

## President's Message

By Kenneth B. Anderson

In my previous President's Message, I discussed my family's history in surveying and the ways that technology has changed our profession in the last 50 years. But for all the changes, so many things remain the same. One of the constants in my time as a surveyor is the importance of professional practice and what we as surveyors owe the profession.

250 CMR Section 4 states: "In order to safeguard, life, health and property, to promote the public welfare, and to establish and maintain a high standard of integrity and practice, the following Rules of Professional Responsibility shall be binding on every person holding a certificate of registration and on all partnerships or corporations or other legal entities authorized to offer or perform engineering or land surveying services in the Commonwealth of Massachusetts."

The point is later re-emphasized: "All persons registered under the above stated Massachusetts General Laws are charged with having knowledge of the existence of 250 CMR 4.00: Professional Responsibility and shall be deemed to be familiar with their provisions and to understand them."

These regulations were adopted by the Board of Registration in 1983. I was at the Chapter meeting when these regulations were announced to the survey public. They caused quite a stir in the survey world. Surely these regulations would solve the problems that surveyors faced every day. It was common practice by some surveyors to leave off information on their plans. Trivial stuff would be left off the plan, like the owner's deed reference, any survey monuments set or found (stakes set don't count) and origin of the bearing system, if a bearing system was used! After 250 CMR Section 6 was announced these problems would surely disappear! All licensed surveyors were charged with the responsibility to be aware of and follow the new regulations. What happened? Nothing!

A person is granted a license to practice Land Surveying when they have satisfied the Board of Registration **minimum** requirements. Having a license does not make you a professional; it is only the first step. How you act and

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represent yourself to the public, conform to 250 CMR and help further the surveying profession determines your state of professionalism. Yet we all know of licensed individuals and firms that practice substandard work.

250 CMR Section 4.02 further states: "Registrants having knowledge of any alleged violation of 250 CMR 4.00 shall cooperate with the Board in furnishing such information or assistance as may be required."

MALSCE's objectives as an association are as follows:

- To promote the general recognition and acceptance of the practice of Land Surveying as a profession separate and distinct from any other profession;
- To maintain and promote adherence to technical and procedural standards for the practice of Land Surveying in the Commonwealth, and the rules of professional conduct for the greater protection of the public;

## Don't Like an Easement Across Your Land? Just Move It! A Discussion of M.P.M. Builders, LLC v. Dwyer (442 Mass. 87, 2004)

By A. Richard Vannozzi, PLS

How many times has a project been redesigned, scaled back, or even scrapped altogether because the surveying research revealed an old easement across the property, long forgotten but still in force? How many landowners have ended up paying a king's ransom to an easement holder to release their rights in an easement that they did not even know that they had. Or what about a servient estate holder who wishes to move an easement, actively being used, just enough to allow them to utilize their land in a more beneficial way? Moves of even negligible amounts have always been taboo because of the mountains of case law that made it clear that an easement, especially once fixed on the ground, could not be moved without express permission of the dominant estate holder. And of course everyone has heard the sacred mantra: "Mere non-user of an easement does not constitute abandonment." Land Surveyors have found these situations to be particularly problematic because once uncovered, an inevitable education process begins as landowners, clients, attorneys, and other parties come to terms with the situation. Inordinate amounts of time can be spent trying to explain a situation that on its face defies logic and is so seemingly inflexible.

Well the inflexibility (at least of this aspect) of easement law has changed in Massachusetts. In 2004 the Massachusetts Supreme Judicial Court (SJC) ruled in M.P.M. Builders v. Dwyer that, in fact, a servient estate holder can unilaterally move an easement that is across their property. The courts by no means threw the flood gates open to the movement of easements at will. They set some very specific rules on how to go about moving an easement, but before those are discussed it should be noted that reform on this issue has been in the works for a number of years. The idea of

allowing easements to be moved appeared in the American Law Institute's Restatement (Third) of Property (Servitudes) in 2000. The American Law Institute is, for lack of a better term, a legal "think tank" where law and policy across the nation are constantly being reviewed, summarized and compiled for the use of the legal profession. At regular intervals they publish books called "restatements" which are treatises on the "state of the law" in specific areas. In their comparative discussions they often provide the "roadmap" for courts wishing to modify the law in their jurisdiction that includes "model" text, and the scholarly precedent and thought to back up such changes. In this case the SJC actually wrote in their introductory paragraph in their decision:

*"...held that: Restatement (Third) of Property (Servitudes) section giving owners of servient estate right to make reasonable changes in location and dimensions of easement would be adopted as law of Massachusetts..."*

As stated above however, the SJC didn't just allow for random easement movement by the servient estate holder but rather put in place a judicial procedure and rules that they believed would address the specific types of situations which the Land Surveying Profession so often sees. The SJC stated that in order for a servient estate owner to move an easement unilaterally a declaration from the court approving the move would be required.

*"in absence of agreement concerning the relocation of an easement, servient estate owner should seek a declaration from court that proposed changes meet the criteria for unilateral relocation."*

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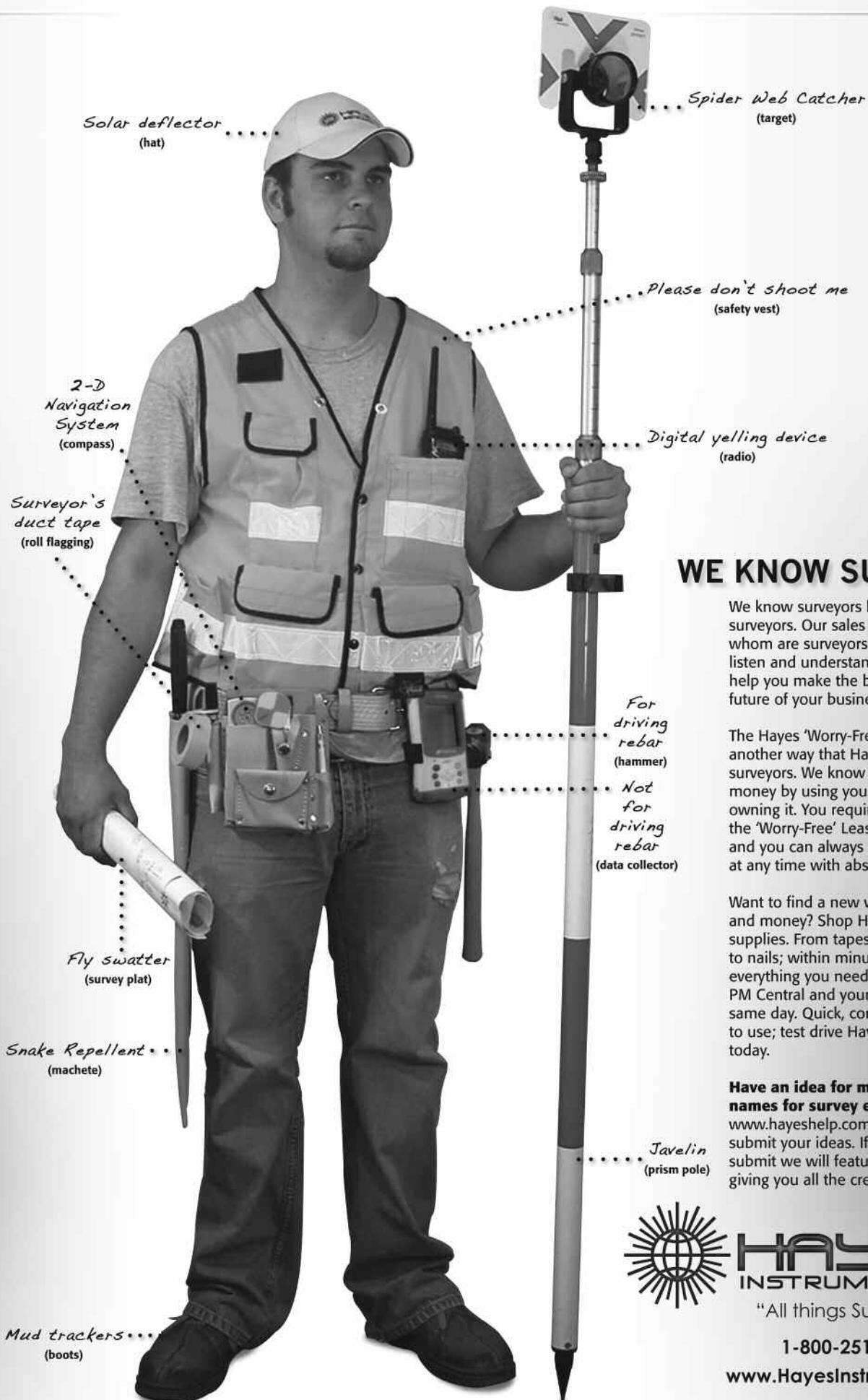
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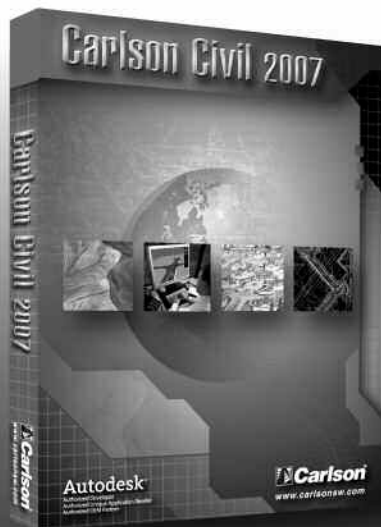
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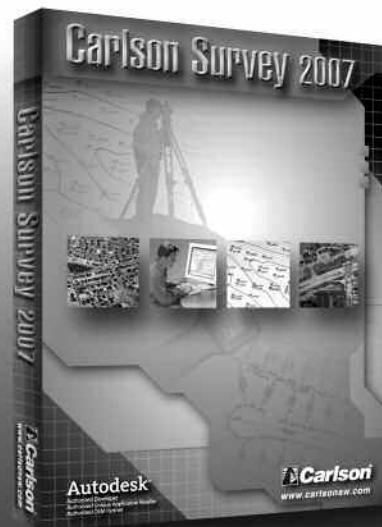


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## Easement

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The SJC went on to identify three criteria that must be met before the court could approve the move of an easement: 1) The move can not significantly lessen the utility of the easement; 2) it can not increase the burdens on the owner of the easement and 3) it can not "frustrate the purpose" the easement was created for. Though each of these criteria allows for significant subjectivity in their application to specific fact patterns, many of the more absurd (and professionally frustrating) situations where easement relocation was not an option before are now able to be entertained.

The argument that M.P.M. Builders, LLC made for the change of the law was that the unbending rule that an easement once fixed on the ground could not be moved was in direct conflict with the idea that a servient

estate holder can use their land over which another has an easement for all purposes which are not inconsistent with the easement holder's rights. The court felt that by setting forth the above criteria and the requirement of judicial review that a balance could be struck between the rights of easement holders to use their easements unimpeded for their intended purpose and the rights of servient estate holders to use the underlying land for reasonable purposes and who were increasingly being "held hostage" in their legitimate development pursuits by easement holders.

Before this case, a land owner could not even contemplate the movement of a driveway a few inches to accommodate a setback for a pool, the moving of an ancient "paper" right of way to the driving lanes of a proposed shopping center, or the reconfiguring of a drainage easement to facilitate a deck or an addition without complete approval of the easement

holder, now, at least, another process exists to accomplish an easement relocation that is not quite so one sided.

Clearly, this law is not a "quick fix" to a conflict between an easement holder and the owner of the underlying fee and direct negotiation would be the most expedient way to move an easement. To utilize the courts to move the easement as contemplated in this case, the servient estate holder may end up spending a lot of money and time to accomplish such an easement relocation (the rules for relocation set down in the case clearly make the owner of the servient estate responsible for all costs associated with any relocation, too), however having such an option available, even as a last resort, will go a long way in leveling the playing field in the negotiation of the reasonable relocation of an easement and giving the owner of the servient estate an opportunity to have their interests weighed.

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# The Engineering Center Joins Transportation Investment Coalition To Advocate For Increase In Transportation Revenue

By Abbie R. Goodman, Executive Director

In April 2007, The Engineering Center in Boston, Inc. (TEC) joined with a diverse group of environmental, planning, transportation, community, labor, business, industry and other advocacy organizations to form a Massachusetts Transportation Investment Coalition in response to the alarming findings recently released by the state's Transportation Finance Commission. In late March, the Commission's report announced that nearly every transportation agency is suffering from budget shortfalls, and we face a staggering \$15 – \$19 billion gap in funding over the next 20 years. Addressing this crisis is essential to protect the safety of residents, to increase the state's economic competitiveness and to advance environmental goals.

In late April, TEC signed on to a letter to the Legislature announcing that MTIC had come together in support of necessary actions to address the state's transportation finance woes. MTIC announced, "We are united in our belief that we cannot allow our transportation systems to deteriorate further and that we should not cease advancing strategic expansion and enhancement projects that will provide immense economic and environmental benefits to the Commonwealth." Abbie Goodman (TEC, ACEC/MA and MALSCE Executive Director) and Margaret O'Meara (member firm PB Americas) represent us in the coalition and serve on its Steering Committee.

Investment in our transportation system is essential to meet basic needs, but also presents an opportunity to grow our economy, increase mobility, connect thriving communities and promote a wide range of public policy

goals. Please contact me at [agoodman@engineers.org](mailto:agoodman@engineers.org) if you would like to help with some of the MTIC activities in the months ahead or would like more information. You can read the full Commission report here: [www.eot.state.ma.us/downloads/tfc/TFC\\_Findings.pdf](http://www.eot.state.ma.us/downloads/tfc/TFC_Findings.pdf).

The Transportation Finance Commission held public hearings on its findings in April and May and has started work on the next phase of its charge: making recommendations for meeting our budget needs.

## Transportation Investment Coalition Member Organizations (in formation):

A Better City  
AAA Southern New England  
Alternatives for Community and Environment  
Associated Industries of Massachusetts  
American Council of Engineering Companies of Massachusetts (ACEC/MA)  
Boston Society of Architects, Civic Initiative for Smart Growth  
Boston Society of Civil Engineers Section/ASCE  
Citizens' Housing and Planning Association  
Conservation Law Foundation  
Construction Industries of Massachusetts  
Environmental League of Massachusetts  
Fair Housing Center of Greater Boston  
Massachusetts Association of Community Development Corporations  
Massachusetts Building Trades Council, AFL-CIO  
Massachusetts Business Roundtable  
Massachusetts Motor Transportation Association

Massachusetts Smart Growth Alliance  
MBTA Advisory Board  
MassCommute  
MASSPIRG  
Metropolitan Area Planning Council  
NAIOP Massachusetts (National Association of Industrial and Office Properties)  
Pioneer Valley Planning Commission  
The Engineering Center  
Urban Edge  
Urban Land Institute

## President's Message

*continued from page 1*

- To assist in the discipline of unlicensed persons and members of the profession found to be working outside the standards of practice;
- To establish a medium for the exchange of professional knowledge and practices, and to promote continuing education.

The only way for MALSCE to achieve its objectives is for all of us as members to work towards them as well.

The question becomes: If this is what the standards require, why is substandard work still being tolerated by the survey profession? Why are the surveyors who are continually performing sub-standard work not reported to the Board of Registration as the current law requires? Why do licensed "professionals" continue to ignore the law? To quote Shakespeare "The fault, dear Brutus, is not in our stars, but in ourselves."



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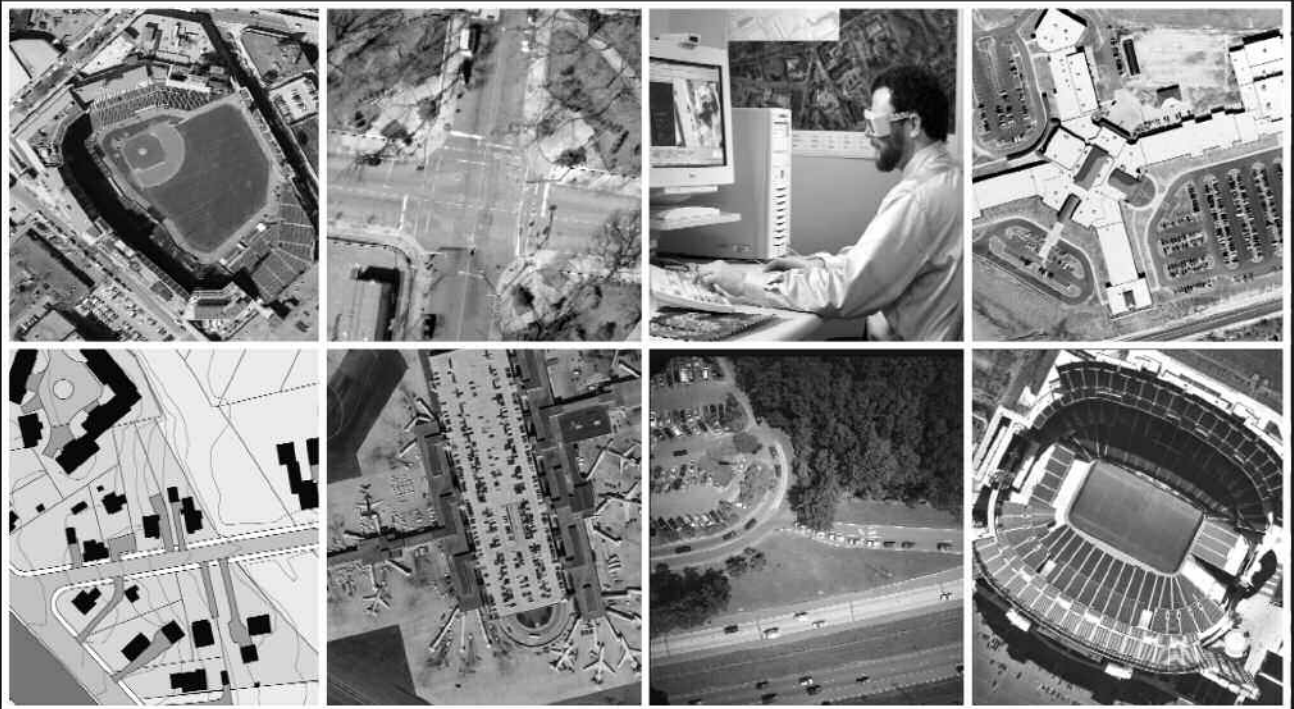
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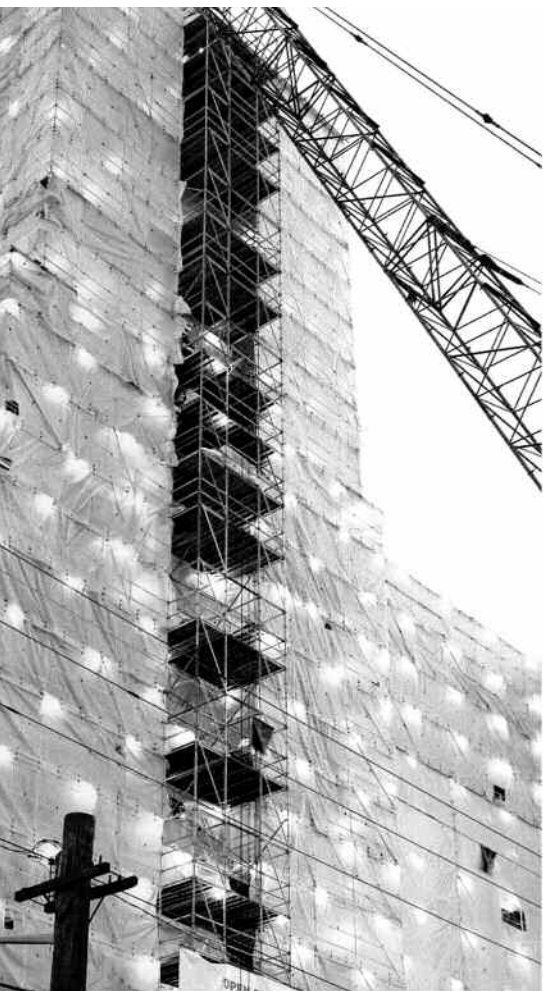
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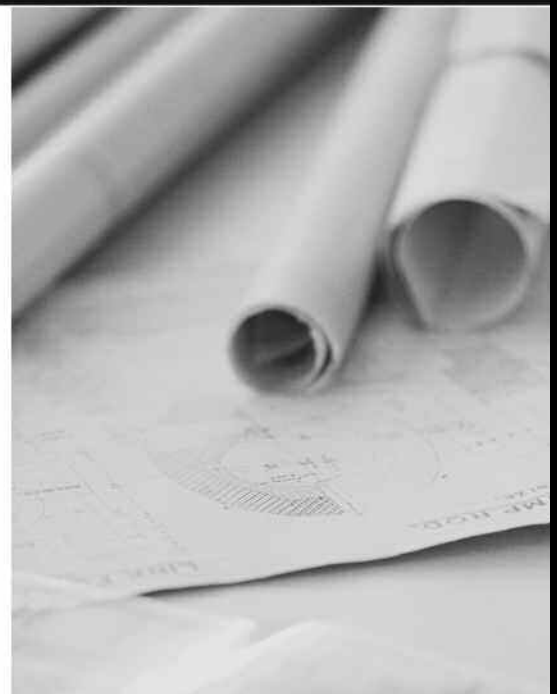
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# How Geomatics Professional Employment Characteristics Impact Four-Year Educational Programs

By: James K. Crossfield, L.S., Ph.D., Chair, Department of CGEC & ME, CSU, Fresno

## ABSTRACT

Geomatics/Surveying 4-year academic programs have now been active for 35 years. Now twenty-five such programs generate about 250 graduates each year. Owners, managers and party chiefs (in a 1-2-6 ratio) comprise the approximately 50,000 currently active professionals in the nation. New technology continues to reduce field crew size, eliminating technician slots, reducing up from the ranks professional opportunities and decreasing the pool of potential students. Geomatics 4-year programs tend to be small and higher education is scrutinizing small programs for cutbacks. Program enrollments need to increase five-fold. The profession (one professional at a time) must mobilize significant recruitment efforts into 4-year programs across the nation. This effort will save the programs and preserve the profession.

## INTRODUCTION

The first persons to complete a 4-year surveying program in the nation were Robert Parsons and Steven Thumlert who completed their studies in June of 1971 at California State University, Fresno. Nationally, since then, a continuous stream of new programs have been implemented and approximately five thousand graduates have moved into professional geomatics careers. This influx of trained measuring and mapping professionals has indeed changed the face of a profession. Yet, was 5000 enough? Each year about 250 students graduate from approximately 25 total 4-year degree programs. Are 250 graduates each year enough to keep pace with the employee needs of the greater

geomatics profession that contains 50,000 individuals? If each geomatics professional has a 40 year career and they were evenly distributed by age, then on average at least 1250 new professionals are needed each year to replace them. We have a serious shortfall. Where do the extra professionals come from?

Many are trained on the job. Starting out as low paid technicians some of these people move up to professional positions. Others get educated in a related subject area like Forestry, Computer Science, Civil Engineering, Math, Physics, Geography or Geology. They may find jobs in their area of interest unsuitable or unavailable. Then they may get geomatics jobs and eventually move into the professional ranks as well. But what is the most effective way to generate a licensed professional? Licensure is composed of education and or experience and passing the appropriate licensing exam.

Careful analysis of the educational backgrounds of LS exam takers several years ago in one Western state revealed the following information. Examinees with a 4-year B.S. degree in surveying (or similarly named programs) were three times more likely to pass than those with a B.S. in Civil Engineering, nine times more likely to pass than someone holding an associate degree in surveying, and 20-100 times more likely to pass than any other educational category of examinee which included those with no formal education. This suggests that obtaining a 4-year degree greatly facilitates passing a state licensing exam.

## CURRENT EMPLOYMENT CHARACTERISTICS

Various estimates suggest that approximately 50,000 professionals are actively engaged in the greater geomatics profession in the United States. Thousands of small, medium and large-scale agencies, utilities and private companies employ the geomatics professionals who measure and map the earth. The major subgroups under the greater geomatics umbrella include (but are not limited to): land surveying, geodetic surveying, geodesy, photogrammetry, mapping, GIS, remote sensing and construction surveying.

Current approaches to geomatics personnel utilization vary across a wide spectrum. An effort to simplify this for purposes of this discussion might be justified. The typical organization might be staffed with an owner who manages the office staff and two field managers, each of whom monitors three field parties. Each field party has a party chief and an average of one additional crewman. While it is realized that many private firms already have one-person field parties (due to the use of RTK-GPS and robotic total stations) many situations still require two or more persons as a minimum for safety and/or to comply with various work rule requirements that may apply.

The typical office staff then is comprised of approximately three additional CAD drafters or report writers or data processor technicians. This organizational scheme has any number of variations. Yet the ratios of geomatics professionals identified here are representative of those found across the nation. The makeup then is one owner, two managers, six party chiefs,

six crewpersons and three office technicians or 1-2-6-3. It is assumed that on average the owner, managers and party chiefs are licensed and the office technicians are not. The number of licensed office workers probably very nearly is balanced by the number of party chiefs who are not.

The current 50,000 licensed geomatics professionals are broken into job types as defined by the 1-2-6 owner-manager-party chief ratio, or approximately 5500 owners, 11,000 managers and 33,500 party chiefs.

## EMPLOYMENT TRENDS

The Owner-Manager-Party Chief employment ratio is likely to remain virtually the same for the foreseeable future. Technology continues to drive this profession however. Whereas thirty years ago a three person crew was typical, now the goal seems to be to get a crew size of one person if possible, using RTK-GPS or a robotic total station. That one person typically is the party chief. The noticeable decline recently has been the number of crew members. These persons have historically been the huge pool of raw talent from which future professionals have generated, coming up through the ranks and eventually developing themselves into a licensed professional. These crew persons have also often been the typical 4-year student, often unhappy with their immediate career prospects, and thereby deciding to use an education to catapult them into the career faster than would have normally been the case.

The number of (not yet professional) crew persons is declining. This has serious implications for the supply of future geomatics professionals regardless of the methodology chosen for obtaining the necessary credentials for licensure.

## DISTURBING EDUCATIONAL TRENDS

Colleges and Universities are under great pressure across the nation to economize. State support for higher education continues to dwindle almost everywhere. Since geomatics degree programs typically have chronic low enrollment (compared to other disciplines) they are often singled out for cuts or elimination. These geomatics/surveying program difficulties have manifested themselves in numerous ways over the last few years. A few examples include:

- 1) A forced department merger into another department
- 2) A publicly announced plan to close one program
- 3) A publicly announced plan to merge one programs department into another College
- 4) The fragmentation of an entire department and drastic change in accreditation status
- 5) One programs department forcing the program to absorb the entire budget cut assigned to the department

These situations are bad enough, but there may be more trouble ahead. Several programs are almost totally dependent upon one individual faculty person. When that person retires or collapses from fatigue, the campus administration (especially when enrollment is low) sees a great opportunity to close the program. Unfortunately, community colleges are less likely now to produce potential geomatics transfer students, since many have dropped surveying coursework. Only three community colleges out of 107 in California currently offer more than two surveying courses on a regular basis. It could be argued then, that a larger share of new prospective professionals will have to be

recruited directly from high schools into 4-year geomatics type programs.

## MAKING UP THE SHORTFALL

We need 1250 new professionals every year. Colleges are producing about 250. The number of technicians on survey crews is dwindling, thereby decreasing the number of professionals who come up through the ranks. Community colleges are cutting back on geomatics related coursework, thereby reducing the number of potential transfer students. Clearly, there is a need for up to 1000 more geomatics (and related named degrees) graduates each year from the nations institutions of higher learning. That will require a five-fold increase in students. Simply stated, 1,000 – 2,000 new geomatics students must enroll each year. This correlates to approximately 40 – 100 for each of the 25 or so 4-year degree programs in the nation. These programs need help recruiting students.

## FUTURE PROFESSIONAL COMMITMENT

Many professionals have historically gone all out to promote 4-year education. NSPS and ACSM routinely endorse the concept. A few reluctant holdouts might still not agree with this idea. A few select quotes from William Brown, a Minnesota licensed surveyor are appropriate here.

"If land surveyors ignore the need for college education we are going to find ourselves waking up in a new world and wondering what happened to our profession."

"Will a high school education and on-the-job training really prepare us to fill the expanding role of the land surveyor?"

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# MALSCE Members Gather at State House for Design Professionals Day

By Abbie Goodman, Executive Director, MALSCE

Professional engineers, land surveyors, and other design professionals are important resources for public policy makers at all levels of government. We bring problem solving skills, insights and expertise needed by our elected and appointed officials. They may not always agree with our views on specific laws or regulations, but they are always interested in listening to what professionals from their home districts have to say. This is how legislators educate themselves—and they want to hear from us.

The Massachusetts Association of Land Surveyors and Civil Engineers (MALSCE) promotes professional land surveying and engineering registration and provides professional development programs for surveyors, engineers and related professionals throughout the state. MALSCE also promotes the land surveying profession to State House leaders and the public. We work for passage of legislation and policies that create a favorable climate in which the engineering community and related industries can help Massachusetts grow and improve the quality of life for its citizens.

On Tuesday, May 15, 2007, MALSCE members gathered at the Massachusetts State House for our Annual Design Professionals Day at the State House along with leaders from other engineering and design related associations. We arranged for meetings with our members' Massachusetts State Representatives and State Senators based on where our members live and vote. Members discussed these key issues with their legislators:

- **Infrastructure funding:** Massachusetts should invest in maintaining, repairing and upgrading its infrastructure, and identify new sources of revenue to meet the Commonwealth's infrastructure needs. Both federal and state studies show that Massachusetts is falling behind in maintaining our bridges/roadways, water/wastewater systems, schools, and other infrastructure. Lack of adequate maintenance is contributing to a continuing increase in the backlog of unmet infrastructure needs. In addition, there is limited capacity to fund capital programs. Adequate investment in our infrastructure will have long-term benefits by improving the quality of life for our citizens, promoting future growth and development, and creating needed jobs.

- **Water Infrastructure Finance Commission:** The Commonwealth and its municipalities are facing a water and wastewater crisis created by antiquated infrastructure and a failure to properly invest in maintaining existing infrastructure. We filed House Bill 855 (Senate Bill 543), which creates a special commission charged with evaluating this public health and public safety problem and recommending ways to increase the investment in water and wastewater.

- **Board of Registration of Professional Engineers and Land Surveyors:** The Board of Registration of Professional Engineers and Land Surveyors should have the same authority as other Boards of Registration that are part of the Division of Professional Licensure.

- **Qualifications Based Selection (QBS):** When procuring design services, government agencies should award contracts based on the qualifications of the firms. This is known as Qualifications Based Selection (QBS). In addition to delivering quality projects, government agencies safeguard the public while being accountable to taxpayers. Selection of design professionals using qualifications accomplishes these goals. To bring Massachusetts in line with the federal government and 44 other states, ACEC/MA filed House Bill 3182, "An Act Relative to Public Safety and Fair Practices in Procurement Relating to the Commonwealth of Massachusetts Selection of Architects Engineers and Related Professionals."

You can download the briefing sheets we used in the meetings with State Representatives and State Senators at: [www.engineers.org](http://www.engineers.org) and click on 2007 Design Professionals Day Issues Briefing Fact Sheets. You can download the Infrastructure Reports on the Status of Bridges, Status of Roadways, Status of Water and Status of Wastewater at: <http://www.engineers.org/resources/news.htm>. Future reports on public buildings, dams, freight, and other infrastructure elements are in development. Please feel free to contact your legislators about these issues and to contact me if you need any more information. We certainly were not able to see people from all 200 legislators' offices on May 15, but with your help, we can reach many more of them.

Abbie Goodman can be reached at [agoodman@engineers.org](mailto:agoodman@engineers.org) or 617/305-4112.





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| SURV380 | Massachusetts Regulations Affecting the Surveying Profession |
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**Mr. Kenneth B. Anderson, P.L.S.**  
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**The Engineering Center**  
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Ken:

On behalf of the Surveying Engineering Technology (SVT) faculty and students, I would like to thank MALSCE and the MALSCE Education Trust for the generous and kind donation to the SVT program. We plan to use the one check for our operating expenses and the other check for scholarships that will benefit Massachusetts' students that enroll in the program. Recruiting, software, equipment, etc. require more money than the college budget often provides. Gifts represented by the checks you provided are very much appreciated and necessary to provide a quality program.

We are very pleased with the support we have received from MALSCE. We are happy to report that partly as a result of the support, the program has several Massachusetts' students in the SVT program. Some students have graduated and are now working for firms in Massachusetts. Taking the first step toward licensure as a professional land surveyor, every one has passed their fundamentals of surveying exam as a senior.

On behalf of...  
Surveying Engineering Technology

**Raymond Hintz, Ph.D., P.L.S.**  
**Coordinator**

## Geomatics Professional Employment Characteristics

*continued from page 11*

The 4-year programs are doing everything they can to encourage enrollment. But professionals must help. Every current geomatics professional (on average) must recruit at least two geomatics students (during their lifetime) to enroll in a 4-year program.

Some professionals probably won't do anything, so to make up for their inaction try to refer five or ten. An average of two are required per professional because the typical dropout rate is 50%. Two new students should equal one graduate. One graduate will replace you. Some professionals have already done their part. Recent success stories at Fresno State include fathers sending three sons and one daughter; one woman sent her younger sister and a Junior College surveying instructor who sent four transfer students. The referring professional in each of these instances has done his or her part to preserve the profession. Similar success stories abound across the nation.

But what about everyone else? Who have you sent? Remember, there are no excuses now. Complete 4-year degree programs are available on the Internet. Current Fresno State distance learners for example reside in the states of New Jersey, North Carolina, Illinois, Washington, Ohio, Utah, Michigan and throughout distant parts of California (San Diego, Pasadena, San Francisco and Bishop).

So what can you do to help? Simply send students. Send your son or daughter, nephew, niece, step-child, friend of the family or someone who

works for you. Maybe someone wants to work for you but is unqualified. Tell them to go to a 4-year program and get a degree first. Send yourself. Go to local high schools or community colleges to promote the program that best serves your area, state or region. Try not to mention the S word (surveying) however, as this turns off most high school students. It's OK to talk to prospective students one-on-one about surveying if they bring it up first. Call your favorite 4-year program and they will be glad to send you suitable recruitment materials. If schedules allow it, a faculty member or student may be able to come to the recruitment event with you.

Helping to motivate a student already enrolled will reduce dropout rates, thereby increasing the number of graduates. Provide a good summer job. Sponsor a scholarship. Participate on Advisory Committees if asked, go to annual banquets or conferences that the 4-year program organizes. Contribute to endowments and other forms of program support. Send unused equipment for possible use in labs. It may take a little extra effort, but in the end you will be able to say, I did my part. Send students to 4-year geomatics and surveying programs. The faculty at those programs will educate them, the profession will nurture the graduates and thus we will all have managed to keep a profession alive.

## CONCLUSION

Geomatics 4-year programs tend to be small and higher education is

scrutinizing small programs for cutbacks. Not enough prospective geomatics professionals are entering the pipeline. Ultimately, 4-year geomatics and surveying degree program enrollments need to increase five-fold just to keep our professional ranks stable. The profession must help the academic institutions mobilize significant recruitment efforts to increase 4-year program enrollment across the nation. This effort will simultaneously save the programs and preserve the profession.

## REFERENCES

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Crossfield, James K., "Where Have All The Flowers Gone," *ForeSight!*, Vol. 22, No.1, Fall 2004, p 7.

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## About the Author

Dr. James K. Crossfield received his Ph.D. from the University of Wisconsin, Madison in 1984. Since then he has taught at CSU, Fresno. He has been an ACSM member for over thirty years, serving on several committees and presenting numerous papers at national meetings. He was AAGS President in 1996. He served as the ACSM member of the Engineering Accreditation Commission of ABET from 1995 – 2001. Dr. Crossfield currently serves as chair of the Department of Civil and Geomatics Engineering and Construction and Mechanical Engineering at CSU, Fresno.

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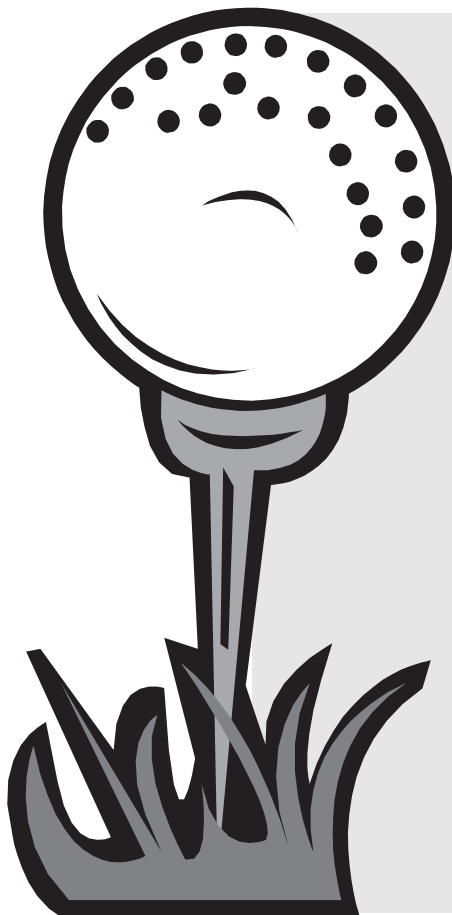
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