

Hiring CM Faculty: Current and Future Prospects

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The purpose of this survey is to provide a benchmark for Program Directors of ACCE accredited programs and to inform this group of mechanisms for dealing with the shortage of qualified candidates to adequately staff such programs. The study is in two parts: part one dealing with the compilation of a recently conducted survey among Program Directors, and part two addressing the problems of identifying and retaining qualified new faculty and methods to mitigate the hiring problems identified in part one.

Part One – A Survey of the Current Hiring Situation and Future Trends

This part of the assessment is a summary of the results of a recently conducted survey of Program Directors providing information about the size of the construction faculty and academic staff including their academic and professional qualifications, their level of experience and salary ranges. The conducted survey responses came from 14 universities, an approximately 30% response rate. It is hoped that, as part two of this research is conducted, more schools can be persuaded to participate, giving a more comprehensive set of results. However, the results thus far provide a benchmark for comparison of the current staffing situation. It provides information about recent growth in student enrollment. It also provides data about the current needs for additional faculty/academic staff, the minimum academic and professional qualifications and anticipated salary range for hiring such staff.

The Program Directors

Information was first solicited about the level of expertise of the Program Directors. As may be seen in Figure 1 below, over 80% possess PhDs, over 70% have more than 15 years of teaching experience, Slightly less than 80% are professionally licensed and 50% have more than 15 years of industrial experience.

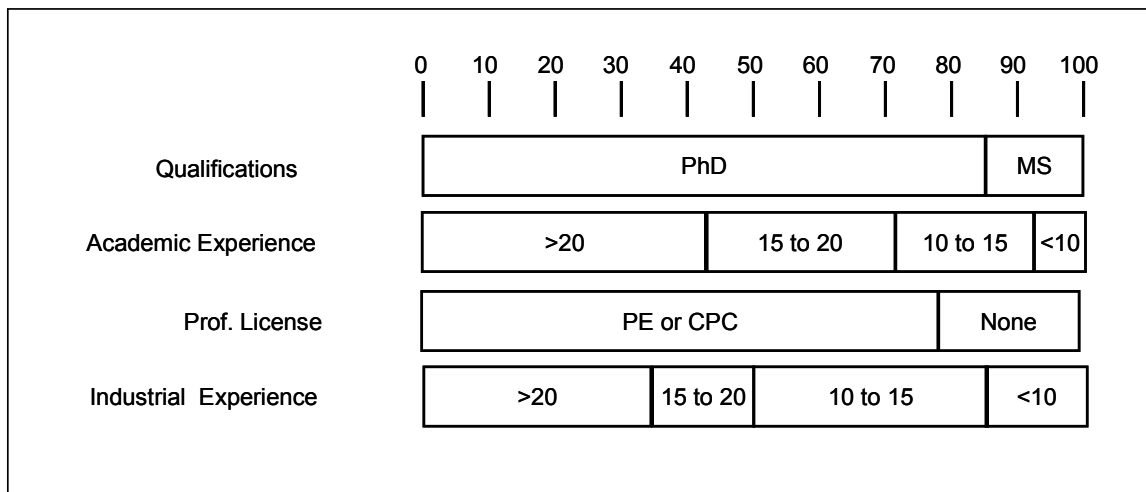


Figure 1 – Program Director qualifications

The data shows conclusive evidence of a strong commitment to leadership by example. The level of both academic and professional qualifications more than satisfactorily meets the requirements for an accredited ACCE program in construction.

Current Staffing of Construction Programs

Figure 2 shows the current staffing levels for the 14 surveyed programs. The size of core staff varies from 6.5 to 17 (FTEs). As is demonstrated later, this has some correlation to the size of the student body. Some programs show a mature staff with up to 7 Full Professors; others show a staff which is skewed more to the Assistant Professor level. Two programs have only 1 Full Professor, and 1 has no Full Professors. Of particular note is the high demand on some programs for non-tenured academic staff to complete the roster, several programs reporting that one-third of the staff are in this category.

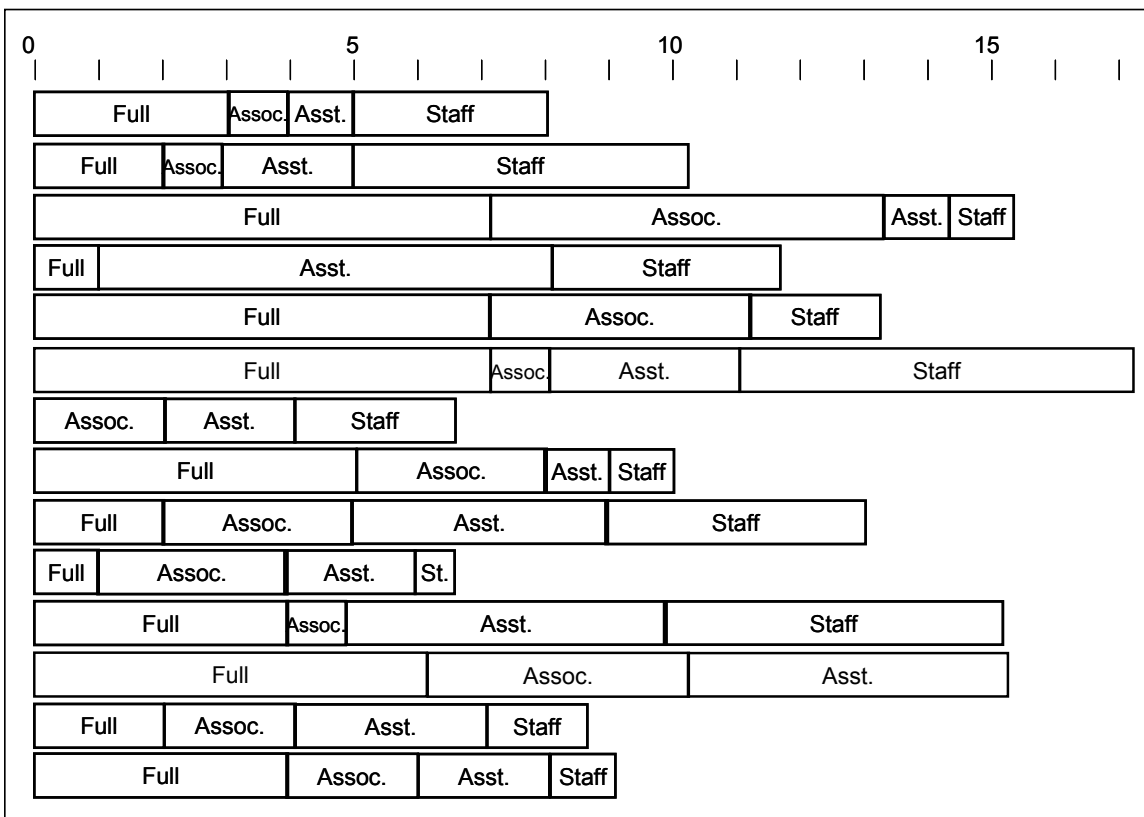


Figure 2 – Staff Mix

Figure 3 shows the salary ranges for the above categories of staff. Full Professor salaries range from \$72,000 to \$108,000 with a median income of \$91,000, Associate Professor salaries range from \$65,000 to \$88,000 with a median income of \$77,000, and Assistant Professor salaries range from \$55,000 to \$75,000 with a median income of \$68,000. The largest range is for non-tenured academic staff which ranges from \$24,000 to \$65,000 with a median income of \$44,000.

This may point to one of the problems of hiring and retaining well-qualified staff. The lower ranges of some of these salaries, particularly for Assistant Professors and non-

tenured staff are considerably below market standards in the construction industry. While it is acknowledged that the education sector will never equal the pay scales of the industry itself, such salary levels are too low to attract people with good quality industrial experience.

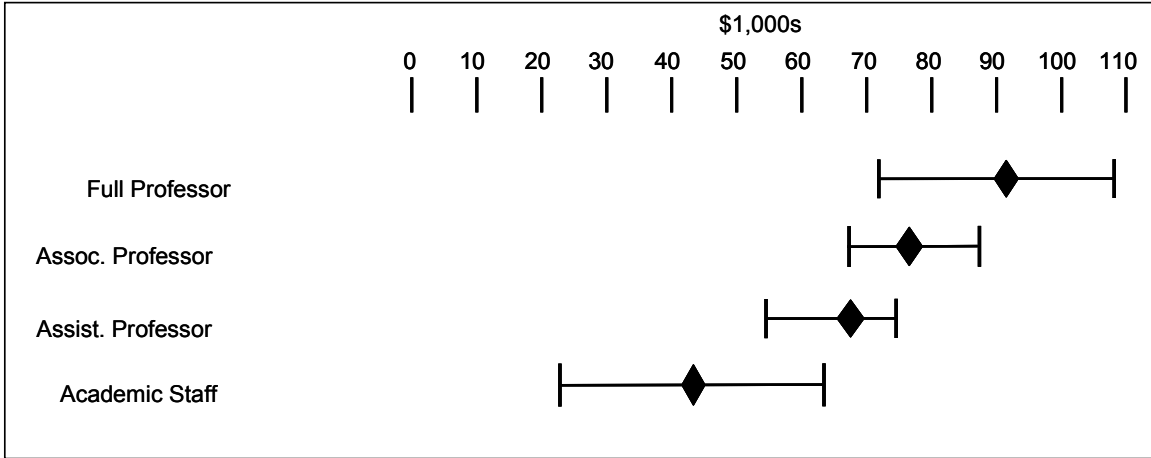


Figure 3 – Staff Salary Ranges

Information was also gathered about the qualifications of current staff on the programs. Figure 4 shows this breakdown. As would be expected, the range of qualifications is lower for the staff as a whole when compared with the qualifications of the Program Directors. The figure indicates that slightly less than 50% hold a PhD and slightly more than 30% hold a Master's degree or equivalent. Of particular concern is that almost 20% of the staff holds only a Bachelor's degree. This again points to the problems of hiring highly qualified staff. The median academic experience appears to be close to 10 years teaching experience.

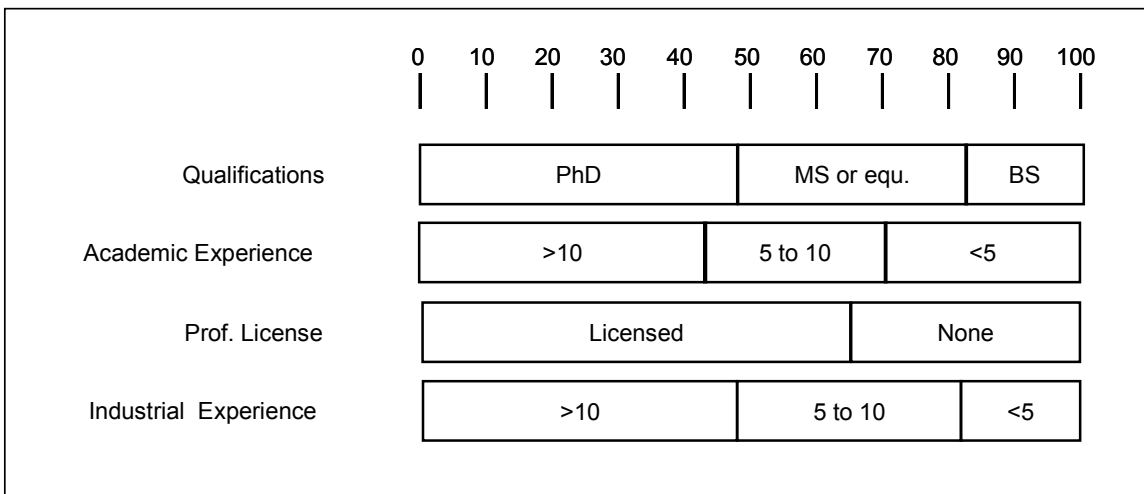


Figure 4 – Staff Qualifications

Of particular note is that approximately 65% of the staff holds some kind of professional license. Indeed, comparing academic to professional licensing, there is evidence that professional experience is more highly valued than academic experience. While the

practical nature of construction education would support the need for strong industry-based staff, it is the author's belief that this should not be sought at the expense of highly-qualified academic personnel.

The last area considered in this section is the staff to student ratio. Figure 5 shows a regression analysis of FTE staff to the size of the student body at the 14 schools in the survey. The center dashed line represents a linear regression of the data, showing an "average" need for 6 to 7 staff for a student body of 100, rising to about 14 staff for a student body of 500. The range of program size is from 120 to 525 students, with a median size of 280.

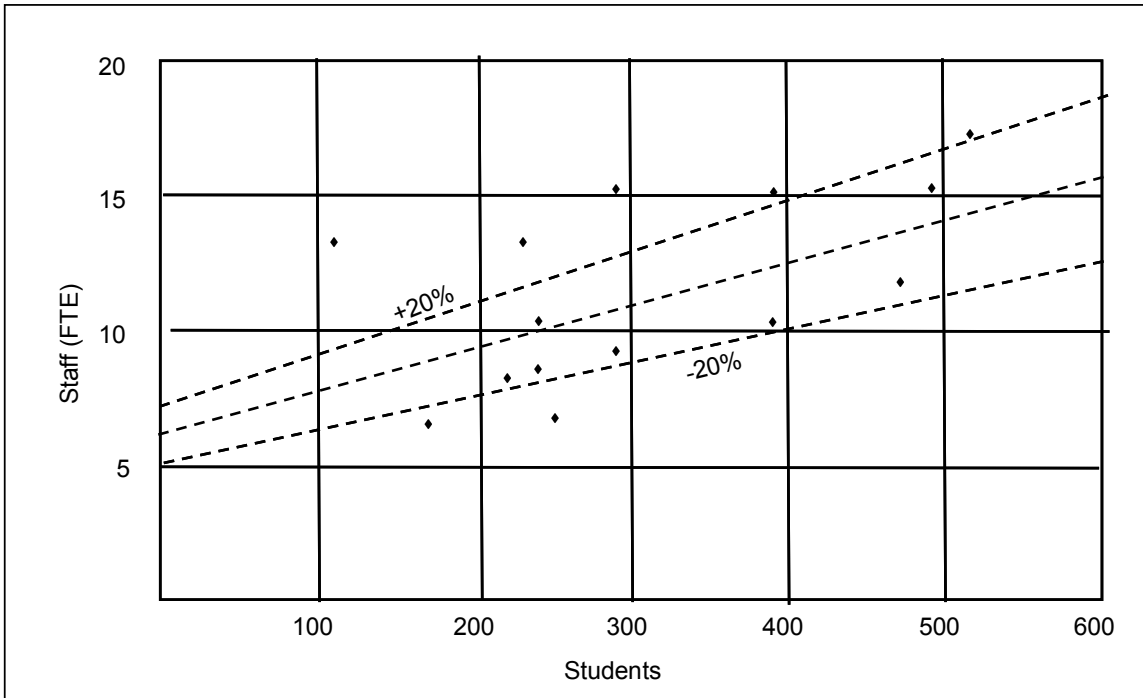


Figure 5 – Staff to Student Ratio

The other two dashed lines in Figure 5 shows a range of 20% above and 20% below the regression line. While 5 schools are above the +20% line, of particular concern is that there are 5 schools near and 2 schools below the -20% line. This is further indication of the current shortage of staff.

There is also evidence of significant growth in student numbers in recent years. A total of 50% of programs indicate that growth in student numbers over the past 5 years was over 20%. Approximately 29% indicate a growth between 10% and 20%, with only 21% reporting stable growth conditions. Such growth is also putting pressure on the hiring of new faculty.

The Need for More Faculty and Staff

The final set of survey questions related to assessing the immediate need for staffing in construction programs. Over 70% of schools reported the need for at least one new faculty, with almost 30% needing two new staff. Extrapolating this to cover all ACCE accredited programs, there may be more than 70 openings in construction.

Figure 6 shows the required qualifications for a minimally qualified tenured/tenure track faculty candidate. Slightly over 50% of programs require a PhD at the time of hire to be considered tenure track, the rest indicating that a PhD would be preferred, and at least a Master's degree required. The requirement for a PhD increases to 70% at the time of tenure, indicating that some programs require new staff to gain a PhD during the tenure process. It is also noteworthy that the academic qualification requirement for new faculty is more rigorous than the current staff reported in Figure 4 above. This is perhaps a recognition of the current lack of emphasis on academic qualifications. The requirement for teaching experience seems to be evenly split between less than 2 years and between 2 and 5 years, rising to 5 to 10 years at tenure. There also appears to be a lesser requirement than for current staff regarding the need for professional licensure. Slightly over 10% require it as a condition of hire, rising to approximately 25% at tenure, but most indicate this as being only preferred. Over 20% indicate that it is not even a consideration at either hiring or tenure.

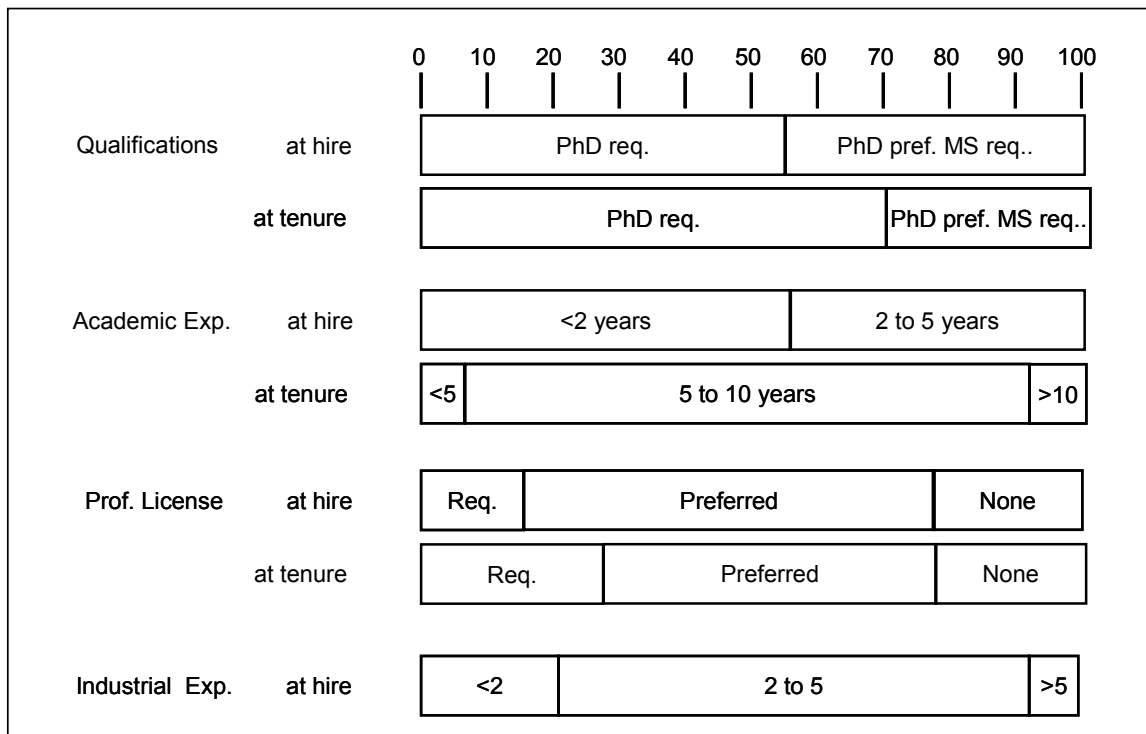


Figure 6 – Required Qualifications for Tenured/Tenure Track Employees

Figure 7 indicates the required qualifications for non-tenured academic staff. It may be seen that these are lower than required for tenured faculty discussed above. Generally 70% indicate that a Master's degree is the minimum academic qualification, though 30% are willing to consider candidates with only a Bachelor's degree. There appears to also

be a lower regard for teaching experience, but a higher regard for industrial experience, indicating that non-tenured staff are often used on a part-time basis to provide current insight into the construction industry. Interestingly though, few schools require licensure for non-tenured employees.

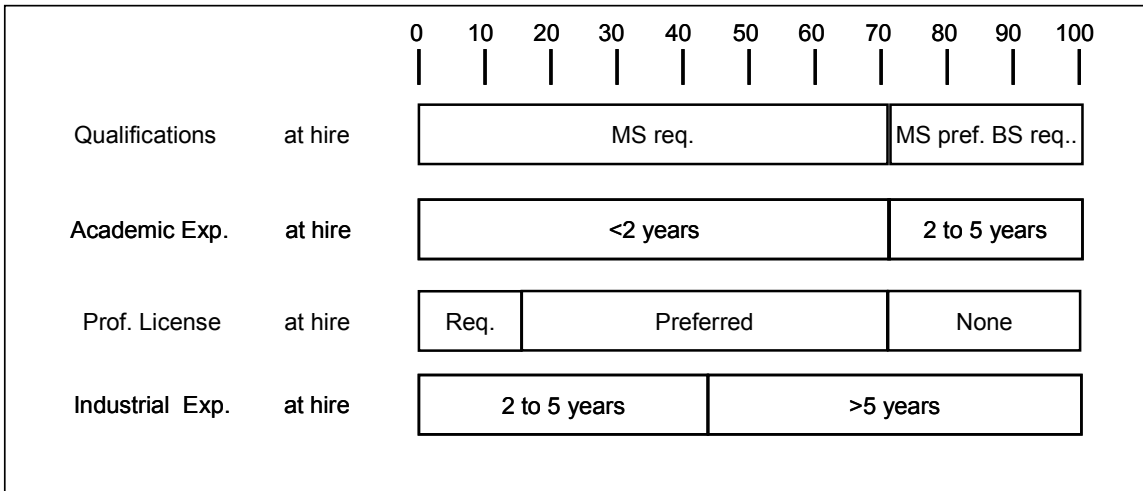


Figure 7 – Required Qualifications for Non-tenured Employees

The final questions relate to the salary ranges that universities are prepared to pay for new staff. Figure 8 shows this range for both tenured/tenure track faculty and for non-tenured staff. The salary range for tenure track faculty is from \$48,000 to \$90,000 with a median value of \$65,000. The ranges quoted for individual schools is shown below the range bar with those programs requiring a PhD shown as dashed lines and those indicating that a PhD is preferred, but a Master's is acceptable as a solid line. It may be seen that the program indicating a range from \$65,000 to \$90,000 is possibly skewing this result with the \$90,000 not really representing an offer to a minimally qualified candidate. Perhaps a more realistic range would be from \$48,000 to \$80,000 \.

The range for non-tenured positions is from \$35,000 to \$75,000 with a median value of \$55,000. Again the actual quoted ranges by each school are shown, the dashed lines for those requiring a Master's degree and the solid lines for those that do not. It is difficult to draw any conclusions from this disparity.

Again, it is difficult to believe that salaries for either tenured/tenure track or non-tenured staff within the bottom half of these ranges will be sufficient to attract well-qualified staff.

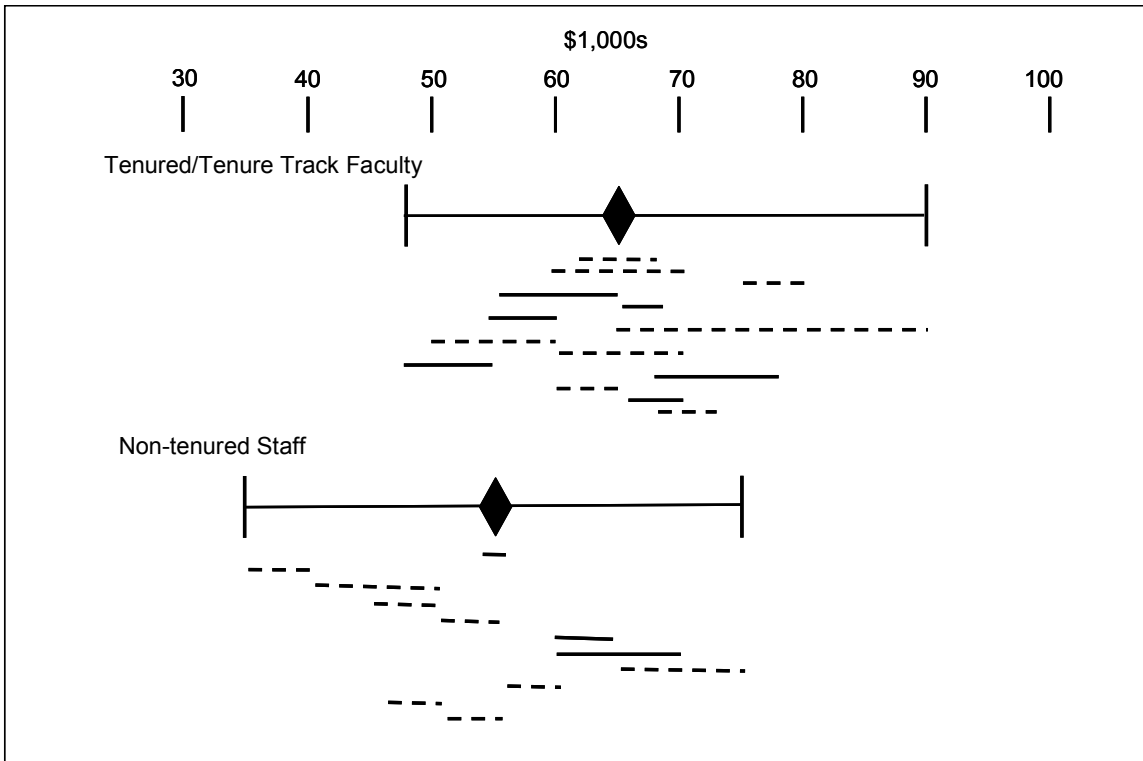


Figure 8 – Salary Ranges for New Hires

Tentative Conclusions

The critical need for more faculty on many ACCE accredited construction programs has been identified in the above discussion. It appears to stem from two areas of concern. The low salary range, especially for new hires at Assistant Professor level, remains unattractive to industrialists who can command much higher salaries in industry. The second area of concern is attracting candidates with both strong academic and professional background – personnel with sufficient industrial experience to gain licensure do not typically have a PhD, and graduates of PhD programs do not typically have sufficient practical experience to obtain a license.

Some avenues have been suggested to mitigate these problems including a process of “growing your own” PhDs by providing a new hire the resources to obtain a PhD while also pursuing tenure. It may also be possible to take a candidate with a PhD but little industrial background to work with a local Architect/Engineering firm to gain extra field knowledge.

The purpose of the second part of this study is therefore to more clearly articulate these issues, and to seek out “best practice” among ACCE accredited programs to address this.

Part Two – Identification of the Problems of Hiring Qualified Staff in Construction

This aspect of the study will be more qualitative in nature involving a follow-up survey of Program Directors. It will include an assessment of industry needs for construction

graduates and how this affects ACCE programs and need for staff. It will also include an evaluation of the problems in finding and retaining qualified candidates. Two problems that have been identified thus far are that the salary levels are too low to attract people with industrial experience and there is a significant shortage of PhD candidates with sufficient professional experience. This assessment will conclude with examples of mechanisms that some universities are using to overcome the identified problems.