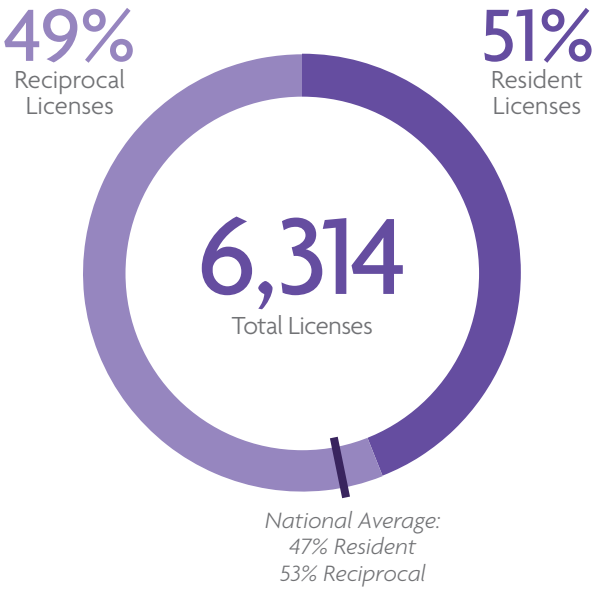

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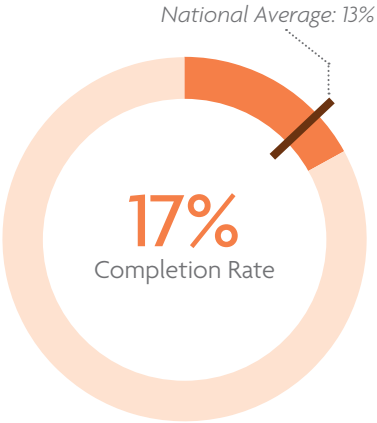
Oklahoma

IDP

184
Aspiring Architects Reporting Hours

31
Completions

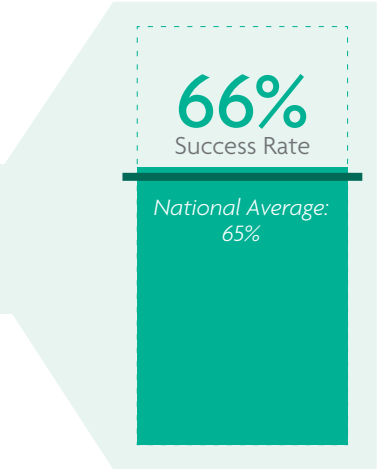


ARE

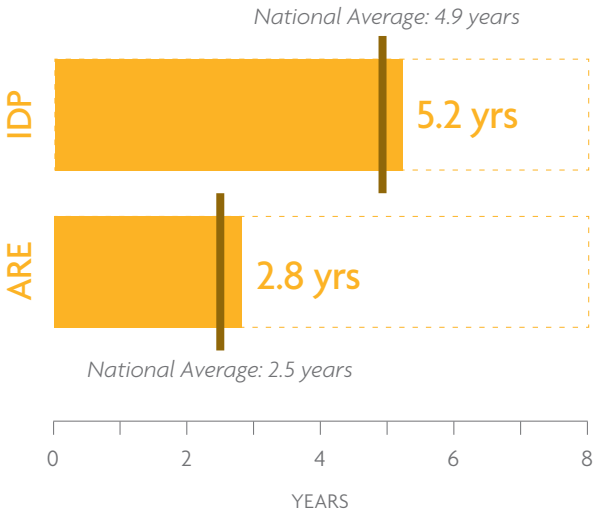
135
Eligible Testers

329
Divisions Taken

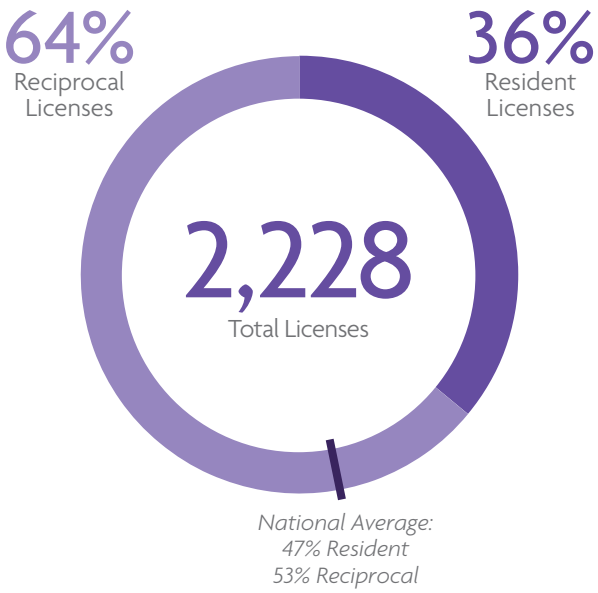
24
Completions



COMPLETION TIMELINE



LICENSURE



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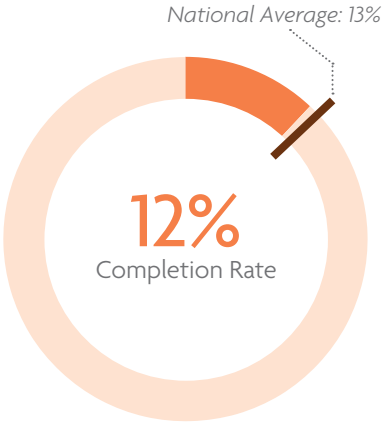
Oregon

IDP

427
Aspiring Architects Reporting Hours

53
Completions

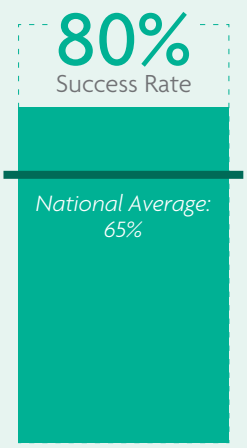


ARE

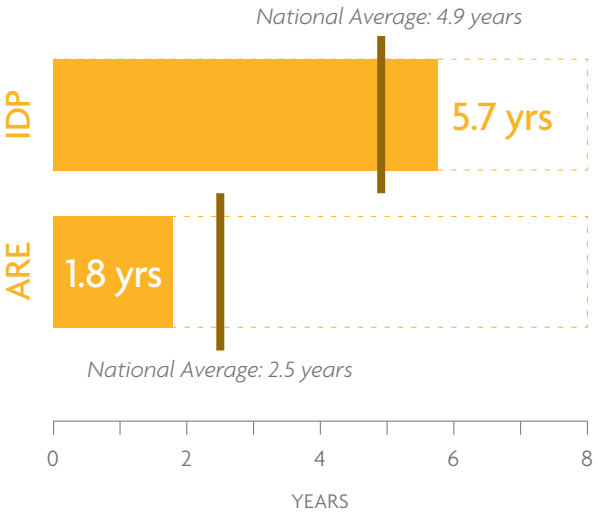
256
Eligible Testers

693
Divisions Taken

72
Completions



COMPLETION TIMELINE



LICENSURE

44%
Reciprocal Licenses

56%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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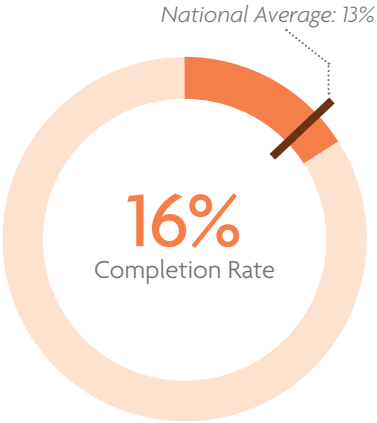
Pennsylvania

IDP

844
Aspiring Architects Reporting Hours

135
Completions

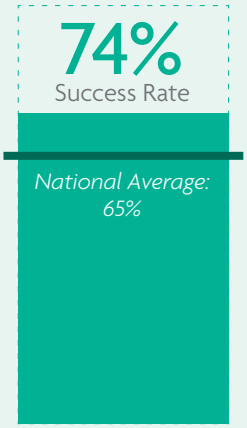


ARE

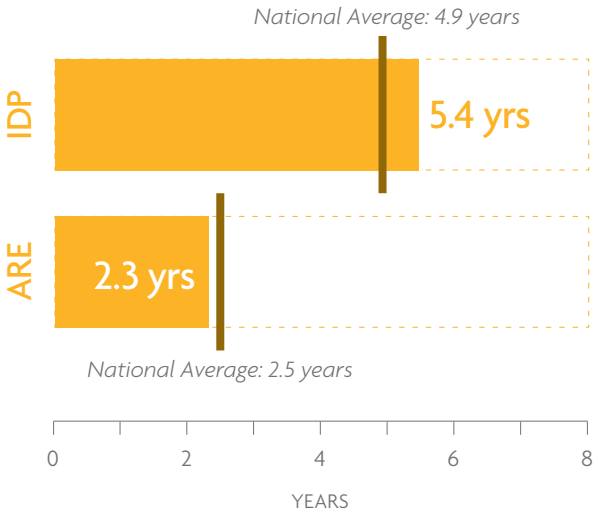
624
Eligible Testers

1,564
Divisions Taken

144
Completions



COMPLETION TIMELINE



LICENSURE

54%
Reciprocal Licenses

46%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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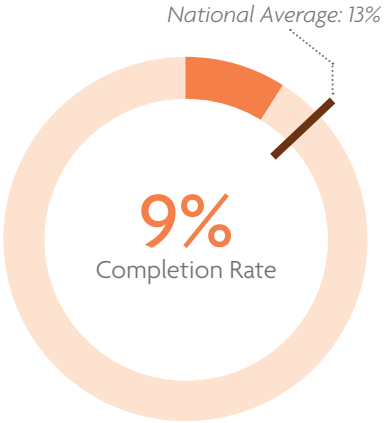
Puerto Rico

IDP

112
Aspiring Architects Reporting Hours

10
Completions



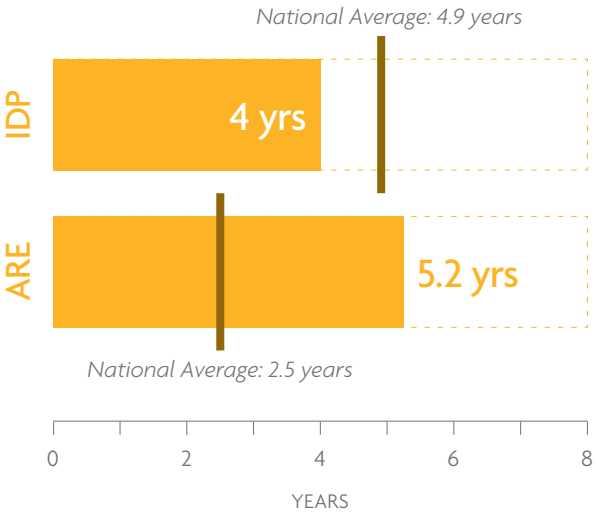
ARE

143
Eligible Testers

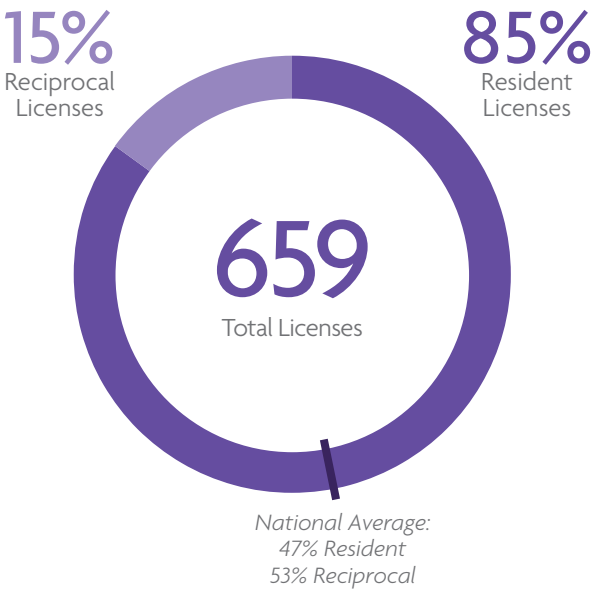
271
Divisions Taken

17
Completions

COMPLETION TIMELINE



LICENSURE



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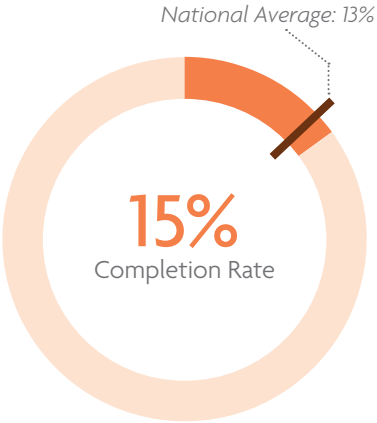
Rhode Island

IDP

88
Aspiring Architects Reporting Hours

13
Completions

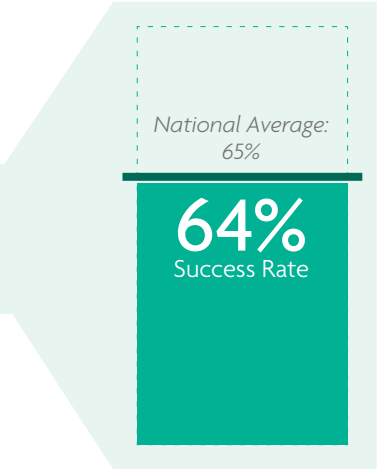


ARE

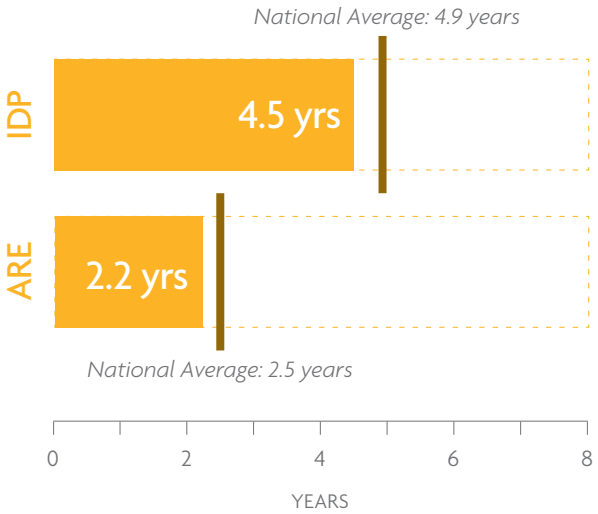
36
Eligible Testers

108
Divisions Taken

7
Completions



COMPLETION TIMELINE



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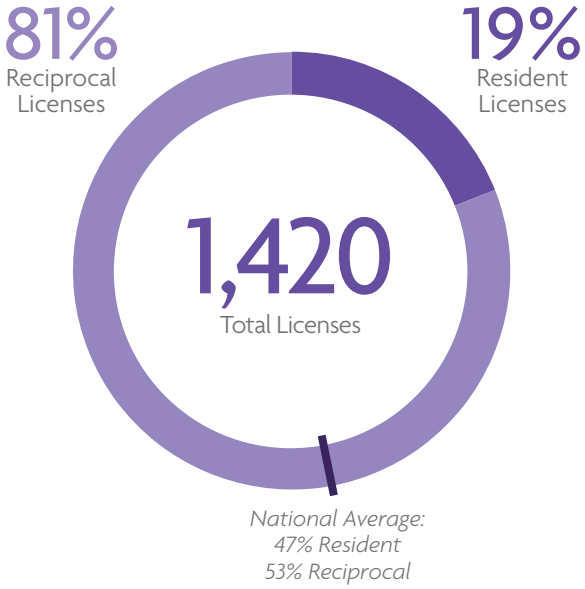

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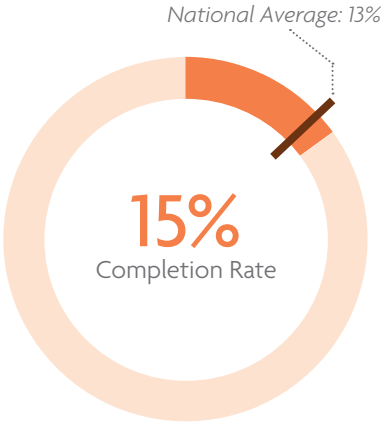
South Carolina

IDP

187
Aspiring Architects Reporting Hours

28
Completions

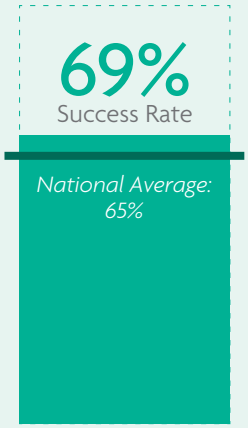


ARE

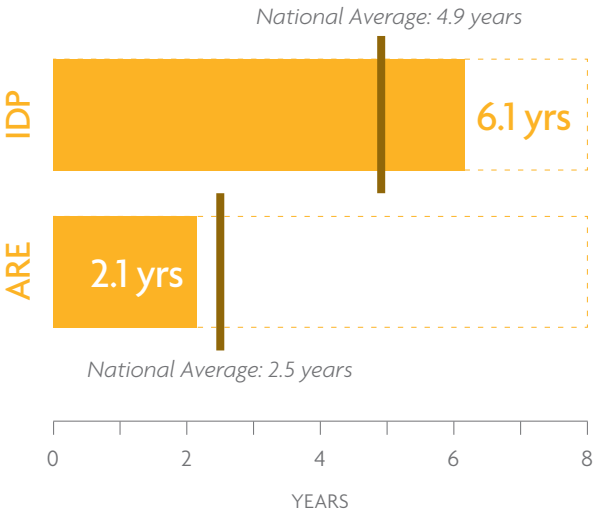
124
Eligible Testers

331
Divisions Taken

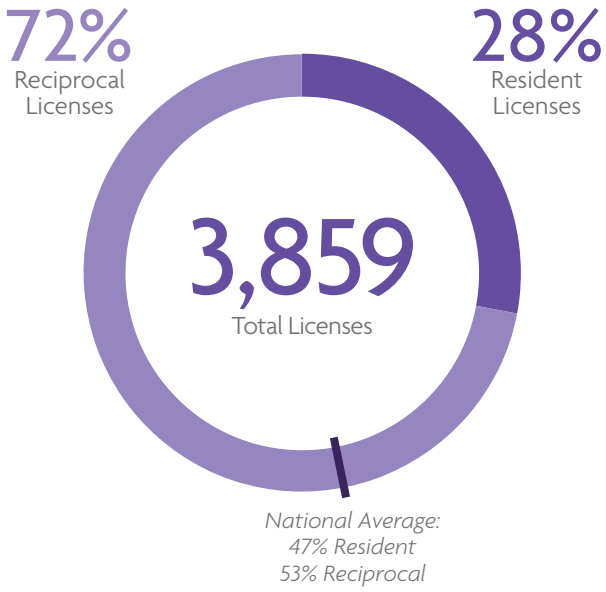
26
Completions



COMPLETION TIMELINE



LICENSURE



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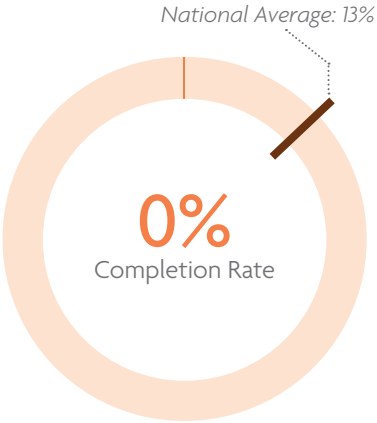
South Dakota

IDP

35
Aspiring Architects Reporting Hours

0
Completions



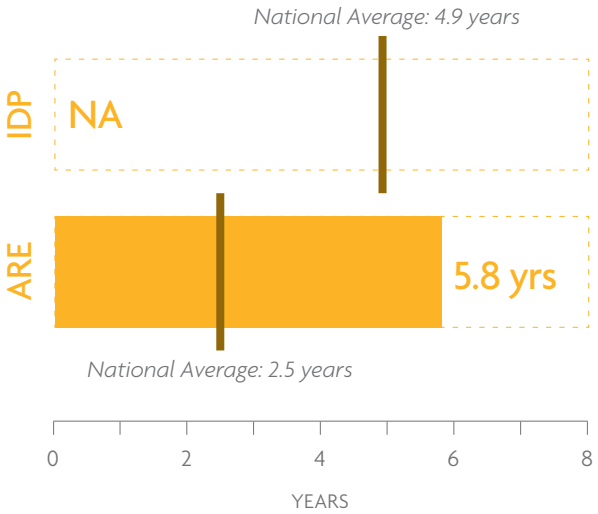
ARE

16
Eligible Testers

44
Divisions Taken

3
Completions

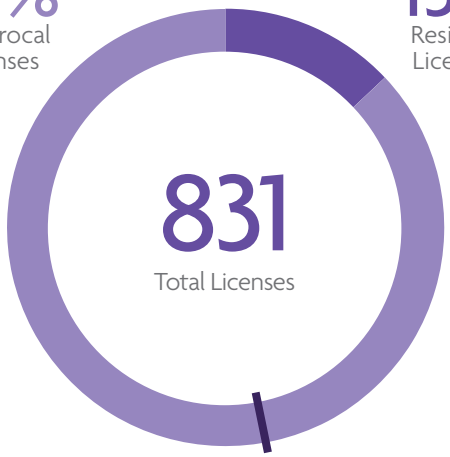
COMPLETION TIMELINE



LICENSURE

87%
Reciprocal Licenses

13%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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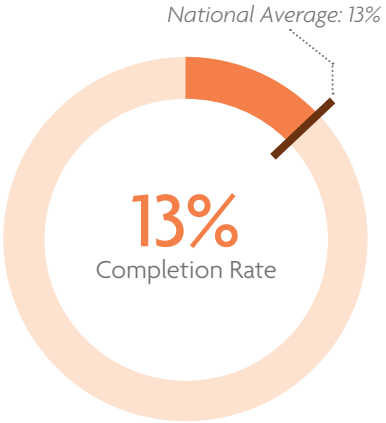
Tennessee

IDP

293
Aspiring Architects Reporting Hours

39
Completions

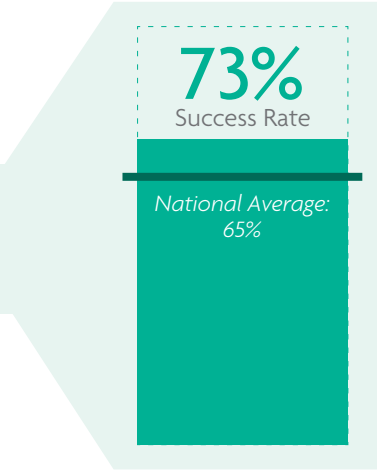


ARE

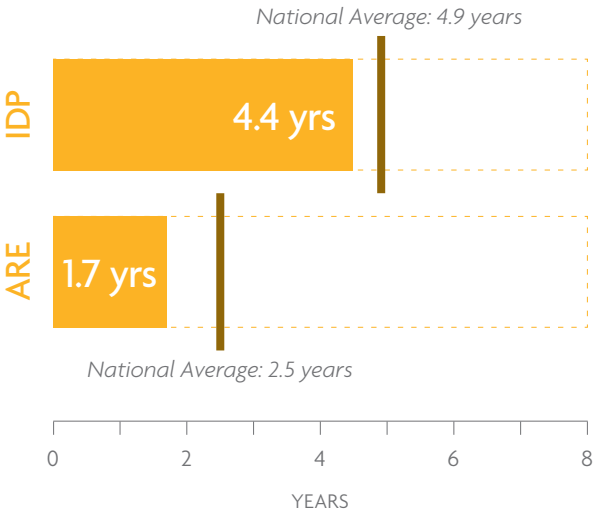
139
Eligible Testers

391
Divisions Taken

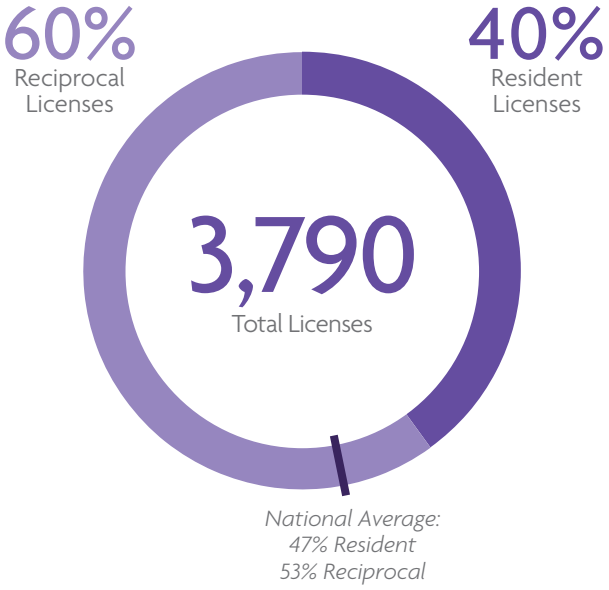
33
Completions



COMPLETION TIMELINE



LICENSURE



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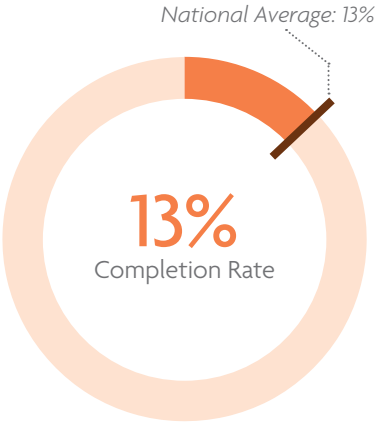
Texas

IDP

2,168
Aspiring Architects Reporting Hours

280
Completions



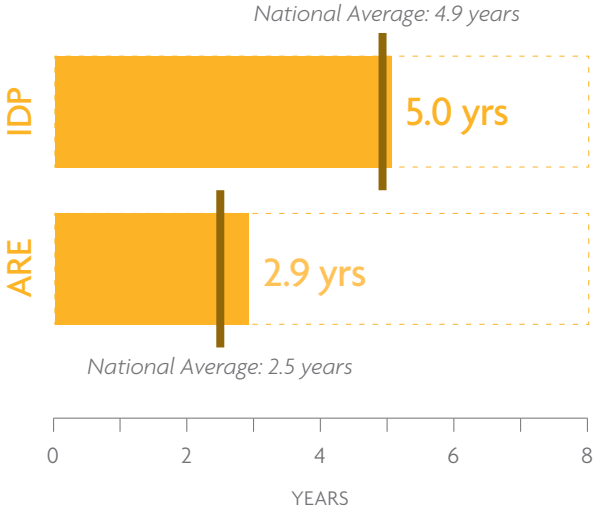
ARE

1,303
Eligible Testers

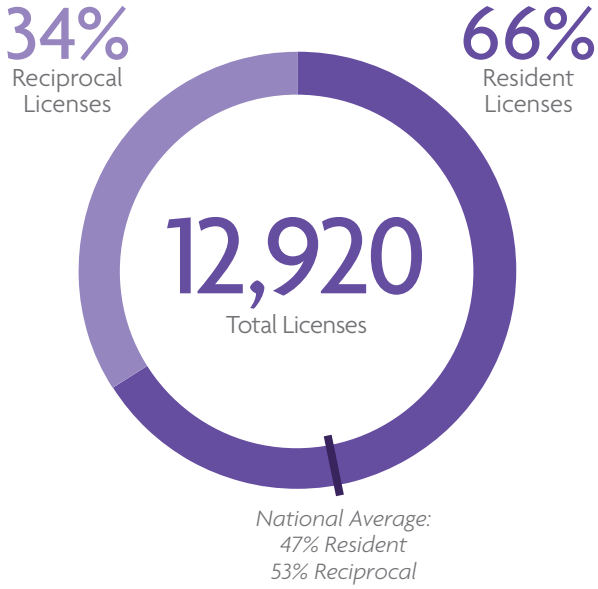
3,341
Divisions Taken

230
Completions

COMPLETION TIMELINE



LICENSURE



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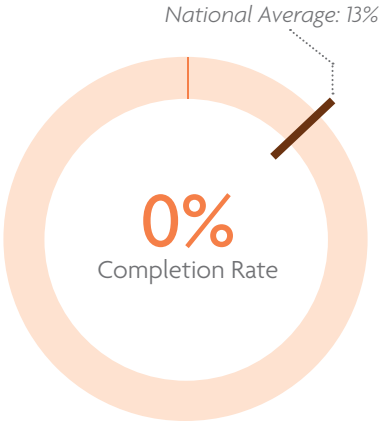
U.S. Virgin Islands

IDP

4
Aspiring Architects Reporting Hours

0
Completions

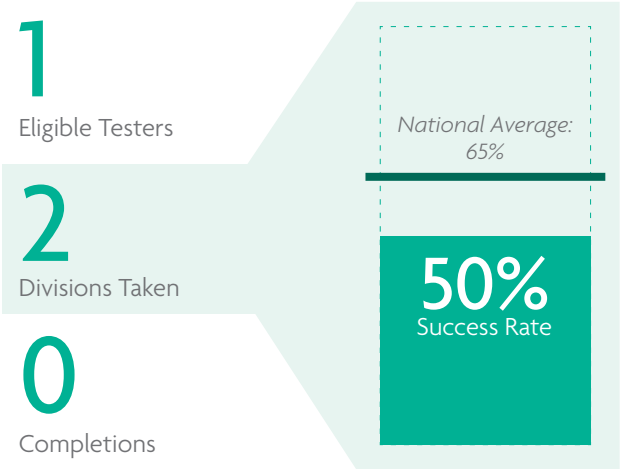


ARE

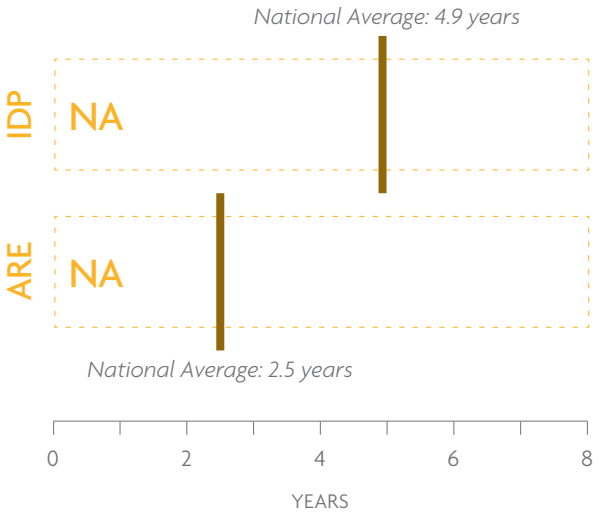
1
Eligible Testers

2
Divisions Taken

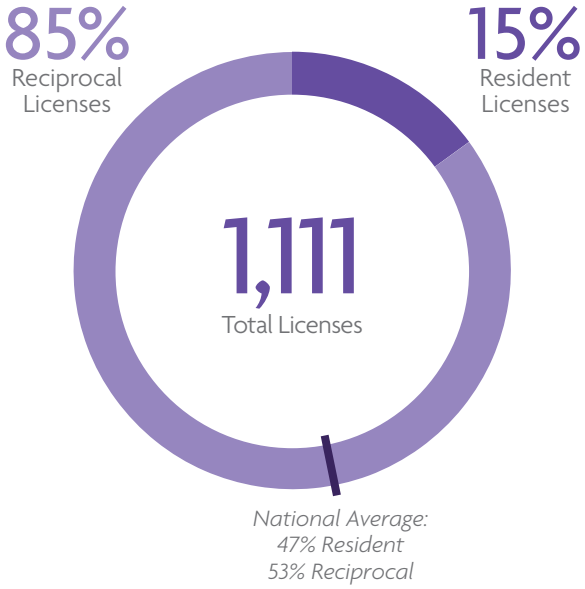
0
Completions



COMPLETION TIMELINE



LICENSURE



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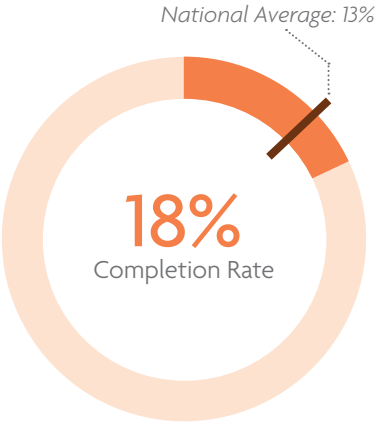
Utah

IDP

187
Aspiring Architects Reporting Hours

34
Completions

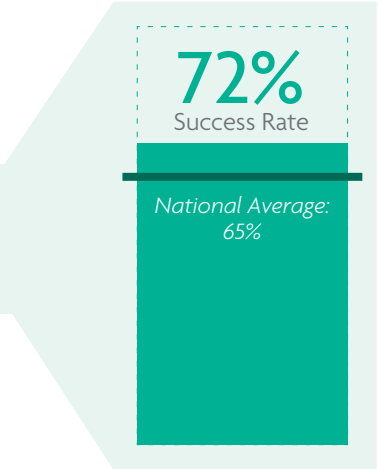


ARE

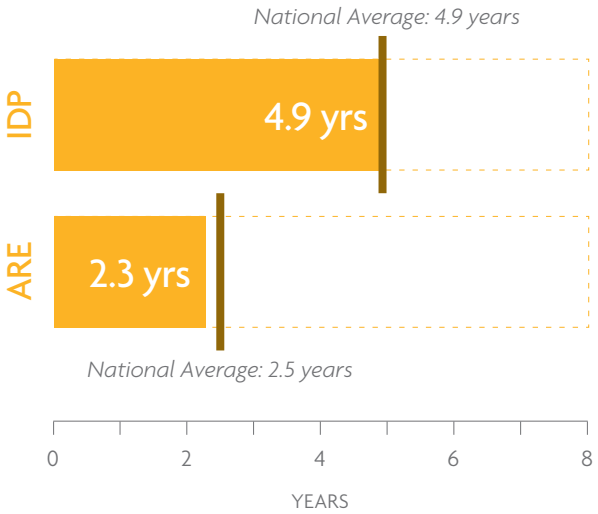
143
Eligible Testers

373
Divisions Taken

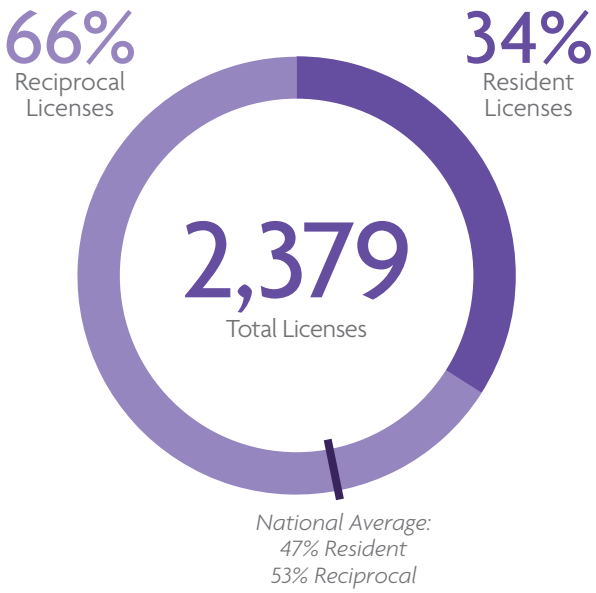
39
Completions



COMPLETION TIMELINE



LICENSURE



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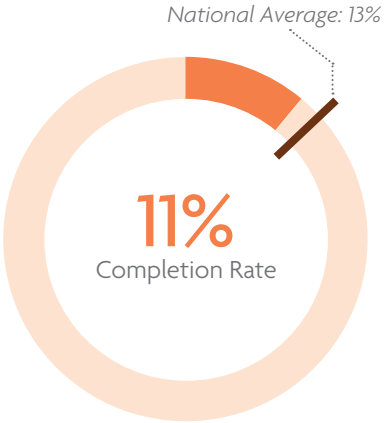
Vermont

IDP

53
Aspiring Architects Reporting Hours

6
Completions

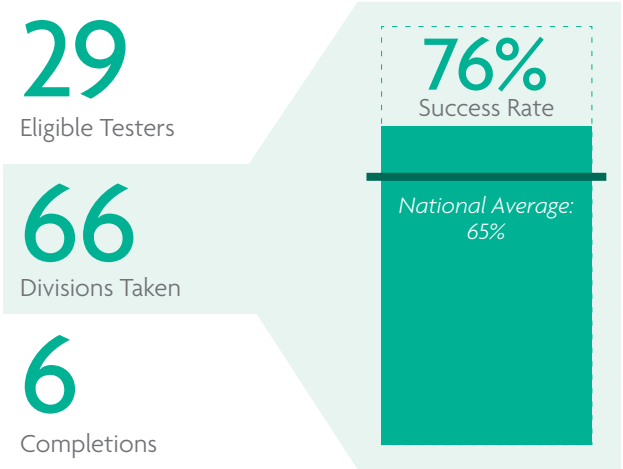


ARE

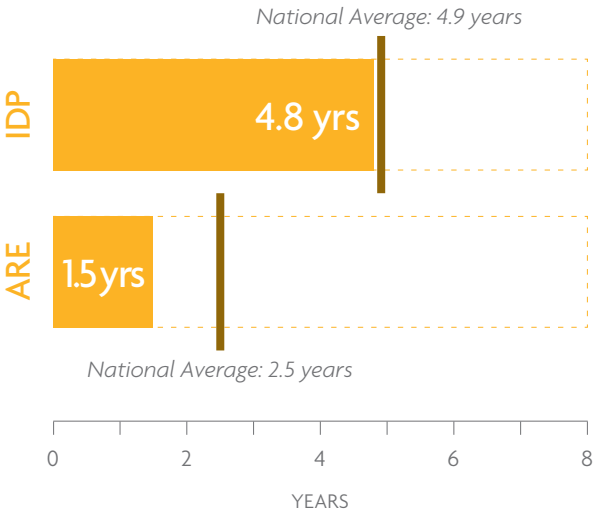
29
Eligible Testers

66
Divisions Taken

6
Completions



COMPLETION TIMELINE



LICENSURE

72%
Reciprocal Licenses

28%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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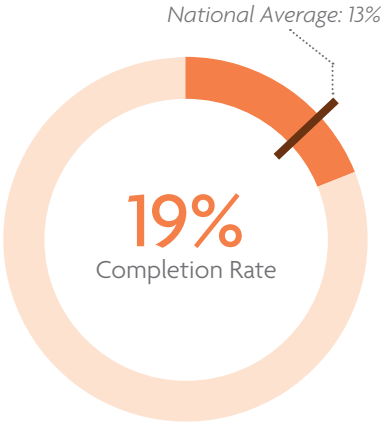
Virginia

IDP

585
Aspiring Architects Reporting Hours

113
Completions

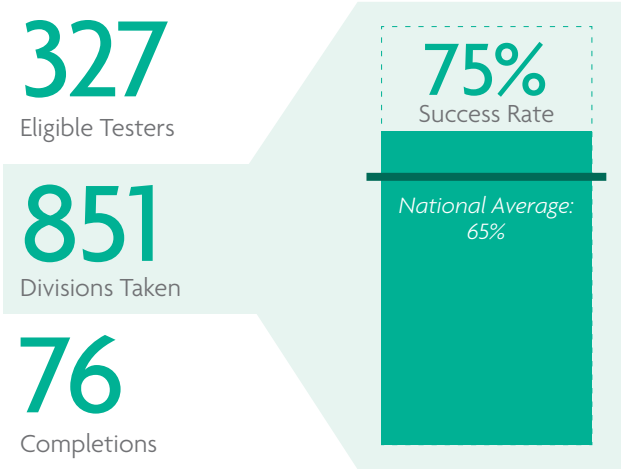


ARE

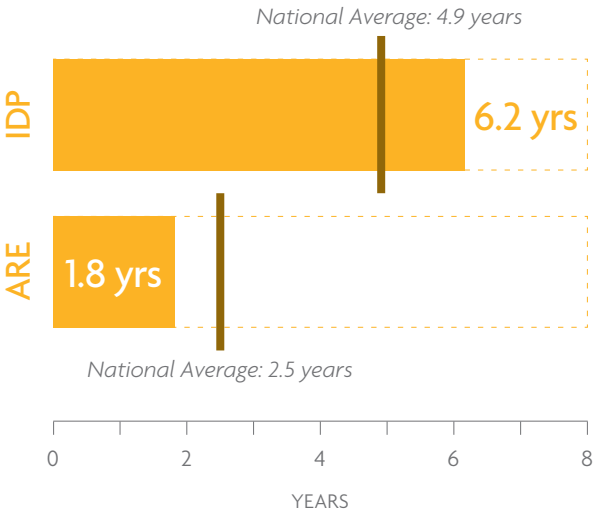
327
Eligible Testers

851
Divisions Taken

76
Completions



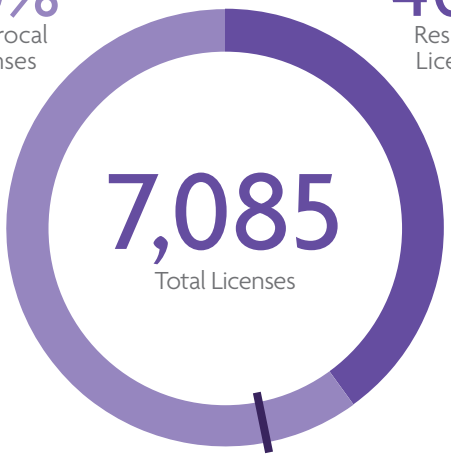
COMPLETION TIMELINE



LICENSURE

60%
Reciprocal Licenses

40%
Resident Licenses



National Average: 47% Resident 53% Reciprocal

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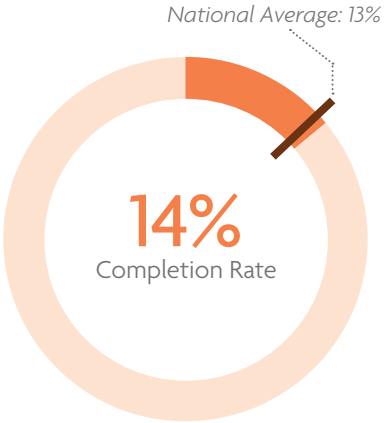
Washington

IDP

844
Aspiring Architects Reporting Hours

121
Completions



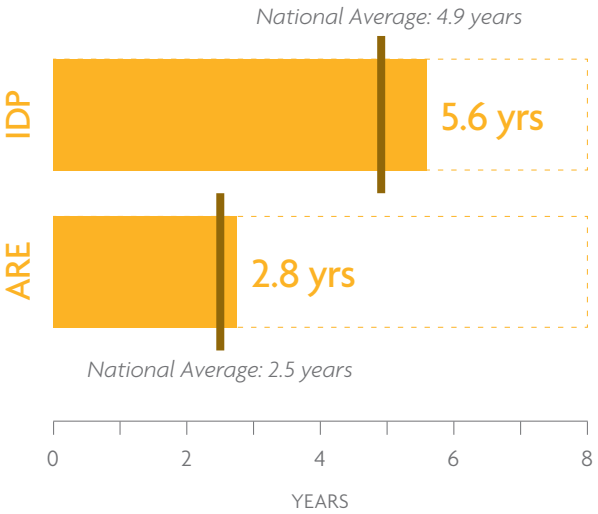
ARE

528
Eligible Testers

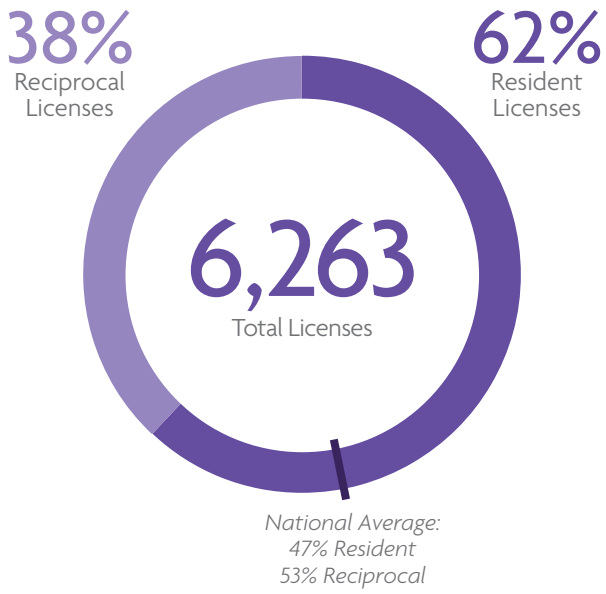
1,342
Divisions Taken

125
Completions

COMPLETION TIMELINE



LICENSURE



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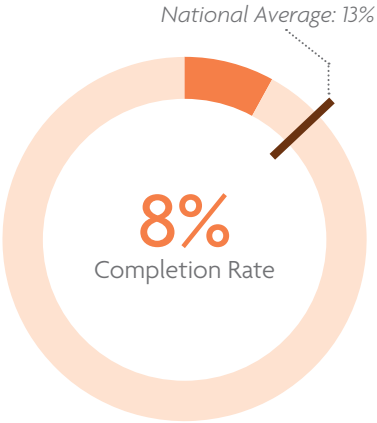
West Virginia

IDP

26
Aspiring Architects Reporting Hours

2
Completions

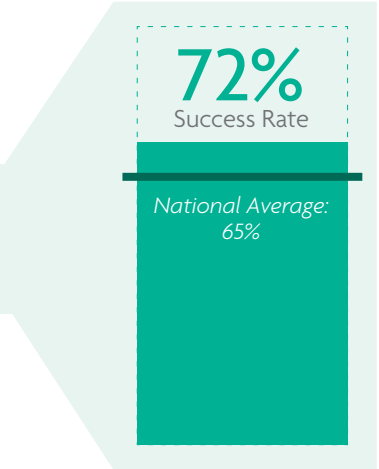


ARE

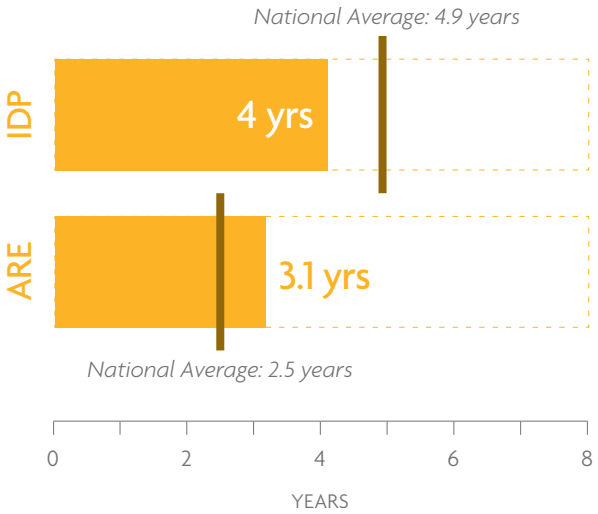
15
Eligible Testers

29
Divisions Taken

2
Completions



COMPLETION TIMELINE



LICENSURE

91%
Reciprocal Licenses

9%
Resident Licenses

National Average: 47% Resident 53% Reciprocal

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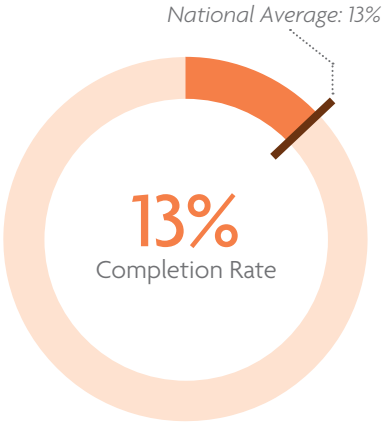
Wisconsin

IDP

301
Aspiring Architects Reporting Hours

39
Completions

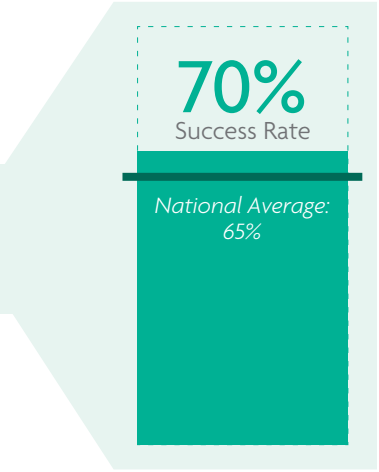


ARE

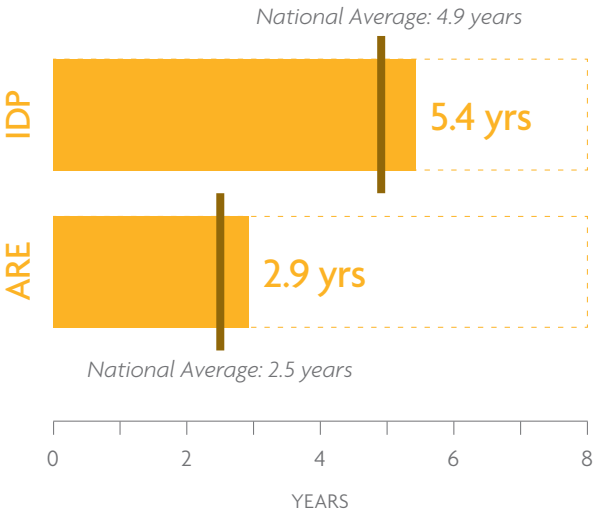
290
Eligible Testers

756
Divisions Taken

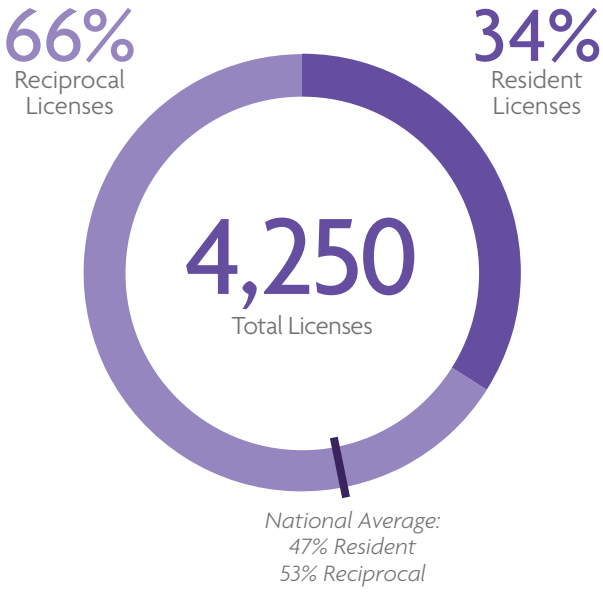
64
Completions



COMPLETION TIMELINE



LICENSURE



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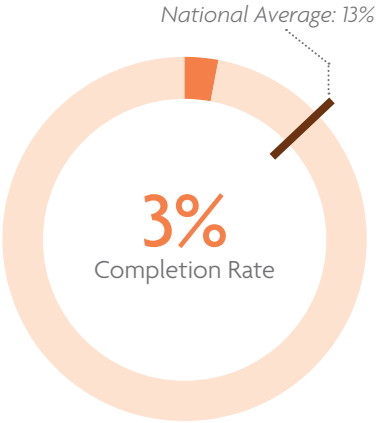
Wyoming

IDP

30
Aspiring Architects Reporting Hours

1
Completions

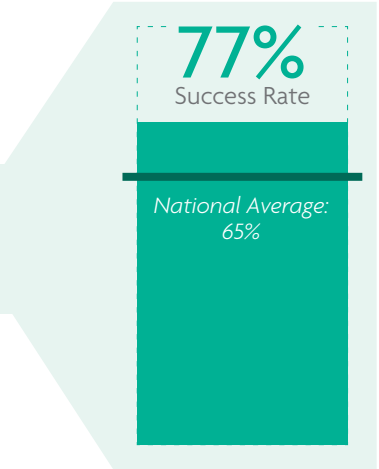


ARE

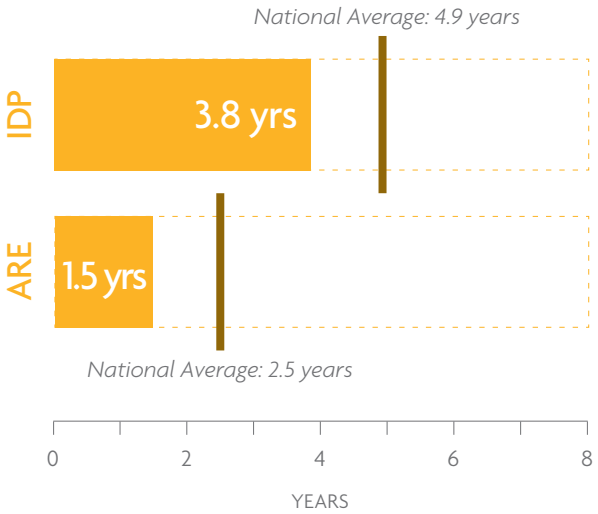
25
Eligible Testers

70
Divisions Taken

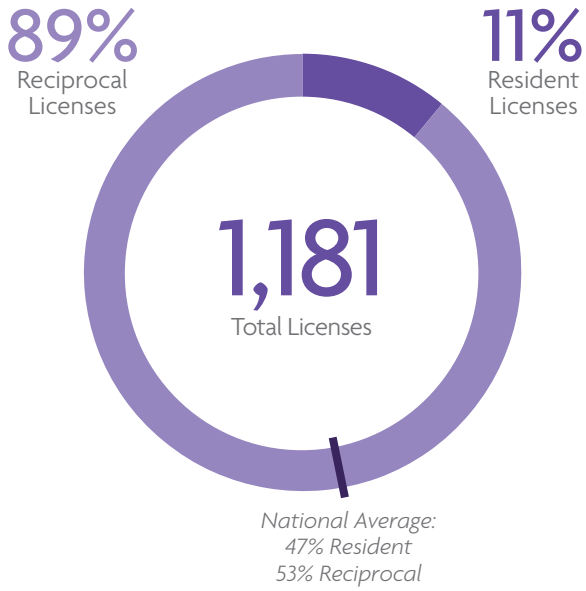
8
Completions



COMPLETION TIMELINE



LICENSURE



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About This Report

This is the fourth annual analysis of data collected by NCARB. This report is based on data collected by the National Council of Architectural Registration Boards (NCARB) during the 2014 calendar year, providing insight on the path to licensure.

NCARB maintains a database on aspiring architects and Certificate holders. This allows us to track the progression of candidates as they move through the Intern Development Program (IDP) and the Architect Registration Examination® (ARE®), and receive an initial license.

Some of the data is self-reported, such as age, race, and geographic location. Other data is triggered by candidate actions such as starting the IDP or completing the ARE. NCARB also collects data from the U.S. jurisdictions to provide a total count of architects.

Note: Data from the National Architectural Accrediting Board (NAAB) was also used in this report to provide the reader with the number of students entering into and graduating from NAAB-accredited programs.

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About NCARB

The National Council of Architectural Registration Boards' membership is made up of the architectural registration boards of all 50 states as well as those of the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. NCARB assists its member registration boards in carrying out their duties and provides a certification program for individual architects.

NCARB protects the public health, safety, and welfare by leading the regulation of the practice of architecture through the development and application of standards for licensure and credentialing of architects. In order to achieve these goals, the Council develops and recommends standards to be required of an applicant for architectural registration; develops and recommends standards regulating the practice of architecture; provides to Member Boards a process for certifying the qualifications of an architect for registration; and represents the interests of Member Boards before public and private agencies. NCARB has established reciprocal registration for architects in the United States and Canada.

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Definitions

Age: Median age based on self-reported dates of birth.

ARE: The Architect Registration Examination® (ARE®) assesses candidates for their knowledge, skills, and ability to provide the various services required in the practice of architecture. The ARE was updated in 2008, from ARE 3.1 to ARE 4.0.

ARE Completion: The date on which a candidate has successfully completed all seven ARE 4.0 divisions.

Aspiring Architect: NCARB Record holders who are currently completing the IDP.

Early Eligibility: The ability to sit for the ARE before completing the IDP. Today, 49 jurisdictions allow early eligibility.

Exam Candidate: NCARB Record holders who are currently taking the ARE.

IDP: The Intern Development Program (IDP) helps guide aspiring architects as they fulfill experience requirements for initial licensure.

IDP Completion: When an NCARB Record is evaluated and marked as having satisfied all IDP experience requirements.

NAAB: The National Architectural Accrediting Board (NAAB) accredits professional programs in architecture offered by institutions accredited by a U.S. regional accrediting agency.

New Record: Date when a new candidate successfully applies for an NCARB Record and begins the path to licensure.

NCARB Certification: Licensed architects have the option to become Certificate holders to signify that they have met national standards established by U.S. licensing boards for protecting public health, safety, and welfare. Certification also facilitates reciprocal registration in all 54 jurisdictions, 11 Canadian jurisdictions, and can be used to support an application for licensure in other countries.

New Reporting Requirement: Effective July 1, 2009, NCARB implemented a new reporting requirement that required candidates to submit IDP experience within eight months.

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202/783-6500
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Agenda Item H

NCARB

1. Discuss and Possible Action on Resolution 2015-01 Regarding Alternative for Certification of Broadly Experienced Architects

2. Discuss and Possible Action on Resolution 2015-02 Regarding Alternative for Certification of Foreign Architects

3. Discuss and Possible Action on NCARB Initiative of a Path for Professionals with Qualified Experience Beyond Five Years

DISCUSS AND POSSIBLE ACTION ON RESOLUTION 2015-01 REGARDING ALTERNATIVE FOR CERTIFICATION OF BROADLY EXPERIENCED ARCHITECTS

On June 23, 2014, the National Council of Architectural Registration Boards (NCARB) released a notice to Member Boards requesting input on proposed changes to the Broadly Experienced Architect (BEA) Program. It provided a 90-day comment period that ended on September 5, 2014. Then-President Sheran Voigt responded on behalf of the Board in support of the proposed changes on August 12, 2014, which was later ratified by the Board at its December 10, 2014 meeting.

The proposed changes to the BEA Program, as initially introduced, reduced the amount of experience required by a licensee to complete the program and receive an NCARB Certificate. Under the originally proposed changes, licensees completing this program must: 1) meet a Member Board's education and experience requirement for initial licensure; 2) successfully complete the ARE; and 3) maintain a license to practice architecture in the jurisdiction of initial licensure in good standing and without disciplinary action for one year.

At its September 11-13, 2014 meeting, the NCARB Board of Directors (BOD) indicated that half of the Member Boards supported the proposed BEA changes. NCARB's deliberation included the consensus that a professional degree from a National Architectural Accrediting Board accredited program must still be valued and incentivized. Further, there was a desire to better understand whether licensed experience is necessary to compensate for commonly identified education deficiencies. Therefore, the BOD directed NCARB staff to facilitate further discussion during the October 31-November 1, 2014 Member Board Chairs/Member Board Executives meeting.

At its December 4-6, 2014 meeting, the BOD voted to revise the proposed changes to the BEA Program. The proposed revisions would: 1) require two years of post-licensure practice, combined with compliance with double the amount of Intern Development Program (IDP) time requirements for those holding a pre-professional degree, or three times the IDP requirements for those holding an unrelated degree; 2) eliminate NCARB Certificate eligibility for those without a post-secondary education; and 3) eliminate the Education Evaluation Services for Architects and dossier requirements, eliminate the fees associated with those two steps, and automate the entire process (using IDP as the metric for documenting additional experience in lieu of education). The BOD directed NCARB staff to develop a draft resolution for the BEA Program that was submitted to Member Boards for discussion at the NCARB Regional Summit held March12-15, 2015.

The Board, at its March 12, 2015 meeting, took an "oppose unless amended" position due to the elimination of NCARB Certificate eligibility for architects without a post-secondary education by the resolution.

At the 2015 Regional Summit, the proposed BEA resolution was extensively debated. Board President Jon Baker strongly advocated a revision be considered by NCARB leadership, so architects without a post-secondary education would not be discriminated. Based upon the feedback received from membership, the BOD unanimously voted at its April 23-25, 2015 meeting to revise the draft resolution.

As revised by NCARB, the draft resolution required five years of post-licensure practice for all licensees without an accredited degree and completion of double the IDP requirements for those with a pre-professional degree in architecture or five times the requirements for all other candidates. NCARB stated that this revision preserves the ability of all licensees, regardless of education, to remain eligible for the NCARB Certificate. The Board voted to support the resolution during the membership vote held at the June 18-20, 2015 NCARB Annual Business Meeting.

Prior to the membership vote at the Annual Meeting, the resolution was further amended; reversing the latest revision that had been approved by the BOD in April. The final amended version of the resolution subsequently failed to pass by a narrow margin. NCARB stated that it will apply feedback received from the membership toward a revised alternative and return next year with a proposal that will attempt to capture the blend of rigor, inclusion and ease of use that is acceptable to a majority of its members.

PQ is asked to discuss this objective and provide any direction or input to the Board.

DISCUSS AND POSSIBLE ACTION ON RESOLUTION 2015-02 REGARDING ALTERNATIVE FOR CERTIFICATION OF FOREIGN ARCHITECTS

At the National Council of Architectural Registration Boards (NCARB) 2015 Annual Business Meeting, Member Boards voted to discontinue the current Broadly Experienced Foreign Architect (BEFA) Program in favor of a simplified alternative for receiving an NCARB Certificate.

The change, effective July 1, 2016, will optimize the process for foreign architects who are licensed but do not currently meet the requirements for the NCARB Certificate. This credential facilitates licensure among jurisdictions and signifies that an architect has met national standards for licensure established by registration boards.

NCARB stated that the NCARB Certification provides an important career advantage, opening up future job opportunities throughout the U.S. and providing free online continuing education. It further stated the sole purpose of the resolution was to remove some of the unnecessary financial and administrative impediments for foreign architects by refocusing on the nationally accepted standards for licensure.

The new alternative for foreign licensees will replace the current BEFA Program's requirements, eliminating the committee dossier review and the need to document seven years of credentialed practice in a foreign country. Instead, foreign architects will be required to document completion of the Intern Development Program experience requirements and successfully complete the Architect Registration Examination to obtain NCARB Certification.

NCARB stated that by imposing the same experience and examination criteria on foreign architects as U.S. architect candidates for certification, it addresses knowledge of U.S. codes and proficiency with English as the primary U.S. language. The new alternative will be more automated, increasing objectivity and helping reduce fees associated with the dossier and interview requirements.

<u>Attachment</u>
NCARB Resolution 2015-02

Resolution 2015-2

Supported by the Council Board of Directors (14-0)

Title: Revision of the Requirements for Certification of Foreign Architects

Submitted By: Council Board of Directors

WHEREAS, the Board of Directors of the Council has determined upon careful consideration that it is advisable and in the best interests of the Council to modify the Requirements for Certification of an Architect Credentialed by a Foreign Registration Authority as set forth in the *Certification Guidelines*, as well as corresponding provisions in other sections of the *Certification Guidelines*; and

WHEREAS, requirements for Council Certification may only be changed by an absolute majority vote of the Council Member Boards, with such change becoming effective July 1 following the close of the Council Annual Business Meeting, or such later date identified in the change, with such changes applicable to applicants for certification in process and new applicants;

WHEREAS, prior to implementing the changes to the Requirements for Certification of an Architect Credentialed by a Foreign Registration Authority and corresponding sections, the Council Board of Directors must adopt a resolution recommending such changes and submit the proposed changes to the Council Member Boards for approval.

NOW, THEREFORE, IT IS HEREBY:

RESOLVED, that the Requirements for Certification of an Architect Credentialed by a Foreign Registration Authority, included in Section 4 of the *Certification Guidelines* be revised as indicated below,

4.2 Education Requirement

~~You must hold a professional degree in architecture from an accredited/validated/officially recognized architecture program. You are required to describe such program or submit information describing the program from the accreditation/validation/recognition authority~~. You must hold a recognized education credential in an architecture program that leads to a license/credential for the unlimited practice of architecture in the foreign country. You are required to have an official transcript of your educational record sent directly to NCARB from the school. Where there is doubt about the nature of the professional degree, an Educational Evaluation Services for Architects (EESA) evaluation may be required.

4.3 Registration Requirement

You must be credentialed in a foreign country that has a formal record-keeping mechanism for disciplinary actions in the practice of architecture. You are required to describe the process by which you were credentialed or submit information describing the credentialing process from the credentialing authority that granted the credential, and to arrange for independent verification by the credentialing authority directly to NCARB showing that your credential has been granted and

is currently in good standing. You are also required to describe the process by which and the reasons for which disciplinary actions may be taken against architects and the system in which these actions are recorded, or to submit information provided by the disciplinary authority in this regard. You shall secure a written statement from your credentialing authority stating that you either have no record of a disciplinary action or if such record exists, describing such action and its current status. This statement must be sent directly to NCARB from the credentialing authority.

4.4 Experience Requirement

~~You must have completed a minimum of seven (7) years of comprehensive practice as a credentialed architect over which you exercised responsible control in the foreign country in which you are credentialed.~~

- ~~"Comprehensive practice" means the application of the knowledge and skills of those aspects of the profession assessed by the Architect Registration Examination.~~
- ~~"Responsible control" means that amount of control over and detailed professional knowledge of the content of technical submissions during their preparation as is ordinarily exercised by U.S. registered architects applying the required professional standard of care.~~

You must document completion of the *Intern Development Program (IDP).*

4.5 Examination Requirement

You must pass the Architect Registration Examination® (ARE®)

FURTHER RESOLVED, that the introduction paragraph entitled "Requirements for Certification of an Architect Credentialed by a Foreign Registration Authority be deleted from Section 4 of the *Certification Guidelines:*

~~BROADLY EXPERIENCED FOREIGN ARCHITECT (BEFA) PROGRAM~~
~~Foreign architects may apply for NCARB certification through the Broadly Experienced Foreign Architect (BEFA) Program set forth in this section. All information provided in the eligibility and application forms must be in English. English translations must be provided for all transcripts, credentials, and dossier documents. The interview will be conducted in English, without the assistance of a translator~~.

FURTHER RESOLVED, that "Appendix A: The Broadly Experienced Foreign Architect Process" be deleted in its entirety from the *Certification Guidelines,* including its reference in the Table of Contents.

FURTHER RESOLVED, that Section 1, "Requirements for Certification of an Architect registered in a U.S. Jurisdiction," Subsection 1.3 "Experience Requirement" paragraph four be revised as follows:

The Reporting Requirements identified in the *IDP Guidelines* do not apply to architects registered in the United States or Canada or to ~~foreign~~ architects credentialed by a foreign registration authority pursuing NCARB certification ~~through the Broadly Experienced Foreign Architect (BEFA) Program~~.

FURTHER RESOLVED, except as explicitly modified by these Resolutions, all of the provisions of Requirements for Certification of an Architect Credentialed by a Foreign Registration Authority, and the corresponding sections referenced herein, remain unchanged and in full force and effect; and

FURTHER RESOLVED, that these changes shall be submitted to the Council Member Boards for review and approval; and

FURTHER RESOLVED, that upon the approval of the changes by an absolute majority of the Council Member Boards, such changes will become effective July 1, 2016 and will apply both to applications for certification in process and new applications; if applicants whose applications were in process met all certification requirements that existed prior to the changes referenced herein, they will be eligible for certification.

Sponsors' Statement of Support:

The intent of the current Broadly Experienced Foreign Architect (BEFA) program is to allow a path to licensure for a foreign architect so that he/she may obtain the ability to practice independently in the U.S. while protecting the public health, safety, and welfare.

This resolution to modify the requirements for certification of an architect credentialed by a foreign registration authority maintains two existing requirements of the BEFA program:

- *Education Requirement:* Hold a recognized education credential in an architecture program that leads to licensure/credential in a foreign country
- *Registration Requirement:* Credentialed in a foreign country that has a formal record-keeping mechanism for disciplinary actions in the practice of architecture

This proposal requires a foreign architect to complete the requirements of the *Intern Development Program (IDP)* and to pass the *Architect Registration Examination*® (ARE®). Utilization of the IDP enables the Council to standardize expected levels of competence through experience of the foreign architect. Application of these requirements for foreign architects will ensure equality among expectations of foreign and U.S. architects. Requiring compliance with these two recognized Council programs also provides a better assessment of an applicant's competence in understanding and applying U.S. building codes and laws, accessibility requirements, and U.S. practice requirements.

This proposal:

- ensures that each applicant *documents the pertinent experience necessary for competence to practice in the U.S.* in each of the categories and areas of the *Intern Development Program*;
- ensures that the foreign architect clearly *demonstrates his/her understanding and ability to practice independently in the U.S.*;
- recognizes the importance of *applying similar standards for licensure for all who wish to practice in the U.S.*;
- meets the Council's effort to streamline the requirements for certification for foreign architect through the *elimination of the Broadly Experienced Foreign Architect (BEFA)*

Program requirements to complete seven years of practice in the country where credentialed as an architect, evaluation of their experience through submittal of an experience dossier for review by committee, and formal interview.

NCARB must have a certification model that acknowledges a foreign architect's competence to practice in their country of licensure. Currently, NCARB Member Boards do not allow experience to be substituted for completion of the ARE for any U.S. applicant for initial or reciprocal licensure. However, NCARB and its Member Boards hold a higher value of a candidate's demonstration of competence earned through completion of the IDP and the ARE. Application of these requirements for foreign architects will ensure equality among expectations of foreign architects and U.S. architects. Every Member Board expects competence at the point of initial licensure. Demonstrating acquisition of knowledge and skills through examination to practice in a U.S. jurisdiction is a basic element of our licensure requirements.

Financial Impact:

FY16 – No Financial Impact
FY17 – Loss of revenue offset by reduction in Committee expenses and staff time for a small financial surplus.
FY18 – Loss of revenue offset by reduction in Committee expenses and staff time for a small financial surplus.
FY19 – Loss of revenue offset by reduction in Committee expenses and staff time for a small financial surplus.

DISCUSS AND POSSIBLE ACTION ON NCARB INITIATIVE OF A PATH FOR PROFESSIONALS WITH QUALIFIED EXPERIENCE BEYOND FIVE YEARS

During its June 18–20, 2015 Annual Business Meeting, the National Council of Architectural Registration Boards (NCARB) announced that it will commence work with Member Boards on developing a path to licensure for professionals who have qualified experience from more than five years ago (which exceeds the current Intern Development Program [IDP] reporting requirement). The sole purpose of this proposal is to create an approach to licensure that permits documentation of valid work experience that fulfills the spirit of IDP, but falls outside the limit of current IDP reporting requirements.

Candidates currently earn full credit for experience reported within eight months, and reduced credit (50%) for experience beyond eight months and up to five years. With the new proposal, each candidate would submit experience that identifies proficiency in the IDP experience categories.

NCARB estimates about 12,000 professionals in its system with experience older than five years could benefit from this program. A recent poll of this group found 80 percent would be interested in such program if it becomes available. NCARB hopes to make the program available July 1, 2016 and will seek feedback and formal comment from Member Boards through the summer and into fall.

This program is similar to the Broadly Experience Design Professional pathway proposal that was envisioned by Committee Chair Pasqual Gutierrez. Board staff will be monitoring NCARB communiques for updates as they are released.

PQ is asked to discuss this objective and provide any direction or input to the Board.