

# 2016 Questionnaire Summary of Results

# Forum on the Future of Surveying and the National Society of Professional Surveyors

June 5<sup>th</sup>, 2016



#### Introduction

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The following report includes over 2,000 responses from an online questionnaire undertaken for the period of April 3<sup>rd</sup> to June 1<sup>st</sup>, 2016. The questionnaire was prepared for the National Society of Professional Surveyors (nspsmo.org) as a mechanism for NSPS membership and the broader surveying community to provide input for a national multi-organization initiative: "The Forum on the Future of Surveying" (FFOS).

#### **Question Sources**

Questions included were taken directly form a summary report of the initial meeting of the forum (January 22<sup>nd</sup>, 2016). The initial meeting of 33 participants included representatives from the following professional associations, societies, organizations, and agencies, plus observers from three media outlets that serve the surveying community.

- ACEC Council of Professional Surveyors
- American Association for Geodetic Surveying
- American Society for Photogrammetry and Remote Sensing
- ASCE Utility Engineering and Surveying Institute
- Bureau of Land Management
- Colonial States Boards of Surveyor Registration
- International Federation of Surveyors
- MAPPS
- National Association of County Surveyors
- National Geodetic Survey
- National Society of Professional Surveyors
- NCEES Emerging Engineers and Surveyors Group
- Surveying and Geomatics Educators Society
- U.S. Geological Survey
- Western Federation of Professional Surveyors

During the initial meeting the participants were asked to brainstorm as many potential points for discussion as they could (with limited time). They were then asked to further narrow the lists (dots-on-charts exercises). These resultants lists for various topics (e.g. strengths, weaknesses, threats, opportunities, recruitment, outreach, etc.) were summarized in a report that you can download here: **goo.gl/T6Xd3f** This did make for a lengthy questionnaire; thank you to those who took the time to participate. It was decided not to shorten or abridge the topics identified by the forum – all items deemed worthy of consideration.

Participants from the initial meeting were encouraged to circulate the report among their respective memberships and solicit feedback for the second forum meeting (scheduled for June 10-11, 2016).

#### Methodology

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A commercial online service was utilized for this questionnaire. To preserve the original lists and discussion topics from the report of the initial forum meeting, items were mostly cut/paste into the questionnaire design interface. Inasmuch as the technology could accommodate, no items were omitted and no additional items added with the exception of some simple demographics questions to support analysis by the NSPS and a few optional questions added to support related initiatives (e.g. respondents asked to list surveying schools in their area/state to help those seeking to update national databases of such programs).

The online service provides only rudimentary reporting and analysis tools (e.g. some of the graphs and tables presented in this report) but with minor issues like truncation of titles. For other elements of this report a full export of the responses was imported into MS-Access to generate graphs, tables, and lists.

#### **Errors and Omissions**

The online service did not accommodate proper versioning; early drafts were inadvertently presented to many respondents. Thank you to those who noted errors that were later corrected. One section of the questionnaire; the sample "elevator speeches" came from an exercise during the initial forum meeting. Participants were asked to rapidly develop such a speech (the short time allotted was deliberate to emulate a situation where a surveyor might be asked to briefly explain the profession to a non-survey, as in the time of an elevator ride; hence the idiom "elevator speech"). The speeches submitted at the meeting were presented as-is, and may contain factual and other errors (e.g. one about presidents that were surveyors). Please keep in mind that these speeches or any other parts of the questionnaire represent any final product of the forum, nor in any way encompass all of the dialogue that will be needed to chart paths forward for the profession.

Several of the responses appear to have experienced technical errors upon submission and could not export. There were only two submissions that appear to have been submitted randomly, perhaps for mischievous purposes; these were removed. Comments containing direct references to any individuals were removed.

#### Privacy

Users who chose to add the optional contact information have had their identities removed from this report and any subsequent reports. The only copy of that locked information has been delivered to the Executive Director of the NSPS. The intention of including optional contact info was to enable the NSPS to circulate results to the respondents, and to follow up on any great ideas some may have submitted in the general comments section.



#### **Respondent Submitted Comments**

Several of the questions offered an "other" option for text entry by the respondent (e.g. license and certifications). There was also an option for the respondent to add their own ideas for an elevator speech, plus a general comments field. While efforts were made to normalize lists to create totals where appropriate (e.g. license and certification types) any general comments or elevator speeches were exported and presented in this report "as-is". While some respondents utilized comment or "other" fields for general venting, the vast majority are constructive ideas and observations

#### **Report Utilization**

This questionnaire and report were undertaken for the NSPS; prepared and executed entirely with volunteer effort. Sponsorship for the online service was provided by xyHt Magazine (Flatdog Media); an active participant in the forum and provider of a monthly column to support of the forum.

The report includes responses as of June 1<sup>st</sup>, 2016. Two copies of the raw database export have been delivered to the NSPS; one with contact info and one without. Further analysis and distribution is at the discretion of the NSPS. The online questionnaire will close on July 1<sup>st</sup>, 2016 and the online database will be erased from the online service. The NSPS and forum will likely run subsequent questionnaires.

Several state surveying societies/associations asked to keep the online questionnaire open until July 1<sup>st</sup> and to have limited summaries exported of responses from their respective states. Distribution of these limited exports will be at the discretion of the NSPS.

Commercial use or republication of this report is only permitted by express permission from and acknowledgements to the NSPS, xyHt Magazine and Flatdog Media.

#### Disclaimer

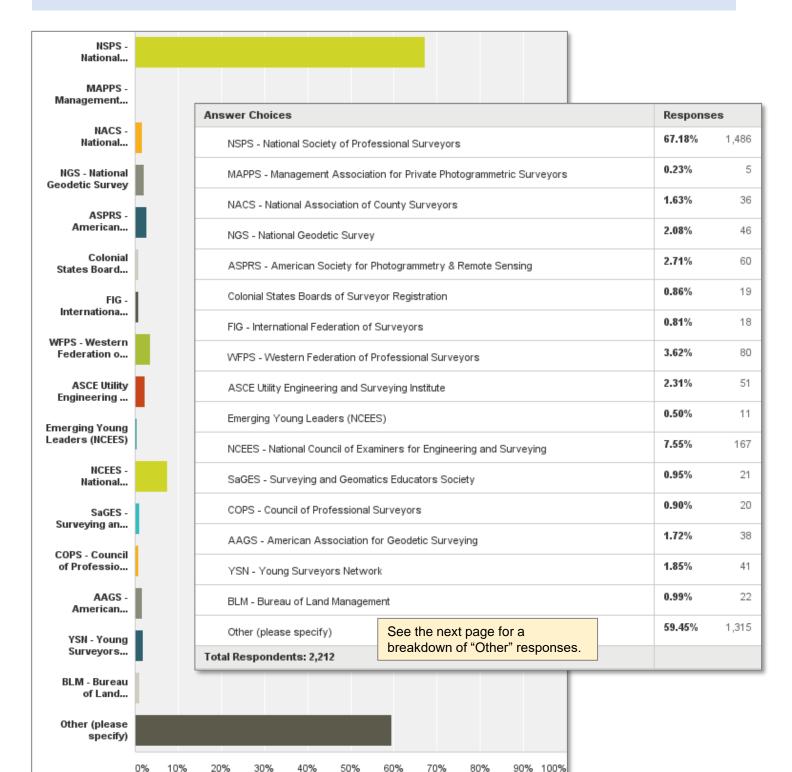
Responses and views expressed by the respondents do not necessarily represent the official views of the NSPS, xyHt Magazine, Flatdog Media, or any entities participating in the forum.

This report carries no warrantee of completeness, correctness, or suitability for any purposes either expressed or implied.

Appendices: Appendix "A" - Respondent Submitted "Elevator Speeches" Appendix "B" - Respondent Submitted Comments

# Q1a: Professional associations or societies you are member of or are affiliated with (choose all that apply): Answered: 2,212 Skipped: 0

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2016 Questionnaire Summary of Results

### Q1b: "Other" Responses\*

1315 of 2212 Responses

\*Note: Question 1 asked for "all that apply". Some respondents used the "Other" option note affiliations not among the multiple choices while others indicated multiple affiliations.

As of June 1<sup>st</sup>, 2016 there were 2212 total responses. Of these 1,486 (or 67%) indicated membership in the National Society of Professional Surveyors (NSPS). And of the NSPS respondents 664 noted memberships in other organizations.

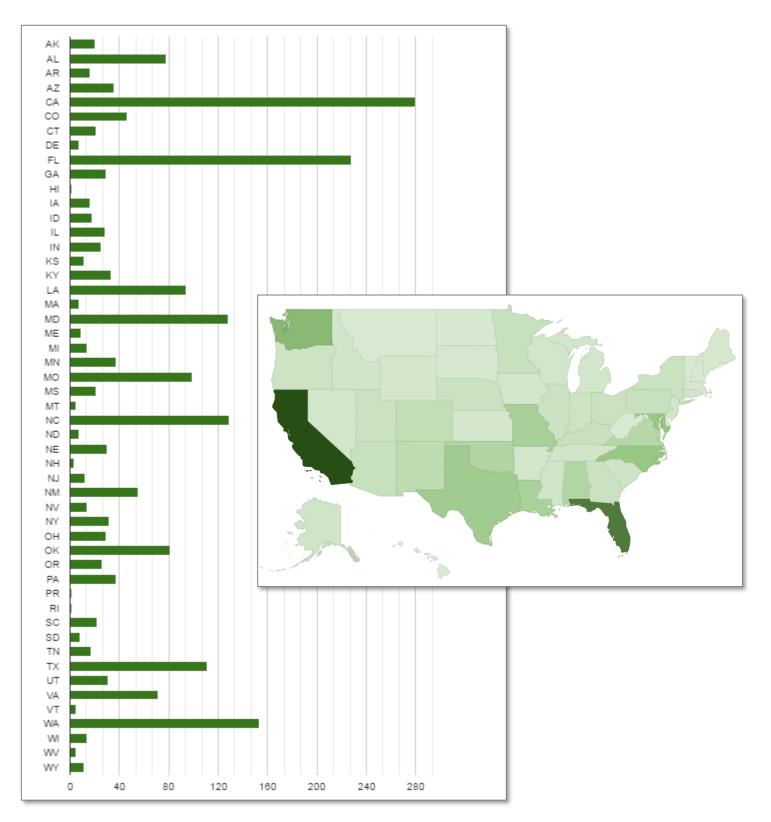
"Other" Professional Affiliations	# of Responses
State Surveying Society or Association	1075
None	125
American Society of Civil Engineers (ASCE)	24
Not a member	13
American Council of Engineering Companies (ACEC)	12
The Hydrographic Society of America (THSOA)	6
PE/PLS Licensing Board	5
Urban and Regional Information Systems Association (URISA)	5
State GIS or User Group	4
National Society of Professional Engineers (NSPE)	3
American Public Works Association (APWA)	2
CFedS	2
Could not afford	2
Institute of Navigation (ION)	2
Institute of Transportation Engineers (ITE)	2
State Engineering Society	2
Professional Engineers in California Government (PECG)	2
Society of American Military Engineers (SAME)	2
Washington Council of County Surveyors (WCCS)	2
American Association of Petroleum Geologists (AAPG)	-
American Bar Association (ABA)	1
American Geophysical Union (AGU)	1
American Water Works Association (AWWA)	1
Association of State Dam Safety Officials (ASDSO)	1
California Spatial Reference Center (CSRC)	1
California State Bar	1
Canada	1
College of Engineers and Surveyors Puerto Rico (CIAPR)	1
Dealer	1
Federal Environmental Engineer	1
International Federation of Surveyors (FIG)	1
institute of Electrical & Electronic Engineering (IEEE)	1
International Right of Way Association (IRWA)	1
Local Chamber of Commerce	1
Los Angeles Dept. of Water & Power	1
State Board for Architects	1
Not interested	1
Not on your list	1
Quit in protest	1
Surveyors Historical Society	1
Texas Historical Cemetery Guardianship	
Association	1
USDA Forest Service	1
Washington Association of Sewer and Water Districts	1
Women's Transportation Seminar (WTS)	1
Total "Other" Responses:	1315





## Q2: State of Residence:

Answered: 2,212 Skipped: 0



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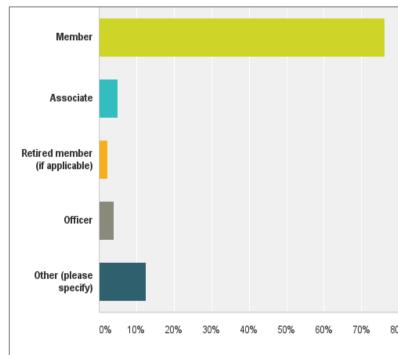
### Q3: Your current status with regards to your professional association or society (e.g. like those listed in questions #1); choose all that apply:

Answered: 2,212 Skipped: 0

	"Other" Membership Status	#
	Associate	3
	Board of Directors	3
	Can't afford it	1
	Chapter Chair	1
	Chapter president	2
	Currently expired	1
	Director	2
	Disgruntled Member not active	1
	Distinguished Member	1
	District Chairman	1
	Dues owed, membership temp expired	1
	Employee	1
	Fellow	2
	Archaeologic Society	1
	Former member	9
	Former student member	1
	Friends	1
	I am not a member of any. I would like to, but my company will not pay the fees and I can not afford the membership costs.	1
	I am semi-retired	1
	I want to be a member	1
	Inactive	5
	Inactive Retired	1
	Interested observer	1
	Licensing board member	3
	Lapsed membership	3
	Life Member	5
	Member	23
	Member Emeritus	1
	Member monument preservation committee	1
	Monitor	1
	None	170
	None, state assoc went to hell in a handbasket	1
	Non-member they do not represent my views	1
0% 8	<sup>80%</sup> Not a member but on the mailing list	1
	Not active	1
	Not Sure	2
	Occasional presenter for Seminars	1
	Officer	9
	Past member	6
	Past member, society is an elitist, self aggrandizing organization that concerns itself with only large firms and the University of	1
	Florida survey program, rather than the profession of surveying.	
	Past President	1
	Past State President	3
	Quit in protest	1
	Retired	2

Stopped attending / participating

Total "Other" Membership Status:



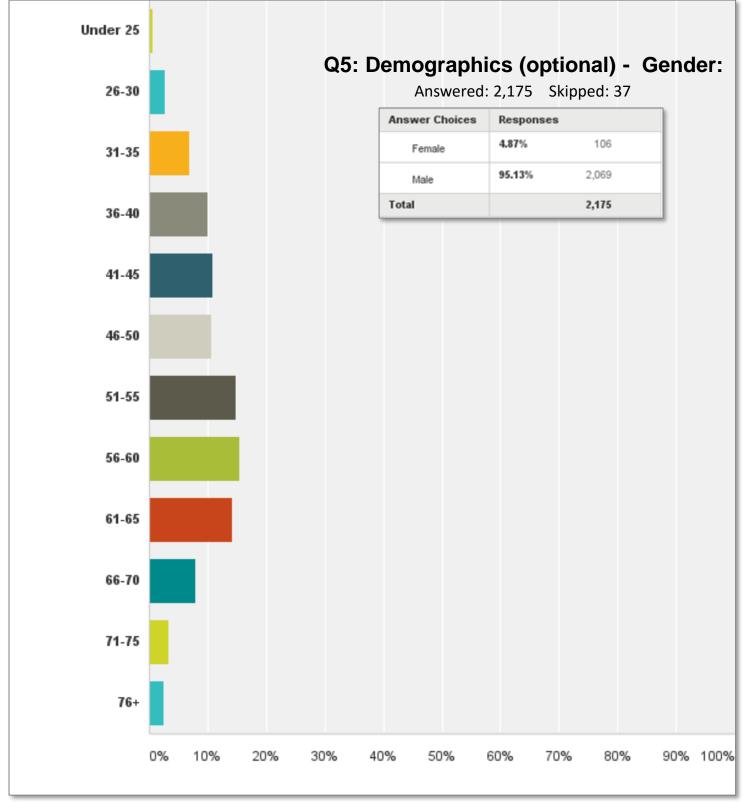
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## Q4: Demographics (optional) - Age:

Answered: 2,194 Skipped: 18

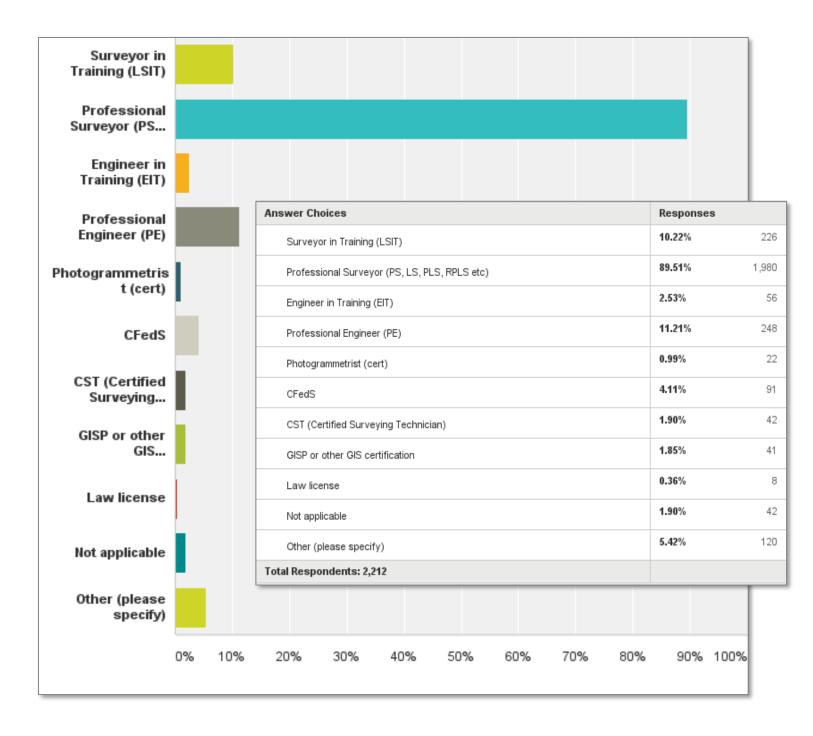


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### Q6a: Licenses and Certifications (choose all that apply):

Answered: 2,194 Skipped: 18



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## **Q6b: Licenses and Certifications – "Other" responses\*:**

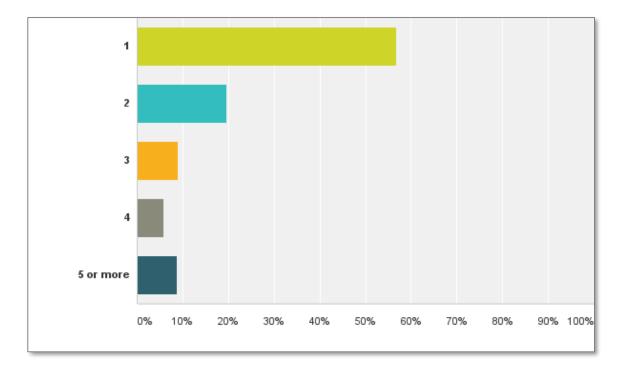
Answered: 120 (136 including multiple responses)

Certified Floodplain Manager (CFM)
Certified Hydrographer
Certified Inshore and Offshore Hydrographer
Professional planner
Certified Floodplain Surveyor (CFS)
Certified GPS Surveyor
Certified Professional in Erosion & Sediment Control (CPESC)
Property Line Surveyor
Certified Water Rights Examiner
National Institute for Certification in Engineering Technologies (NICET)
Qualified SWPPP Developer (QSD)
Retired
U.S. Mineral Surveyor
Water Resource Engineer (WRE)
Water Rights Examiner
25 years as a civil designer and survey tech
30hrs Post Graduate GIS Education
3-A and 3-B licenses
Advanced Cadastral Survey School [P3]
AICP, CEcD Planner, economic developer
Also time to be human
American Institute of Certified Planners (AICP)
Arbitrator / Mediator
Associate Professor of Surveying & Geomatics
Attorney
Attorney at law, State supreme court listed mediator
Awaiting MD Professional Exam results
BACHELOR DEGREE IN WATER RESORCES AND LANDS
Bachelors degree in Land Surveying and Geomatics
BAS in Geomatics
BS survey engineering
Canada Lands Surveyor
Certified Construction Manager
Certified Erosion, Sediment and Storm water Inspector
Certified Expert Witness ACEC
Certified Federal Surveyors Program (CFedS) in training
Certified Professional in Storm water Quality (CPSWQ)
Commercial Driver License, Haz Waste Operations
Dealer

ENV SP
Env Well driller
F ASCE
FAA Licensed Private Pilot
Florida Real Estate Broker
GIS Technician, worked as a GIS tech for 7 years
Hazardous Waste Operations and Emergency Response (HAZWOPER)
Infrastructure Utility Contractor
Insurance Broker
ISA Certified Arborist
Just a life long surveyor
Licensed real estate broker
Licensed State Land Surveyor
Master's Degree in Marine Geophysics
Mineral Surveyor
NC Professional Surveyor RETIRED
Nevada - Water Right Surveyor
Over self educated
Pilot, 32 Degree Mason, Farmer on Farm - All inactive
Private Pilot
Professional Geotechnical Engineer, Professional
Geologist, Professional Engineering Geologist
Professional Missouri Mapper - PMM
Professional Property Line Surveyor
Qualified Professional (QP)
Qualified SWPPP Practitioner (QSP)
Real estate broker/owner
Real Estate, Bachelors degree - Business Administration
Realtor
Registered Forester
Registered Landscape Architect
Student
Surveying and Geo informatics
Taking LSIT within a month
Testing for license
VT Licensed Designer
Waiting on my PLS results
Wastewater Inspector
Would be LSIT if Maryland would recognize it as such

\*Responses for "Other" were keyed in by respondents and left as-is except where common types could be normalized (e.g. CFM, CFS, CFedS) 

## Q7: Optional - If licensed; number of states in which you hold current licenses? Answered: 2,003 Skipped: 209



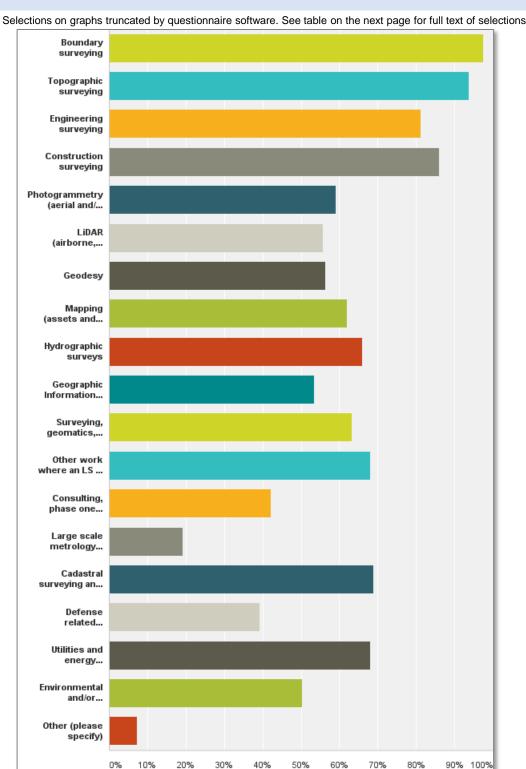
Answer Choices	Responses	
1	56.86%	1,139
2	19.57%	392
3	9.04%	181
4	5.84%	117
5 or more	8.69%	174
Total		2,003

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Q8a: Types of surveying (and related services) that should be considered as part of the surveying profession. Do not limit this to those you are engaged in, but also add those that others within your affiliate associations or societies are engaged in, or could be providing moving forward (choose all that apply): Answered: 2,168 Skipped: 44









Q8b: Types of surveying (and related services) that should be considered as part of the surveying profession. Do not limit this to those you are engaged in, but also add those that others within your affiliate associations or societies are engaged in, or could be providing moving forward (choose all that apply): Answered: 2,168 Skipped: 44

Answer Choices	Response	S
Boundary surveying	97.51%	2,114
Topographic surveying	93.63%	2,030
Engineering surveying	81.13%	1,759
Construction surveying	85.98%	1,864
Photogrammetry (aerial and/or terrestrial)	59.13%	1,282
LiDAR (airborne, mobile, or static)	55.67%	1,207
Geodesy	56.37%	1,222
Mapping (assets and resources)	62.04%	1,345
Hydrographic surveys	65.96%	1,430
Geographic Information Systems	53.41%	1,158
Surveying, geomatics, geospatial sciences education	63.19%	1,370
Other work where an LS is required	67.99%	1,474
Consulting, phase one support, decision support	42.16%	914
Large scale metrology (industrial and/or science measurement)	19.19%	416
Cadastral surveying and land mangement	68.82%	1,492
Defense related surveying	39.16%	849
Utilities and energy surveying	68.08%	1,476
Environmental and/or agriculture surveying	50.42%	1,093
Other (please specify)	7.33%	159
Total Respondents: 2,168		

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#### Q9: Rate areas for priority in educating the profession (as applies to matters of the future of the profession): Answered: 1,907 Skipped: 305

			Selections on graphs truncated by o	Selections on graphs truncated by questionnaire software. See table below for full text of selections					
			_	High	Medium	Low	N/A	Total	Weighted Average
Need for education			Need for education	62.16%	33.55%	3.76%	0.53%	4 007	0.50
Point to the future			Point to the future	1,173 55.47%	633 38.26%	71 4.73%	10 1.54%	1,887	2.59
Continuing			Point to the future	<b>55.47</b> %	<b>30.20</b> % 720	<b>4.13</b> %	29	1,882	2.52
education			Continuing education	52.25%	38.54%	8.63%	0.58%	4 000	
New definition/i			New definition/mage	987 50.24%	728 38.95%	163 8.96%	11 <b>1.85</b> %	1,889	2.44
Involvement in client			New definition/image	948	<b>30.95</b> %	<b>0.90</b> %	1.09% 35	1,887	2.42
Rebuild foundations			Involvement in client decisions	<b>44.86%</b> 842	<b>44.97%</b> 844	<b>8.36%</b> 157	<b>1.81%</b> 34	1,877	2.37
Better understandin			Rebuild foundations	<b>35.95%</b> 668	<b>48.06%</b> 893	<b>13.13%</b> 244	<b>2.85%</b> 53	1,858	2.23
Vendors part of education			Better understanding of entrepreneurship	<b>34.09%</b> 642	<b>49.28%</b> 928	<b>15.03%</b> 283	<b>1.59%</b> 30	1,883	2.19
	0 1	2	<sup>3</sup> Vendors part of education	<b>18.09%</b> 338	<b>51.55%</b> 963	<b>26.87%</b> 502	<b>3.48%</b> 65	1,868	1.91



### Q10: Rate areas of emphasis for educating the public (about the profession):

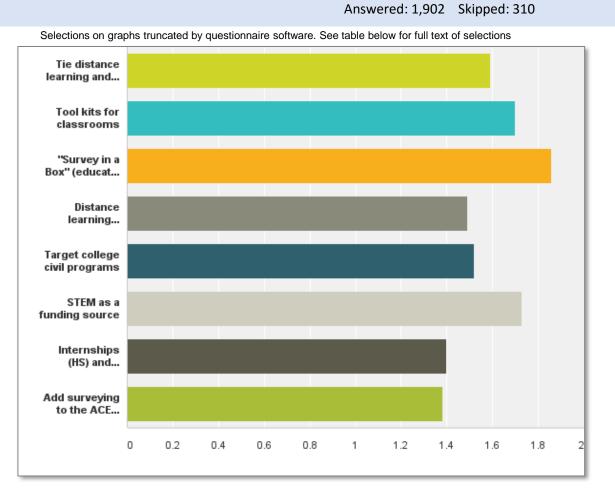
Answered: 1,899 Skipped: 313

		-	High	Medium	Low	N/A	Total	Weighted Average
Human interest stories		Human interest stories	<b>39.28%</b> 740	<b>46.28%</b> 872	<b>13.27%</b> 250	<b>1.17%</b> 22	1,884	2.26
Classroom tool kits (for		Classroom tool kits (for various grade levels)	<b>45.20%</b> 853	<b>46.16%</b> 871	<b>8.11%</b> 153	<b>0.53%</b> 10	1,887	2.37
National Survey Day		National Survey Day	<b>32.14%</b> 604	<b>44.81%</b> 842	<b>21.77%</b> 409	<b>1.28%</b> 24	1,879	2.11
Public representati		Public representatives (spokespeople)	<b>52.39%</b> 988	<b>37.96%</b> 716	<b>8.70%</b> 164	<b>0.95%</b> 18	1,886	2.44
Pitching stories to t		Pitching stories to the general media	<b>44.32%</b> 835	<b>42.94%</b> 809	<b>11.73%</b> 221	<b>1.01%</b> 19	1,884	2.33
	0 1 2	3 4 5 6 /	8	Э	10			



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## Q11: Rate areas of priority for educating the education community:



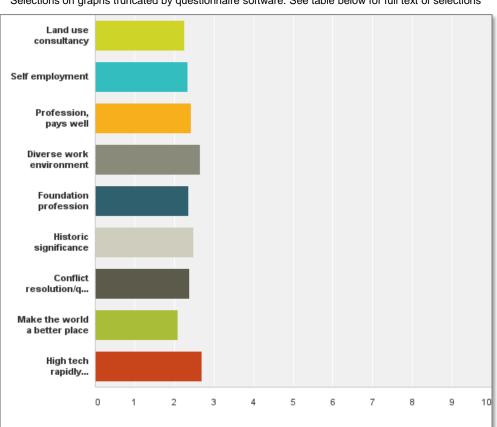
	High	Medium	Low	N/A	Total	Weighted Average
Tie distance learning and mentorship together	<b>47.60%</b> 891	<b>44.23%</b> 828	<b>7.05%</b> 132	<b>1.12%</b> 21	1,872	1.59
Tool kits for classrooms	<b>38.54%</b> 721	<b>51.79%</b> 969	<b>8.55%</b> 160	<b>1.12%</b> 21	1,871	1.70
"Survey in a Box" (education tool kit employed in Canada)	<b>26.08%</b> 475	<b>51.40%</b> 936	<b>13.73%</b> 250	<b>8.79%</b> 160	1,821	1.86
Distance learning collaboration with a broader range of universities and programs	<b>56.18%</b> 1,054	<b>36.78%</b> 690	<b>5.97%</b> 112	<b>1.07%</b> 20	1,876	1.49
Target college civil programs	<b>55.02%</b> 1,031	<b>35.91%</b> 673	<b>7.90%</b> 148	<b>1.17%</b> 22	1,874	1.52
STEM as a funding source	<b>35.90%</b> 638	<b>44.23%</b> 786	<b>11.31%</b> 201	<b>8.55%</b> 152	1,777	1.73
Internships (HS) and college work study	<b>63.83%</b> 1,193	<b>31.41%</b> 587	<b>4.07%</b> 76	<b>0.70%</b> 13	1,869	1.40
Add surveying to the ACE (architecture, construction, and engineering) HS career clubs	<b>66.65%</b> 1,251	<b>27.22%</b> 511	<b>5.22%</b> 98	<b>0.91%</b> 17	1,877	1.38

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### Q12: Rate the priority of elements for development of a message - what potential recruits should know about the profession that might attract them to join:

Answered: 1,848 Skipped: 364



	High	Medium	Low	N/A	Total	Weighted Average
Land use consultancy	<b>37.49%</b> 685	<b>49.48%</b> 904	<b>11.99%</b> 219	<b>1.04%</b> 19	1,827	2.26
Self employment	43.30%	<b>45.11%</b> 825	<b>10.61%</b> 194	<b>0.98%</b> 18	1,829	2.33
Profession, pays well	<b>51.17%</b> 938	<b>37.37%</b> 685	9.06% 166	<b>2.40</b> %	1,833	2.43
Diverse work environment	<b>68.88%</b> 1,264	<b>26.98%</b> 495	<b>3.49%</b> 64	<b>0.65%</b>	1,835	2.66
Foundation profession	<b>43.62%</b> 783	<b>46.35%</b> 832	8.47% 152	<b>1.56%</b>	1.795	2.30
Historic significance	<b>58.18%</b> 1.067	<b>30.70%</b> 563	<b>10.14%</b> 186	<b>0.98%</b> 18	1.834	2.4
Conflict resolution/quasi judicial role	<b>47.08%</b> 863	<b>42.83%</b> 785	<b>9.27%</b> 170	<b>0.82%</b> 15	1,833	2.3
Make the world a better place	<b>30.53%</b> 558	<b>44.97%</b> 822	<b>21.83%</b> 399	<b>2.68%</b> 49	1,828	2.0
High tech rapidly changing environment	<b>72.14%</b> 1,326	<b>24.43%</b> 449	<b>2.99%</b> 55	<b>0.44%</b> 8	1,838	2.69



# Q13: Please rate the following opportunities for growth of the profession (as topics for further consideration):

Answered: 1,745 Skipped: 467

N/A Weighted High Medium Low Total Average 2.93% Public lack of understanding of (land) 79.24% 17.54% 0.29% Public lack of legal principles (i.e. they need our 1.378 305 51 5 1.739 2.77 understandin... professional expertise) Expanding markets for surveying and all 59.20% 36.53% 3.92% 0.35% Expanding markets for... related services 1,026 633 68 6 1,733 2.55 0.87% Guarantee that abstractions match reality 51.76% 40.83% 6.54% Guarantee that (role of surveyor as authority in 895 706 113 15 1.729 2.46 abstractions... geospatial representations) Tap into 35.31% 6.23% 0.46% Tap into already tech savvy youth 57.99% already tech... 1,005 612 108 8 1,733 2.52 Technology (opens new or enhanced 57.28% 38.18% 4.13% 0.41% Technology (opens new o... 984 656 71 7 2.53 services) 1,718 46.93% 44.09% 8.17% 0.81% The world is more geospatially charged The world is (e.g. geospatial elements more commonly 810 761 141 14 1,726 2.39 more... applied to old problems) Charging more **59.61**% 32.81% 6.66% 0.93% Charging more for more services; better for more... 2.53 compensation 1,030 567 115 16 1,728 5 7 8 0 1 2 3 4 6 9 10

# Q14: Rate the following weaknesses (that could hinder growth of the profession going forward) as topics for further consideration:

Answered: 1,738 Skipped: 474

			High	Medium	Low	N/A	Total	Weighted Average
Definition misunderstoo		Definition misunderstood (outside of the profession)	<b>70.05%</b> 1,207	<b>25.89%</b> 446	<b>3.66%</b> 63	<b>0.41%</b> 7	1,723	2.67
lmage		Image	<b>60.76%</b> 1,039	<b>31.58%</b> 540	<b>7.31%</b> 125	<b>0.35%</b> 6	1,710	2.54
Lack of desire for licensure		Lack of desire for licensure	<b>44.60%</b> 768	<b>41.58%</b> 716	<b>12.83%</b> 221	<b>0.99%</b> 17	1,722	2.32
Lack of public awareness		Lack of public awareness (about the profession)	<b>74.87%</b> 1,296	<b>22.13%</b> 383	<b>2.72%</b> 47	<b>0.29%</b> 5	1,731	2.72
Perception (or misperception)		Perception (or misperception)	<b>60.48%</b> 1,036	<b>34.27%</b> 587	<b>4.32%</b> 74	<b>0.93%</b> 16	1,713	2.57
Lack of mentors		Lack of mentors	<b>52.49%</b> 906	<b>38.35%</b> 662	<b>8.75</b> % 151	<b>0.41%</b> 7	1,726	2.44
Technology (impacting		Technology (impacting workforce numbers)	<b>37.46%</b> 645	<b>46.17%</b> 795	<b>15.80%</b> 272	<b>0.58%</b> 10	1,722	2.22
	0 1 2 3							



# Q15: Rate the following threats to the profession (as topics for further consideration):

Answered: 1,739 Skipped: 473

			High	Medium	Low	N/A	Total	Weighteo Average
Contraction of the definition		Contraction of the definition	<b>42.00%</b> 717	<b>44.93%</b> 767	<b>11.07%</b> 189	<b>1.99%</b> 34	1,707	2.32
Being exclusive		Being exclusive rather than inclusive	<b>39.04%</b> 668	<b>45.35%</b> 776	<b>14.26%</b> 244	<b>1.34%</b> 23	1,711	2.2
Surveyors not recognizing		Surveyors not recognizing the need for change	<b>56.62%</b> 979	<b>34.07%</b> 589	<b>8.91%</b> 154	<b>0.40%</b> 7	1,729	2.4
Personal bottom line		Personal bottom line considered over profession	<b>37.51%</b> 643	<b>45.57%</b> 781	<b>15.99%</b> 274	<b>0.93%</b> 16	1,714	2.2
Path to licensure		Path to licensure (difficult or unclear)	<b>32.58%</b> 565	<b>42.33%</b> 734	<b>24.22%</b> 420	<b>0.87%</b> 15	1,734	2.0
Not recognizing		Not recognizing the need for education, qualifications	<b>46.14%</b> 795	<b>41.67%</b> 718	<b>11.61%</b> 200	<b>0.58%</b> 10	1,723	2.3
Not receiving/pa		Not receiving/paying or charging professional level wages and fees	<b>68.94%</b> 1,194	<b>26.62%</b> 461	<b>3.98%</b> 69	<b>0.46%</b> 8	1,732	2.6
Encroachment of other fie		Encroachment of other fields into traditional surveying markets	<b>68.11%</b> 1,177	<b>26.27%</b> 454	<b>5.32%</b> 92	<b>0.29%</b> 5	1,728	2.6

# Q16: Rank the following strengths of the profession (as relates to the future of surveying):

Answered: 1,738 Skipped: 474

						High	Medium	Low	N/A	Total	Weighted Average
Passion for what we do,					Passion for what we do, and for the (markets, industries, and clients) we support	<b>74.48%</b> 1,293	<b>22.75%</b> 395	<b>2.59%</b> 45	<b>0.17%</b> 3	1,736	2.72
Strong desire to address History and					Strong desire to address dwindling numbers of surveyors and entrants into the profession	<b>42.68%</b> 738	<b>41.18%</b> 712	<b>15.44%</b> 267	<b>0.69%</b> 12	1,729	2.27
the historic That we do is					History and the historical role	<b>50.92%</b> 881	<b>36.65%</b> 634	<b>11.97%</b> 207	<b>0.46%</b> 8	1,730	2.39
a profession					That we do is a profession and not a trade	<b>69.74%</b> 1,203	<b>22.55%</b> 389	<b>7.07%</b> 122	<b>0.64%</b> 11	1,725	2.63
profession,					Pride in the profession, values, and humility	<b>69.72%</b> 1,202	<b>25.81%</b> 445	<b>4.18%</b> 72	<b>0.29%</b> 5	1,724	2.66
safety, heal					Protect the safety, health, and welfare of the public	<b>64.41%</b> 1,115	<b>28.19%</b> 488	<b>6.93%</b> 120	<b>0.46%</b> 8	1,731	2.58
The rugged yet technically					The rugged yet technically savvy image	<b>48.58%</b> 841	<b>40.15%</b> 695	<b>10.46%</b> 181	<b>0.81</b> % 14	1,731	2.38
	0	1	2	3 [							

# Q17: Rate the following goals and objectives (as areas of focus for the forum):

Answered: 1,668 Skipped: 544

			High	Medium	Low	N/A	Total	Weighted Average
Branding, image, and		Branding, image, and perception	<b>57.22%</b> 947	<b>36.86%</b> 610	<b>5.44%</b> 90	<b>0.48%</b> 8	1,655	2.52
Changes in society (how		Changes in society (how this changes markets and definition/role of surveying)	<b>43.79%</b> 723	<b>48.21%</b> 796	<b>7.15%</b> 118	<b>0.85%</b> 14	1,651	2.37
Unified defintion		Unified defintion	<b>37.32%</b> 612	<b>49.45%</b> 811	<b>11.46%</b> 188	<b>1.77%</b> 29	1,640	2.26
Encouraging surveyors to		Encouraging surveyors to invest in the profession	<b>52.46%</b> 864	<b>40.68%</b> 670	<b>6.13%</b> 101	<b>0.73%</b> 12	1,647	2.47
Outreach - expose more		Outreach - expose more of the public to the profession	<b>65.96%</b> 1,091	<b>29.56%</b> 489	<b>3.99%</b> 66	<b>0.48%</b> 8	1,654	2.62
Be more inclusive as		Be more inclusive as to what is surveying (show value to public)	<b>68.86%</b> 1,139	<b>27.03%</b> 447	<b>3.69%</b> 61	<b>0.42%</b> 7	1,654	2.65
Match talent with tasks		Match talent with tasks	<b>35.88%</b> 587	<b>52.93%</b> 866	<b>9.96%</b> 163	<b>1.22%</b> 20	1,636	2.26
Raise numbers of entrants		Raise numbers of entrants and test applicants	<b>38.78%</b> 641	<b>45.55%</b> 753	<b>14.82%</b> 245	<b>0.85</b> % 14	1,653	2.24
Develop apprenticesh		Develop apprenticeship models (more opportunities for mentoring)	<b>64.43%</b> 1,067	<b>30.25%</b> 501	<b>5.01%</b> 83	<b>0.30%</b> 5	1,656	2.60

# Q18: Rate these broad solution categories (as focus areas for the forum):

Answered: 1,666 Skipped: 546

			High	Medium	Low	N/A	Total	Weighted Average
Education and mentoring		Education and mentoring	<b>73.36%</b> 1,206	<b>24.09%</b> 396	<b>2.37%</b> 39	<b>0.18</b> % 3	1,644	2.71
Outreach, promotion, a		Outreach, promotion, and advertising (includes non-traditional markets)	<b>53.00%</b> 874	<b>38.87%</b> 641	<b>7.76%</b> 128	<b>0.36%</b> 6	1,649	2.45
Tiered licensing		Tiered licensing	<b>22.52%</b> 370	<b>41.94%</b> 689	<b>32.56%</b> 535	<b>2.98%</b> 49	1,643	1.90
Unified approach (e		Unified approach (e.g. multiple professional organizations together)	<b>39.38%</b> 651	<b>45.67%</b> 755	<b>13.85%</b> 229	<b>1.09%</b> 18	1,653	2.26
	0 1 2 3	4 5 6 7 8	9 10					



# Q19: Rate the following attributes as they would relate to a desired image of surveyors/surveying:

Answered: 1,600 Skipped: 612

				High	Medium	Low	N/A	Total	Weighted Average
Expert and authority			Expert and authority	<b>88.42%</b> 1,412	<b>10.90%</b> 174	<b>0.56%</b> 9	<b>0.13%</b> 2	1,597	2.88
Problem solver and			Problem solver and communicator	<b>82.71%</b> 1,320	<b>16.48%</b> 263	<b>0.56%</b> 9	<b>0.25</b> % 4	1,596	2.82
High tech		-	High tech	<b>53.08%</b> 844	<b>42.01%</b> 668	<b>4.72%</b> 75	<b>0.19%</b> 3	1,590	2.48
Data manager			Data manager	<b>34.45%</b> 547	<b>49.81%</b> 791	<b>15.55%</b> 247	<b>0.19%</b> 3	1,588	2.19
Intelligent			Intelligent	<b>78.39%</b> 1,248	<b>20.23%</b> 322	<b>1.07%</b> 17	<b>0.31%</b> 5	1,592	2.78
Historian			Historian	<b>49.18%</b> 783	<b>41.58%</b> 662	<b>8.79%</b> 140	<b>0.44%</b> 7	1,592	2.41
Educated			Educated	<b>70.85%</b>	<b>26.63%</b> 424	<b>2.32%</b> 37	<b>0.19%</b> 3	1,592	2.69
Financially rewarding Guarantor of			Financially rewarding profession	<b>54.04%</b> 862	<b>39.12%</b> 624	<b>6.14%</b> 98	<b>0.69%</b> 11	1,595	2.48
spatial reality	1 2	3	Guarantor of spatial reality	<b>40.21%</b> 637	<b>46.02%</b> 729	<b>12.06%</b> 191	<b>1.70%</b> 27	1,584	2.29



## **Q20:** Rate the following ideas for communicating a national brand:

Answered: 1,600 Skipped: 612

		High	Medium	Low	N/A	Total	Weighte Average
Create a simple	Create a simple recognizable single logo to represent surveyors and surveying	<b>36.75%</b> 584	<b>42.61%</b> 677	<b>19.76%</b> 314	<b>0.88%</b> 14	1,589	2.1
elop simple nd concise	Develop simple and concise terms to use in outreach	<b>50.60%</b> 804	<b>41.72%</b> 663	<b>6.86%</b> 109	<b>0.82%</b> 13	1,589	2.4
Encourage urveyors to Piggyback on existing you	Encourage surveyors to (also) participate in other associations/societies (e.g. real estate, utilities, engineering, etc) to raise awareness of surveying in these client industries	<b>56.21%</b> 896	<b>35.76%</b> 570	<b>7.47%</b> 119	<b>0.56%</b> 9	1,594	2.4
Create ommercials,	Piggyback on existing youth education organizations (scouting, school career clubs)	<b>48.37%</b> 770	<b>42.40%</b> 675	<b>8.61%</b> 137	<b>0.63%</b> 10	1,592	2.4
Identify current and	Create commercials, ads, and social media elements	<b>34.45%</b> 545	<b>41.40%</b> 655	<b>22.82%</b> 361	<b>1.33%</b> 21	1,582	2.:
Develop real-world	ldentify current and future markets (economic study)	<b>45.91%</b> 729	<b>42.76%</b> 679	<b>10.64%</b> 169	<b>0.69%</b> 11	1,588	2.:
Work with	Develop real-world examples to add to school cirriculum	<b>59.47%</b> 945	<b>34.30%</b> 545	<b>5.60%</b> 89	<b>0.63%</b> 10	1,589	2.5
public	Work with public officials to emphasize importance and role	<b>62.57%</b> 993	<b>31.44%</b> 499	<b>5.29%</b> 84	<b>0.69%</b> 11	1,587	2.5
Foster rofessional	Foster professional image (dress for success, etc)	<b>50.47%</b> 802	<b>39.33%</b> 625	<b>9.13%</b> 145	<b>1.07%</b> 17	1,589	2.4
Promote (in addition to	Promote (in addition to surveying) geospatial terms to broaden markets	<b>39.18%</b> 619	<b>49.05%</b> 775	<b>11.01%</b> 174	<b>0.76%</b> 12	1,580	2.2
ldentify arget marke	Identify target markets for outreach	<b>47.04%</b> 746	<b>44.77%</b> 710	<b>7.50%</b> 119	<b>0.69%</b> 11	1,586	2.4
nhance public mmunicatio	Enhance public communication and media presence (press releases, public meetings, promote maps and spatial themes in media)	<b>50.00%</b> 796	<b>40.89%</b> 651	<b>8.23%</b> 131	<b>0.88%</b> 14	1,592	2.4

Selections on graphs truncated by questionnaire software. See table below for full text of selections

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## Q21: Rate these target audiences as areas of focus for recruitment:

Answered: 1,557 Skipped: 655

			High	Medium	Low	N/A	Total	Weighted Average
Students (and parents of)		Students (and parents of) K-12	<b>60.03%</b> 931	<b>31.40%</b> 487	<b>8.12%</b> 126	<b>0.45%</b> 7	1,551	2.52
Veterans		Veterans	<b>38.71%</b> 600	<b>46.13%</b> 715	<b>14.58%</b> 226	<b>0.58%</b> 9	1,550	2.24
Job retrainees		Job retrainees	<b>22.26%</b> 341	<b>54.63%</b> 837	<b>22.65%</b> 347	<b>0.46%</b> 7	1,532	2.00
Post college professionals		Post college professionals	<b>33.29%</b> 513	<b>47.83%</b> 737	<b>18.43%</b> 284	<b>0.45%</b> 7	1,541	2.15
Degree holders (of related		Degree holders (of related fields)	<b>50.32%</b> 777	<b>39.96%</b> 617	<b>9.39%</b> 145	<b>0.32%</b> 5	1,544	2.41
STEM (science, technology,		STEM (science, technology, education & math) programs	<b>70.28%</b> 1,083	<b>26.48%</b> 408	<b>2.86</b> % 44	<b>0.39%</b> 6	1,541	2.68
Teachers, professors,		Teachers, professors, and counselors	<b>48.41%</b> 748	<b>38.51%</b> 595	<b>12.75%</b> 197	<b>0.32%</b> 5	1,545	2.36
Other related disciplines/		Other related disciplines/fields	<b>29.57%</b> 450	<b>53.81%</b> 819	<b>13.67%</b> 208	<b>2.96%</b> 45	1,522	2.16
	0 1 2 3	4 5 6 /	8	9 10				



## Q22: Rate these elements for inclusion in recruitment messaging:

Answered: 1,551 Skipped: 661

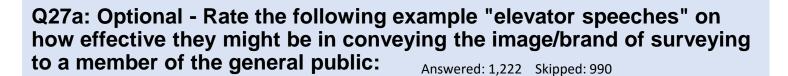
				High	Medium	Low	N/A	Total	Weighted Average
Conflict resolution			Conflict resolution - quasi-judicial role	<b>43.39%</b> 669	<b>45.40%</b> 700	<b>10.57%</b> 163	<b>0.65%</b> 10	1,542	2.3
A foundation profession			A foundation profession	<b>51.14%</b> 787	<b>40.22%</b> 619	<b>7.93%</b> 122	<b>0.71%</b> 11	1,539	2.4
Make the world a better place			Make the world a better place	<b>30.77%</b> 473	<b>45.54%</b> 700	<b>21.86%</b> 336	<b>1.82%</b> 28	1,537	2.0
Land use consultancy			Land use consultancy	<b>44.83%</b> 690	<b>45.55%</b> 701	<b>9.10%</b> 140	<b>0.52%</b> 8	1,539	2.3
Opportunities for			Opportunities for self-employment	<b>48.74%</b> 752	<b>41.54%</b> 641	<b>9.20%</b> 142	<b>0.52%</b> 8	1,543	2.4
Historical significance			Historical significance	<b>50.65%</b> 780	<b>37.66%</b> 580	<b>11.17%</b> 172	<b>0.52%</b> 8	1,540	2.4
Professional, pays well			Professional, pays well	<b>49.67%</b> 762	<b>40.61%</b> 623	<b>8.47%</b> 130	<b>1.24%</b> 19	1,534	2.4
Diverse work environment			Diverse work environment	<b>67.62%</b> 1,042	<b>27.45%</b> 423	<b>4.54%</b> 70	<b>0.39%</b> 6	1,541	2.6
High tech, rapidly			High tech, rapidly changing profession	<b>69.53%</b> 1,070	<b>27.10%</b> 417	<b>3.18%</b> 49	<b>0.19%</b> 3	1,539	2.6
	0 1	2 3	4 5 6 7	8	9	10	1	1	



## Q23: Rate the following as mediums for recruitment outreach:

Answered: 1,548 Skipped: 664

		High	Medium	Low	N/A	Total	Weighte Average
eachers and counselors	Teachers and counselors	<b>66.17%</b> 1,021	<b>29.23%</b> 451	<b>4.21%</b> 65	<b>0.39%</b> 6	1,543	2.6
Additional (expanded)	Additional (expanded) collaboration	<b>27.65%</b> 420	<b>59.25%</b> 900	<b>10.66%</b> 162	<b>2.44%</b> 37	1,519	2.1
Public relations fi	Public relations firm (contract)	<b>23.12%</b> 353	<b>50.10%</b> 765	<b>25.47%</b> 389	<b>1.31%</b> 20	1,527	1.9
Educators in other	Educators in other organizations (scouts, 4H, etc)	<b>56.20%</b> 866	<b>36.79%</b> 567	<b>6.42%</b> 99	<b>0.58%</b> 9	1,541	2.5
Client newsletters	Client newsletters	<b>19.67%</b> 299	<b>57.11%</b> 868	<b>22.11%</b> 336	<b>1.12%</b> 17	1,520	1.9
Geocaching	Geocaching	<b>22.16%</b> 339	<b>48.37%</b> 740	<b>27.32%</b> 418	<b>2.16%</b> 33	1,530	1.9
Comic book, bloring boo	Comic book, coloring book (youth oriented materials and social media)	<b>11.61%</b> 178	<b>39.66%</b> 608	<b>44.03%</b> 675	<b>4.70%</b> 72	1,533	1.6
hink globally (act locally)	Think globally (act locally)	<b>30.97%</b> 471	<b>45.89%</b> 698	<b>19.53%</b> 297	<b>3.62%</b> 55	1,521	2.1



on the Future of Surveying

XYHT

	effective	Somewhat effective	Neutral	Somewhat ineffective	Very ineffective	N/A	Total	Weighted Average
A surveyor establishes and defines the location of Boundary Lines. A surveyor is a "master of measurement."	<b>25.71%</b> 307	<b>40.45%</b> 483	<b>21.44%</b> 256	<b>7.04%</b> 84	<b>5.03%</b> 60	<b>0.34%</b> 4	1,194	3.75
Surveyors provide accurate spatial information that supports societal needs and supports other professions- collaborate in sharing spatial positioning in	<b>25.63%</b> 306	produced as January 201 professional short elevato starting poin progresses.	part of an 6. Particip association or speech; t to perhap Questionn own eleva	9.63% 115 eeches" inclu exercise at the ants in the for ons/societies) they are press os refine some aire responde tor speech. So d Elevator Spe	he first meetir rum (represer were given a sented here "a e canned spe ents were give see Appendix	ng of the nting vari few min as-is", an eches as en the o	forum in ous utes to p d only as the foru ption to	ben a s a
multidisciplinary applications.								

### Q27b: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

NSP5

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Surveyors	47.86%	34.20%	12.66%	3.60%	1.42%	0.25%		
provide authoritative determinations of position, location, measurement and boundaries. This requires education, skill, experience and integrity.	571	408	151	43	17	3	1,193	4.24
We use a lot of cool technology to move so that all the world is where it is supposed to be.	<b>14.81%</b> 176	<b>26.18%</b> 311	<b>25.08%</b> 298	<b>19.28%</b> 229	<b>13.22%</b> 157	<b>1.43%</b> 17	1,188	3.10
I am a surveying professional. As a professional surveyor, I guarantee that spatial information matches the realityhere, and down the street in your neighbourhood. It's a privilege to serve you.	<b>17.31%</b> 206	<b>33.70%</b> 401	<b>25.97%</b> 309	<b>14.03%</b> 167	<b>7.90%</b> 94	<b>1.09%</b> 13	1,190	3.39
A surveyor is one who protects the client and the public through competent management of property	<b>26.43%</b> 315	<b>29.95%</b> 357	<b>24.41%</b> 291	12.42% 148 Quest	5.79% 69	1.01% 12	1,192	3.59

#### Q27c: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

A professional	31.97%	27.28%	19.75%	10.71%	8.70%	1.59%		
surveyor is	382	326	236	128	104	19	1,195	3.64
somewhere								
between								
Indiana Jones								
and a Senator;								
and the job is								
somewhere								
between								
Google and the								
National Park								
Service. It is								
high tech and								
boots on the								
ground. Taking								
the world to								
new places								
while staying								
grounded in								
history								
Communicate	21.17%	39.97%	26.76%	8.38%	3.39%	0.34%		
geospatial	250	472	316	99	40	4	1,181	3.67
information to								
the public, real								
estate								
professionals,								
attorneys, etc.								
through maps,								
reports and								
other digital								
exhibits.								
The stability of	28.20%	33.28%	23.37%	9.65%	4.66%	0.85%		
the American	333	393	276	114	55	10	1,181	3.71
land system is								
vital for the								
stability of								
society. The								
surveyor is								
responsible to								
society to								
ensure this				Ques	tion 27 d	ontin	ues.	
stability.				2400				
stability.								



### Q27d: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

NSP5

on the Future of Surveying

148							
	233	326	231	201	34	1,173	2.91
<b>19.95%</b> 234	<b>34.19%</b> 401	<b>25.23%</b> 296	<b>13.30%</b> 156	<b>6.31%</b> 74	<b>1.02%</b> 12	1,173	3.49
<b>31.23%</b> 367	<b>38.30%</b> 450	<b>18.13%</b> 213	7.91% 93 Ques	3.49% 41	0.94% 11	1,175 DUES	3.87
	234 31.23%	234 401	234 401 296	234  401  296  156    150  150  150  150    31.23%  38.30%  18.13%  7.91%    367  450  213  93	234  401  296  156  74	234  401  296  156  74  12	234  401  296  156  74  12  1,173

33

### Q27e: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

NSP5

on the Future of Surveying

	/eyors are	28.66%	31.97%	22.11%	9.69%	6.04%	1.53%		
a gro profi loyal that in the care are well- and savy profi oper use unav othe	oup of very essional, I individuals are vested eir eers. We well paid, -educated tech vy. Our ession ns doors to technology vailable in	337	376	260	114	71	18	1,176	3.69
-		20.000/	07.000/	05 700	44.040/	0.000/	0.68%		
prote heali and the p we a	are nsed to ect the th, safety welfare of public and are proud p so.	<b>28.88%</b> 339	<b>27.26%</b> 320	<b>25.72%</b> 302	<b>11.24%</b> 132	<b>6.22%</b> 73	<b>0.68</b> % 8	1,174	3.62
perf bour surv well othe geos activ as p mod desig Mod desig 3D n histo struc equij pres desig	ndary reys as as many spatial vities such roviding 3D elling for gn, aerial ping (like in gle Maps) nodels of orical ctures, pment for servation, gn, nges,	<b>35.12%</b> 412	<b>41.01%</b> 481	<b>17.05%</b> 200	<b>4.35%</b> 51	<b>1.88%</b> 22	0.60% 7	1,173 UUES	4.04
strud equij pres desij	ctures, pment for servation, gn, nges,				G	Ques	Question 27 (	Question 27 contin	Question 27 continues

### Q27f: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

on the Future of Surveying

	40.000		00.500					
Collection of data for inclusion into GIS and other tasks that produce a geospatially connected world.	<b>13.86%</b> 162	<b>30.88%</b> 361	<b>33.53%</b> 392	<b>14.37%</b> 168	<b>6.59%</b> 77	<b>0.77%</b> 9	1,169	3.31
l am a professional surveyor and provide authentic information about real property boundaries and accurate 3 dimensional measurement of infrastructure whether on the earth, above it or under it.	<b>29.27%</b> 341	<b>36.65%</b> 427	<b>23.35%</b> 272	<b>7.98%</b> 93	<b>2.15%</b> 25	<b>0.60%</b> 7	1,165	3.83
The person who shows you your boundary lines. Marks the location of a new road, airport expansion, power line, etc.	<b>21.68%</b> 253	<b>31.02%</b> 362	<b>27.42%</b> 320	<b>13.11%</b> 153	<b>6.17%</b> 72	<b>0.60%</b> 7	1,167	3.49
911 exists because of surveyors. Surveyors create the foundation for measurements used to protect	<b>9.02%</b> 105	<b>20.88%</b> 243	<b>29.04%</b> 338	18.90% 220	18.38% 214	3.78% 44	1,164	2.83
the public-land safely.				QUES		Jonun	105	•

### Q27g: Optional - Rate the following example "elevator speeches" on how effective they might be in conveying the image/brand of surveying to a member of the general public: Answered: 1,222 Skipped: 990

on the Future of Surveying

XYHT

Expert in	27.96%	39.34%	20.71%	8.28%	3.02%	0.69%		
geospatial	324	456	240	96	35	8	1,159	3.81
information								
regarding								
boundary,								
elevation,								
hydrographic,								
and other								
aspects of								
development.								
This includes								
protection of								
real property,								
natural								
resources and the								
environment.								
environment.								
A surveyor is	31.91%	29.27%	23.46%	7.51%	5.89%	1.96%		
an educated,	374	343	275	88	69	23	1,172	3.75
tech savvy								
professional								
who makes								
precise								
measurements of the earth. It								
can be a								
financially								
rewarding								
career and one								
day you could								
be as well-								
known as								
Teddy								
Roosever	Note: Many respondents noticed this error of							
Thomas	including Teddy. This is how it was submitted.							
Jefferson or								
George								
Washington.								
Surveyors are	30.46%	34.43%	20.88%	8.63%	4.92%	0.69%		
protectors of	353	399	242	100	57	8	1,159	3.77
property rights						_		
and property								
location for				F	End of qu	instin	n 270	
their public.						っこういし	<i></i>	