



# APWA

## Education Market Study

*Executive Analysis of Survey Results*

*Prepared for APWA on behalf of:*  
**The Rochelle Organization**  
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# Executive Analysis of Survey Results

## RESEARCH GOALS

As part of the larger APWA Education Summit project, TRO research associates surveyed the APWA public agency member sub-population to gain insight into the current state of education practice in public agencies. Specifically, the research was designed to gather and interpret data relating to:

1. the extent to which current educational needs in the field (public agencies) are currently met,
2. the inclination of supervisors to pursue education relating to their needs,
3. the inclination of directors to deliver/pay for education in relation to supervisors' needs,
4. the supervisors' and directors' perception of availability of educational providers who can meet supervisors' educational needs, and
5. the use (and projected use) of educational providers in the marketplace.

## METHODOLOGY

An online survey was fielded from February 27 – March 9, 2007 to collect data for the current study. APWA staff selected a list of 8,500 public agency members (with email addresses) from a database of more than 28,000 members, and TRO emailed to this list “invitations to participate” in the online survey. Of the 8,500 invitations, approximately 10% of the emails were undeliverable, leaving the delivered invitation count at 7,650. A total of 1,402 respondents substantially completed the online questionnaire (1,261 completed the entire questionnaire), taking an average of 24 minutes. Using 1,402 substantially completed records as a completion figure, the response rate for the survey was 18%. The profile of the respondent sample is as follows:

- 29% Directors, 11% Supervisors, 27% Sr. Managers, 8% Line Personnel  
24% Operations Managers
- Average age: 48
- Average years in field: 19
- Average years at current agency: 14
- Average years in current position: 7
- Regions: 1 – 6%, 2 – 3%, 3 – 9%, 4 – 9%, 5 – 15%, 6 – 16%, 7 – 9%, 8 – 17%, 9 – 17%



## RESULTS

The results of the study directly address the initial research questions (goals):

**Questions:**

*To what extent are agencies' current needs being met? What are directors' and supervisors' perceptions of the availability of training providers in the marketplace? If needs are not being met, where are potential opportunities for program growth?*

**Response:**

Survey results indicate that in each local marketplace, the national and local APWA compete as *prominent* but not *dominant* entities, and that the current array of education providers available to agencies deliver technical and management education at generally adequate levels across the public works disciplines.<sup>1</sup> For example, 36% of respondents who use outside providers report they are “highly likely” to seek APWA national as a provider of technical education, and 41% report the same for the local APWA. These compare however with 37% who appear “highly likely” to use a university-based program and with the 32% who are “highly likely” to use another trade association as a source.<sup>2</sup> While the APWA maintains a favorable portion of agency managers' mind share, no one education/training provider source appears to distinguish itself dramatically from competitors in the provider field.

The demand among agencies for new educational/training programs is similarly diffuse. Survey respondents were asked to provide topic ideas for programs: Of the approximately 1/3 of respondents who supplied a response, 45% focused on management/leadership issues (personnel, time, communication and budget management skills); the remaining 55% of responses was spread across 20 or more discipline or skill areas, with no more than 8% of respondents identifying a common topic area.<sup>3</sup>

From the standpoint of opportunity for program growth, the single greatest potential appears to lie in supplying management education tailored specifically to the environment in which the public works manager operates. As referenced above, 46% of the topics suggested for new programs fall into this area, and more than 90% of survey respondents felt inclined to favor a certification program in both

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<sup>1</sup> See Figures 1 and 2 on pages 10 and 11

<sup>2</sup> See Figures 3 and 4 on pages 12 and 13

<sup>3</sup> See Table 1 on page 22

the areas of “Public Works Management/Supervisory” and “Project Management” respectively.<sup>4</sup> While agency directors report that they perceive management education to be moderately to highly available to them, demand is nevertheless high and APWA has an inherent branding advantage with respect to understanding the public works management environment.

The ability to identify a similarly powerful opportunity in a technical skill area is less clear. In the main, the results do not point to any obvious “home run” opportunities for educational/training programs (which would be indicated by a large block of supervisors specifying a significant lack of educational programs or providers for skills they need in their agencies).

Pairing responses to two key survey items, however, may suggest opportunity for growth specifically in two skill areas: “Construction Inspection” and “Pavement Management.” As referenced above, the range of topics respondents suggested for new programs spread across 20 or more skill areas; from this field of skill areas, 17% of topic suggestions (8% of all topic responses) centered on “Construction Inspection;” 13% (6% of all topic suggestions) centered on “Pavement Management.”<sup>5</sup> When we examine on another survey item respondents’ concept of which skill areas are most in need of certification programs, we find that “Construction Inspection” and “Pavement Management” are among those receiving the strongest response (“Construction Inspection” attracted the single greatest response with respect to certification demand).<sup>6</sup> Insofar as demand for certification can serve as a proxy for attention that is being paid to a particular discipline or skill area, the trend we see for these two particular skill domains, combined with the pattern in topic suggestions, suggest further exploration of the domains for program growth opportunity.

Using “certification demand” by itself as a proxy for possible program growth opportunity (irrespective of topic suggestions), “Stormwater Operations” and “Emergency Management” may also represent areas of potential new programming as these too emerge as focal points for certification activity.<sup>7</sup>

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<sup>4</sup> See Figure 12 on page 21

<sup>5</sup> The figures 17% and 13% respectively represent the proportion of “discipline specific” comments summarized in Table 1 on page 22 as relating to “Construction Inspection” and “Pavement Management.” 51% of all education/training topics suggested by respondents were “discipline specific.”

<sup>6</sup> See again Figure 12 on page 21

<sup>7</sup> See again Figure 12 on page 21

**Question:**

*To what extent are supervisors inclined to pursue and pay outside education providers to meet their needs?*

**Response:**

While the opportunity to introduce a new breakthrough program to the marketplace does not surface forcefully from the current results, the data suggest an opportunity to deliver ongoing programming as part of the larger block of providers in the marketplace:

- a. demand appears consistent for skill training at all levels (entry, mid-career, and senior). In most disciplines,  $\frac{3}{4}$  of supervisors report a need for skill education/training services at the mid-skill level <sup>8</sup>;
- b. supervisors tend to use outside providers for training (technical and managerial). On average, 85%-90% of agencies report using outside providers for education/training. <sup>9</sup>;
- c. most agencies report having discrete educational and training budgets (survey results estimate annual budgets at \$330 per capita overall) <sup>10</sup>; and
- d. no significant organizational policies (e.g. travel restrictions) inhibit supervisors from purchasing training: only 9% of agencies report having any restrictions on employees traveling out of state for education/training. <sup>11</sup>

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<sup>8</sup> See Figure 5 on page 14

<sup>9</sup> See Figure 6 on page 15

<sup>10</sup> See Figure 7 on page 16

<sup>11</sup> See Figure 8 on page 17

**Question:**

*What is the nature of the current use or providers in the marketplace?*

**Response:**

While demand for ongoing education/training from outside providers is strong, with respect to program delivery, respondents clearly indicate a preference for local, live programming in light of increasing time and budget concerns. In a ranking exercise on the questionnaire, “in-house or local live” far outstripped all other options (“national or regional live,” “online” or “CD/video tape/audio tape”) as format options. Responses to a follow up question revealed the primary reason for the top ranking was “time and money savings.”<sup>12</sup>

As noted earlier, APWA’s local chapters enjoy prominent (but not dominant) mind share with respect to delivering local programming and thus represent a bona fide vehicle for APWA National to deliver programming at the local level should it seek to do so.<sup>13</sup>

**Question:**

*If due to market conditions and agency resources the opportunities for new programming ultimately pan out to be incremental and diffuse, what role should APWA look to play in the future of the field?*

**Response:**

As we have suggested, while there appears from the survey results to be potential opportunities for education/training program growth worth exploring, these opportunities exist in a relatively diffuse and competitive marketplace and therefore may represent incremental, albeit steady, growth for APWA educational programming and prestige.

The survey results, combined with additional observations we have been able to make with respect to the APWA and its marketplace, however, suggest the potential for a much more compelling focus for APWA’s national education effort. Specifically, a macro read on the key findings of the study suggests a market-wide call for an organization or entity to build the educational infrastructure of the field in such as way as to:

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<sup>12</sup> See figure 9 on page 18

<sup>13</sup> See figures 3 and 4 on pages 12 and 13

- a. elevate professional skill development across the field (e.g. in all disciplines, at all levels, and for all professionals in whatever career stage or employment venue);  
and
- b. attract highly skilled personnel to public works positions.

The clearest response from survey participants from among all questionnaire items is that filling skilled positions, particularly at the senior level, will be difficult over the next five years (40%-60% of supervisors feel there will be a shortage of senior level skilled workers in all disciplines over the next 3-5 years<sup>14</sup>), and that the development of certification programs in most skill areas is perceived to be significantly important (60%-70% of supervisory respondents report a “high” need for a certification program in many skill areas<sup>15</sup>).

These patterns suggest that APWA take a thoughtful look at its strengths and weakness in the current marketplace with respect to meeting constituent demand, and open itself up to consider a new role and approach to ensuring its field meets the challenges that face it in the years ahead. This new role would have the APWA national focus on becoming more an “enabler” and “influencer” of how education/training is delivered in the marketplace and less as one of several education competitors/providers in the same marketplace.

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<sup>14</sup> See Figures 10 and 11 on pages 19 and 20

<sup>15</sup> See Figure 12 on page 21

## CONCLUSIONS AND RECOMMENDATIONS

The findings presented above resulted from a survey designed to explore the current state of education practice in the public works divisions of public agencies; the findings therefore should be considered informed and instructive, though not necessarily conclusive. However, insofar as the results reveal significant response patterns, it is apparent that APWA is presented with a choice of how to prioritize its national education resources. Specifically,

1. should APWA focus on producing national and local educational programs, for most or every discipline and skill level, that compete in the current marketplace; or
2. should APWA focus on developing an infrastructure for elevating educational delivery in and across all disciplines through research, program model development, and strategic partnerships with other organizations (public and private, academic and industry-based); or
3. should APWA undertake the development of a manageable hybrid of options #1 and #2?

### Moving Forward

*We can't solve problems by using the same kind of thinking we used when we created them.*

-- Albert Einstein

Based on these research findings, and leavened by the qualitative research conducted during the Denver Summit, the TRO consulting team recommends that APWA explore the following options:

1. Focus national educational resources and expertise on elevating the manner in which skill needs are determined and education is delivered across disciplines. This will require APWA National to:
  - a. implement a system that enables local APWA chapters and/or members to communicate educational needs to APWA National on an ongoing basis;
  - b. implement a protocol for guiding academic institutions and other large educational providers in each discipline area in the development of educational programs for public works professionals. The protocol should provide for APWA to apply its



“seal of approval” on the program and promote this insignia; communication efforts should aim to elevate the status of APWA “partner” programs over “non-partner” programs.

- c. Through ongoing monitoring of local feedback and gaps in the ability of potential partners to deliver educational programming (locally or nationally, as appropriate), develop its own APWA “branded” programs to complement the array of partner programs.
  - d. Implement a protocol for developing certification programs in disciplines to 1) elevate the public perception of the public works disciplines; and 2) provide official guidance to managers regarding the skill level and competency of potential and current employees.
2. As opportunities develop to build specific programs at the national level or to package national programs for delivery at the local level, APWA ought to pursue these opportunities and aggressively brand them as APWA programs. As a result of its efforts at raising the profile of education across the disciplines through evaluation, gate-keeping, and strategic partnerships, these programs, delivered through local APWA channels, will benefit from the extra cache the APWA brand will carry.

Depending on APWA’s current perspective and plans, this approach may represent a paradigm shift for its national leadership and staff. While the staff may have been heretofore focused on developing programming at the national and local levels, the challenges facing the public works field over the next several years (e.g. shortage of skilled workers at every level) may require the organization to leverage its position and relationships to “fertilize” and guide the potential field of education providers while becoming the central clearinghouse for educational needs and program development.

## References

## Perceived availability for technical training in marketplace (how "readily available")

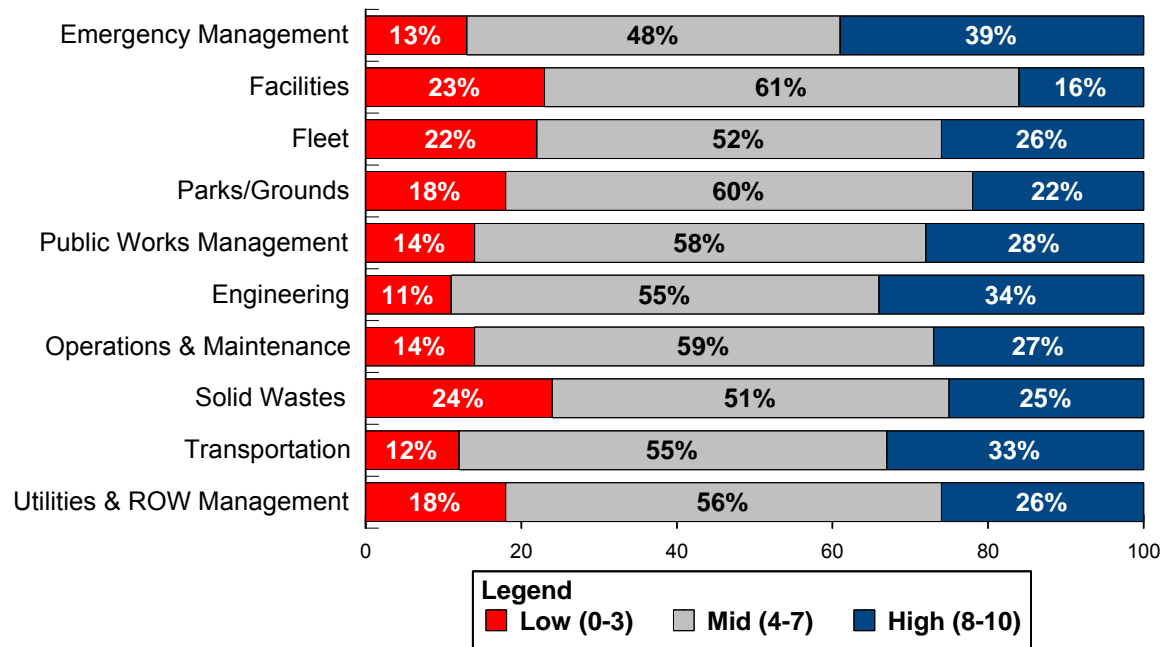


Figure 1

## Perceived availability of quality management training in marketplace (how "readily available")

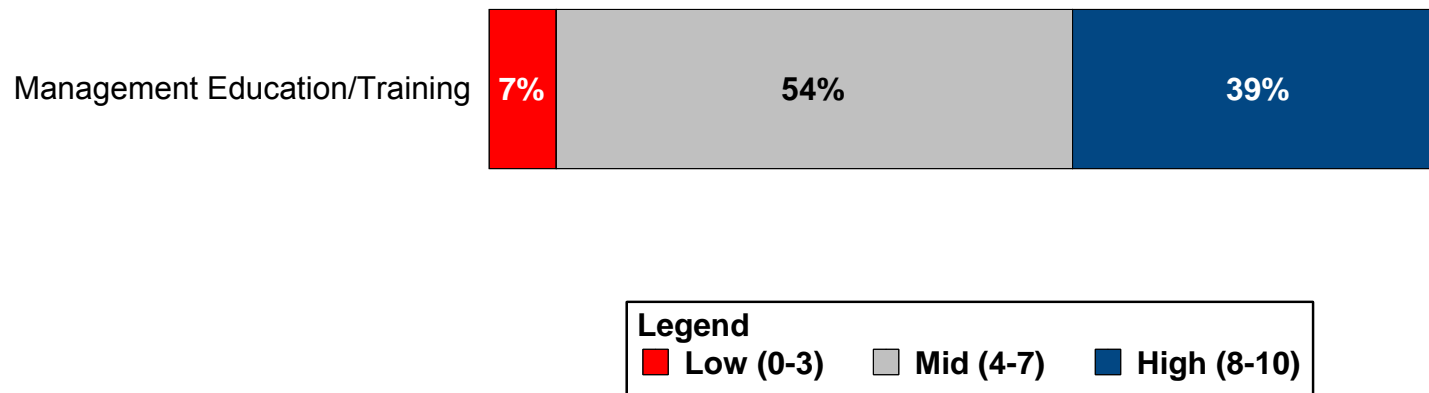


Figure 2

## Likelihood of using organization to provide technical educaton/training to agency (inlcluding "NA" response)

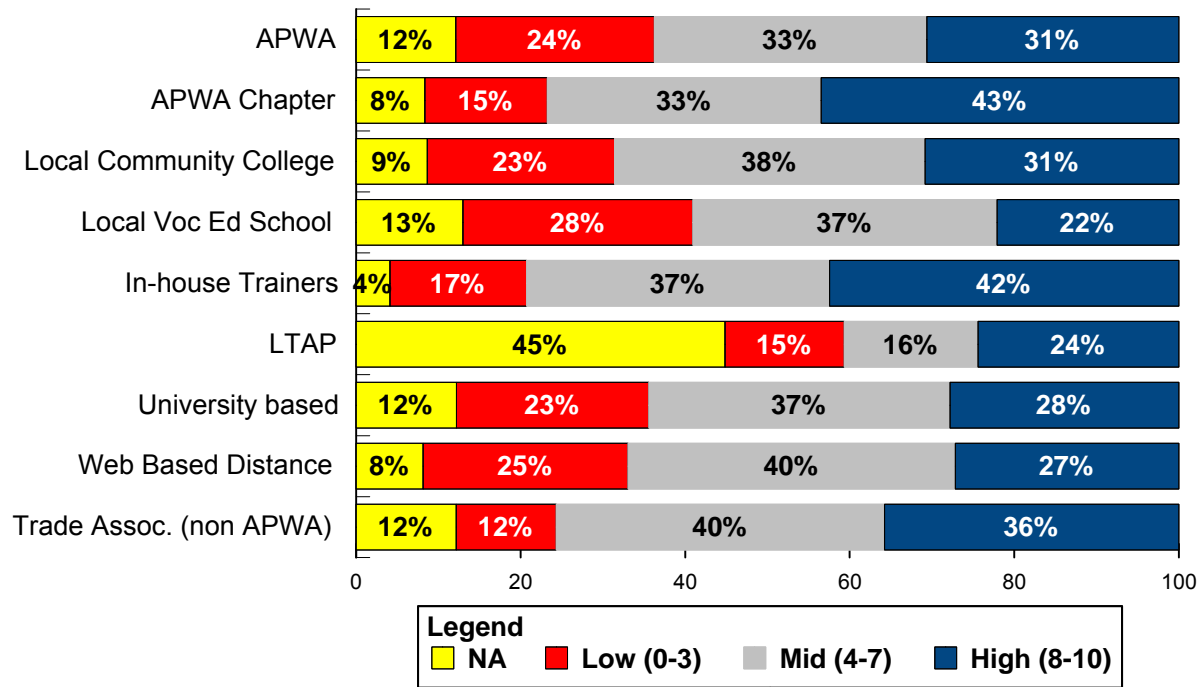


Figure 3

## Likelihood of using organization to provide management education/training to agency (including "NA" response)

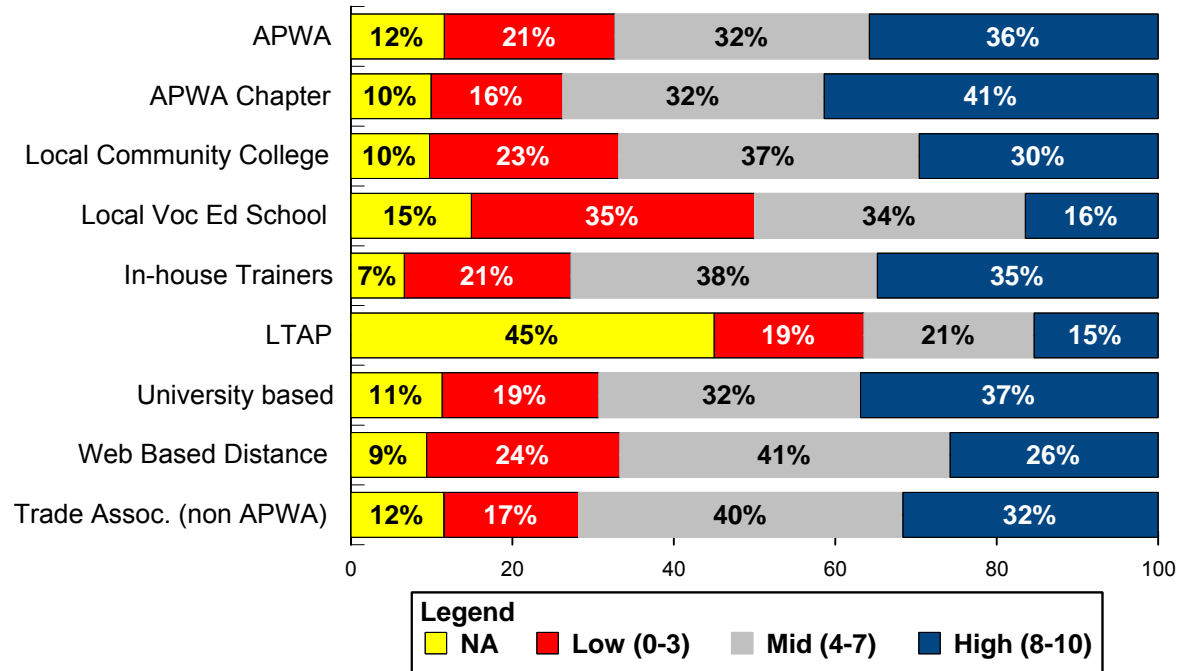


Figure 4

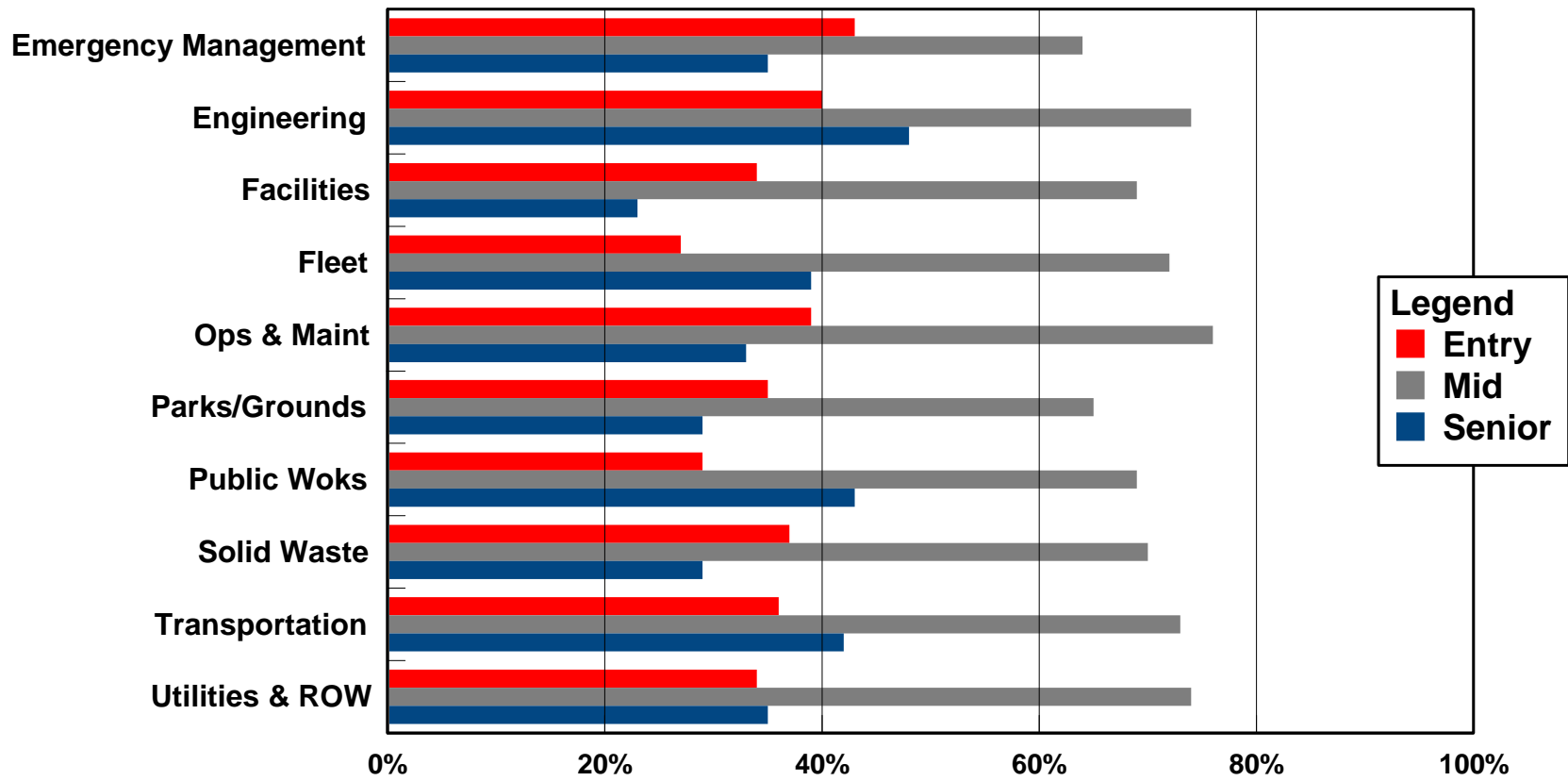


Figure 5

## Use of providers for technical education/training in selected disciplines

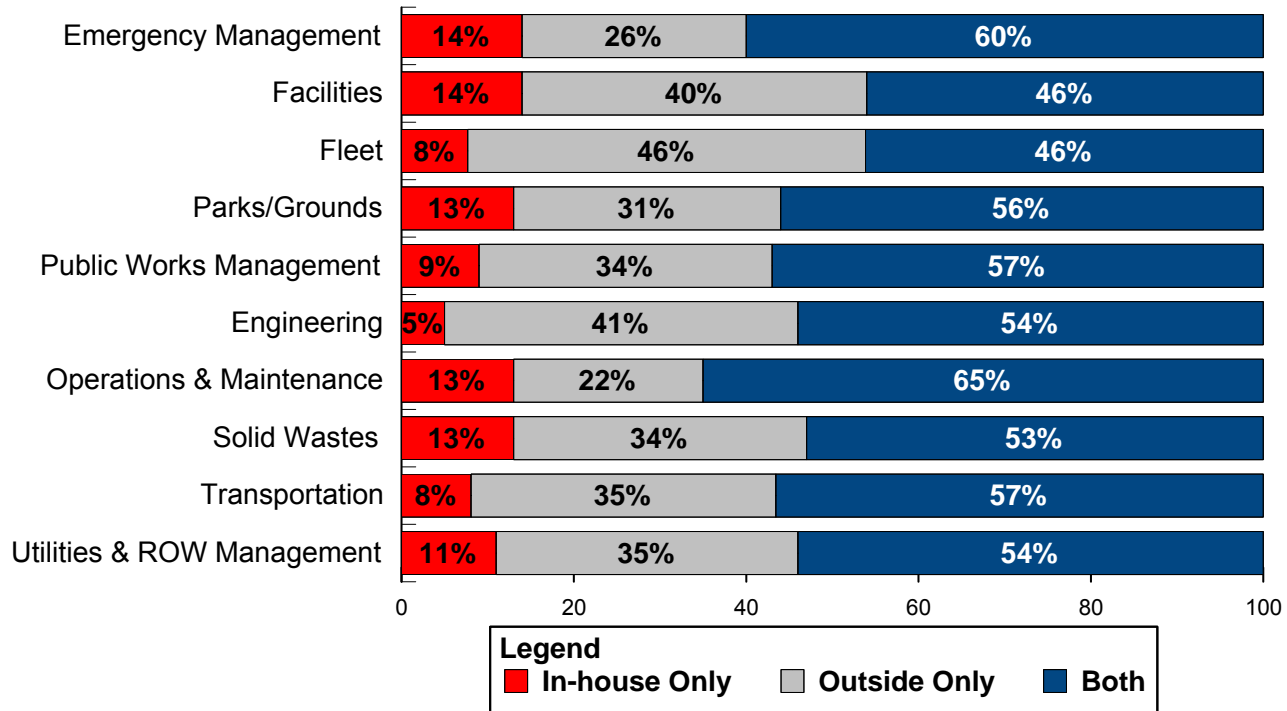


Figure 6

		Budget size					
		\$1-\$4999	\$5000-\$9999	\$10000-\$24999	\$25000-\$49999	\$50000-\$99999	\$100000+
# covered by budget	1-5	24%	11%	2%	1%	0%	0%
	6-9	24%	15%	6%	4%	0%	0%
	10-24	31%	41%	34%	12%	7%	3%
	25-49	12%	20%	28%	27%	12%	8%
	50-99	5%	9%	17%	28%	21%	13%
	100-249	3%	3%	10%	23%	30%	25%
	250-499	1%	1%	2%	3%	23%	23%
	500+	0%	0%	1%	2%	7%	30%

Figure 7

## Policy that prohibits travel out of state for training?

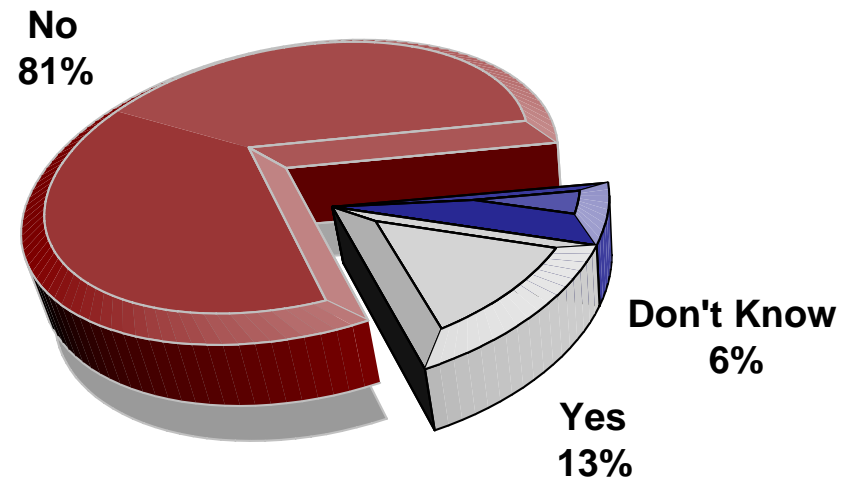


Figure 8

## Ranked preference for delivery of education/training (1="first choice" 4="last choice")

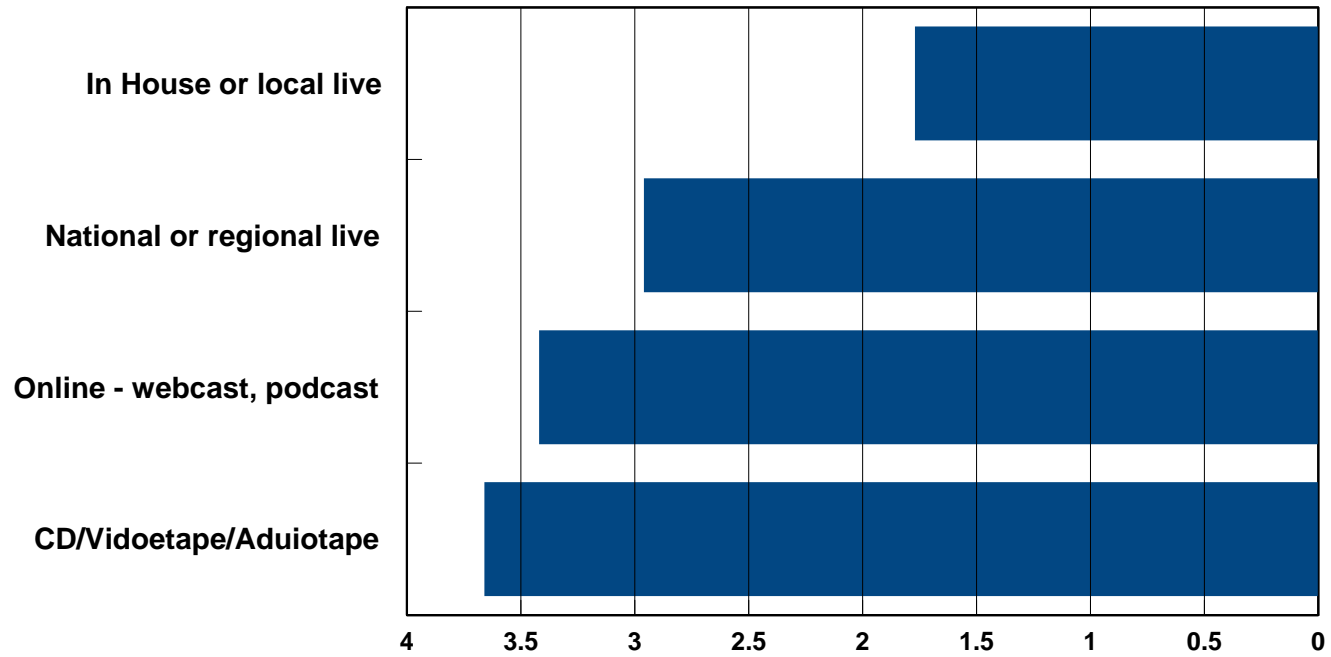


Figure 9

## Projected availability of skilled labor at the "senior level" next 3-5 years

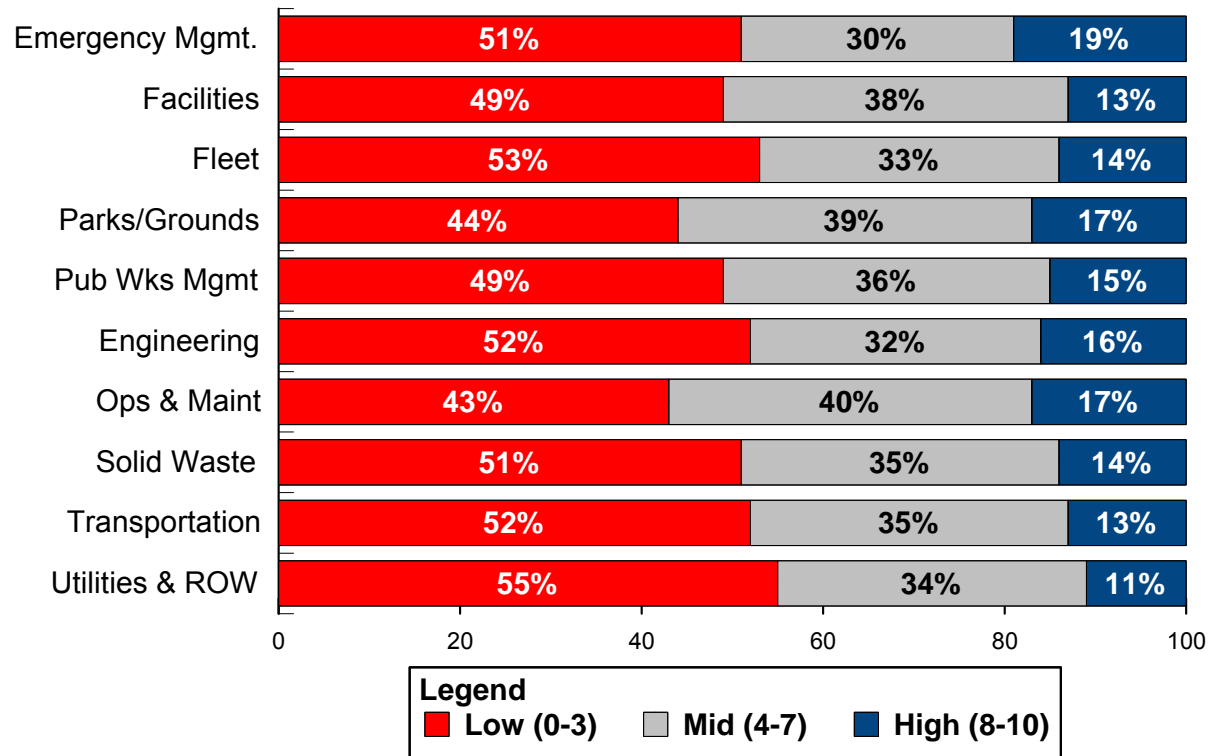


Figure 10

## Percentage of respondents who project low availability of skilled labor in disciplines by skill level next 3-5 years

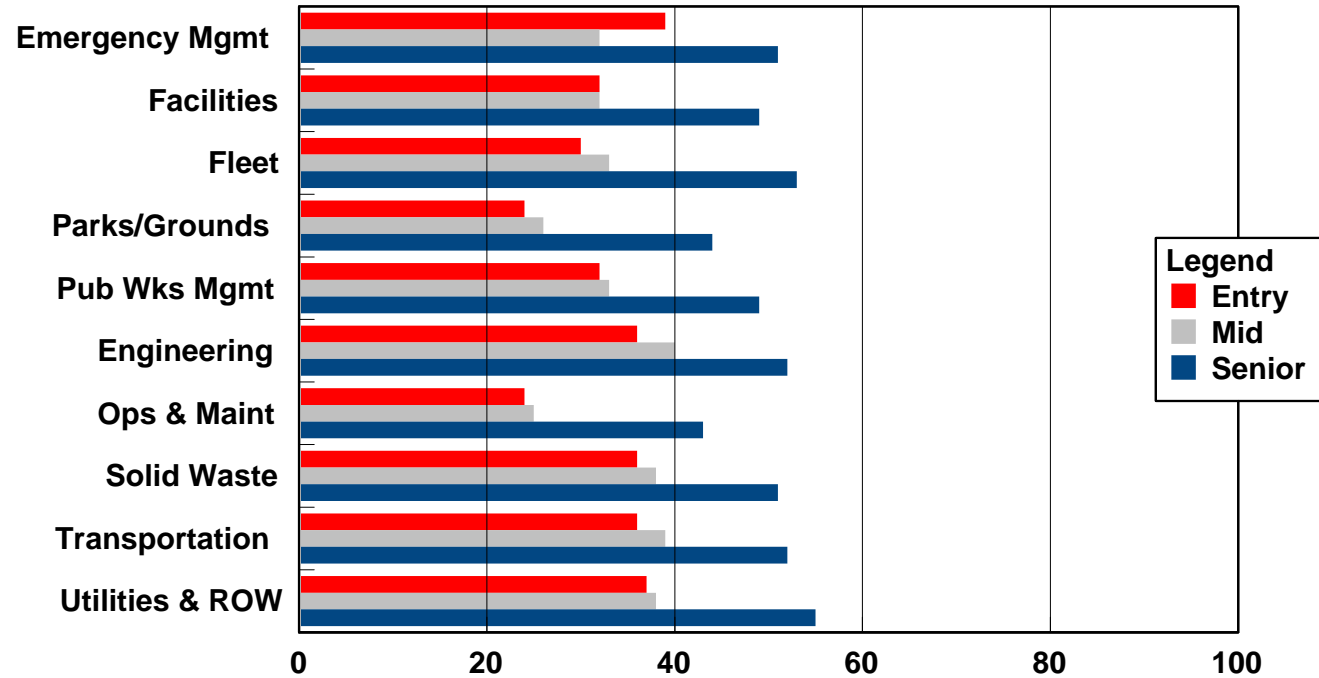


Figure 11

## Importance of a certification program for selected disciplines

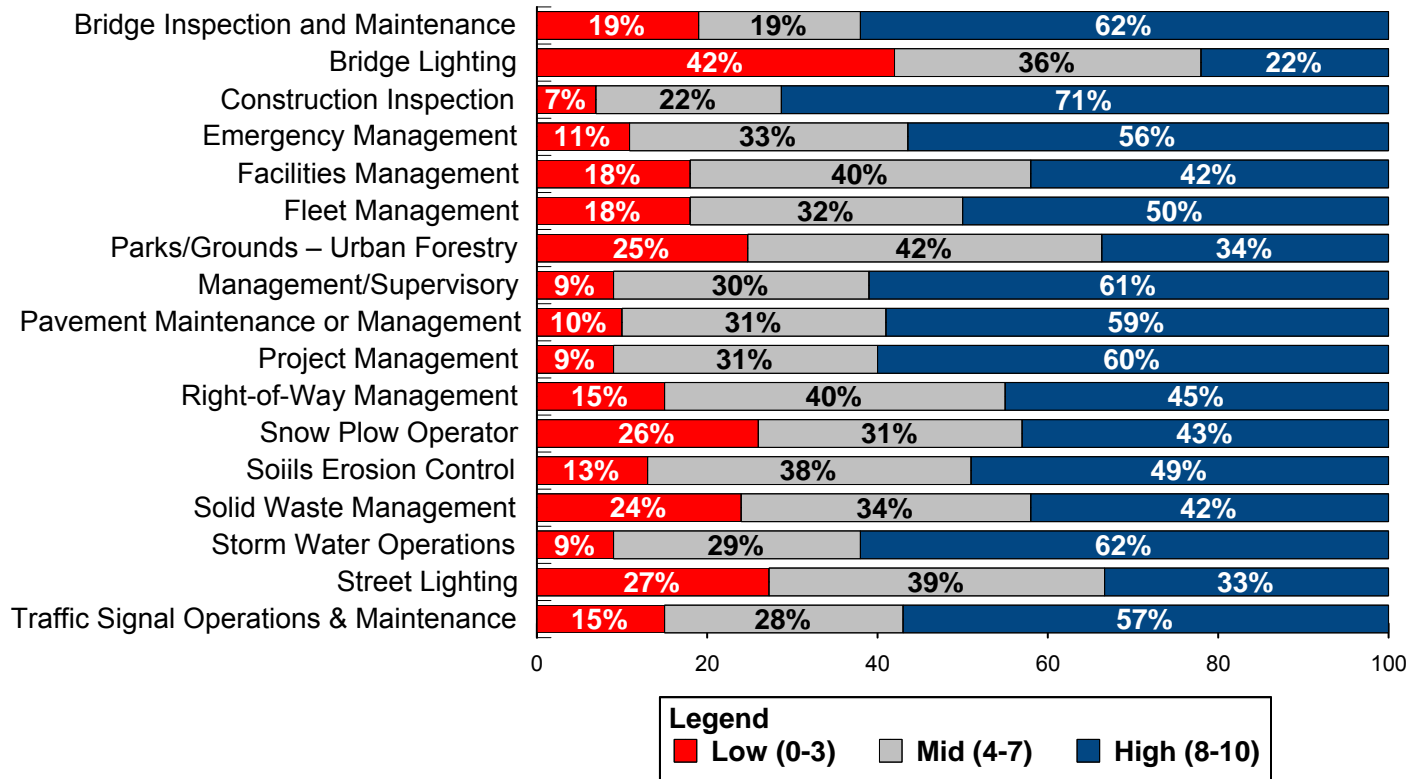


Figure 12

**Table 1: Summary of education/training topics suggested by respondents summarized by topic area (n-624)**

Topic code	Personnel, leadership, and communication issues	21%
	Project management, time and process management	16%
	Budget, financial and asset management	5%
	Public communication and relations issues, customer service	4%
	Total Management	<b>46%</b>
	Construction Inspection	8%
	Pavement Management	6%
	Fleet	6%
	Stormwater	4%
	Traffic	3%
	Snow Plow	2%
	Equipment operation	2%
	Engineering	2%
	Emergency Management	23%
	Water/Wastewater	1%
	GIS/GPS	1%
	ROW	1%
	Other	14%
	Safety	2%
	Environmental matters	1%
Total	100%	

**Table 2: Technical skill focused topic areas only by Region (n=289)**

		Region									Total
		1	2	3	4	5	6	7	8	9	All
Discipline Specific	Construction Inspection	13%	9%	0%	4%	6%	17%	27%	18%	12%	13%
	Pavement Management	0%	18%	13%	8%	16%	11%	10%	8%	14%	11%
	Fleet	38%	0%	4%	16%	10%	11%	10%	6%	8%	10%
	Storm water	6%	9%	13%	28%	13%	2%	3%	10%	4%	9%
	Traffic	0%	9%	0%	12%	3%	6%	7%	4%	8%	6%
	Snow Plow	19%	27%	0%	0%	19%	4%	0%	0%	0%	5%
	Equipment operation	6%	9%	17%	8%	0%	0%	7%	2%	4%	4%
	Engineering	0%	0%	0%	0%	3%	4%	7%	4%	4%	3%
	Emergency Management	0%	0%	4%	4%	6%	2%	0%	0%	6%	3%
	Water/Wastewater	0%	9%	0%	4%	0%	4%	3%	2%	4%	3%
	GIS/GPS	0%	0%	0%	0%	0%	6%	0%	4%	2%	2%
	ROW	0%	0%	0%	0%	0%	4%	3%	0%	8%	2%
	Other	19%	9%	48%	16%	23%	31%	23%	42%	24%	29%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%