

ASCE Strategy Management Documents

ASCE Vision, Mission, Goals

Vision

Engineers as global leaders building a better quality of life

Mission

To provide essential value to our members, their careers, our partners, and the public, ASCE will:

- Facilitate the advancement of technology
- Encourage and provide the tools for lifelong learning
- Promote professionalism and the profession
- Develop and support civil engineer leaders
- Advocate infrastructure and environmental stewardship.

Goals

- Facilitate the advancement of technology to enhance quality, knowledge, competitiveness, sustainability, and environmental stewardship.
- Encourage and provide the tools for lifelong learning to aid our members' continued growth throughout their careers.
- Promote professionalism and the profession throughout society to enhance the stature of civil engineers and to influence public policy.
- Develop and support civil engineer leaders to broaden our members' perspectives, enhance their career growth, and promote the public interest.
- Advocate infrastructure and environmental stewardship to protect the public health and safety and improve the quality of life.

ASCE Radar Screen of Professional Strategic Issues—Prioritized

The Board adopted the following prioritized radar screen of professional strategic issues, and the Society is focusing on the top three—A, B, C.

Issues to Address Through Strategy

- A) Years of deferred infrastructure investment and maintenance, and the profession's limited effectiveness in communicating with public officials regarding infrastructure needs:
- a) Place public safety at risk.
 - b) Hinder the nation's economic growth and competitiveness.
- B) The increasing breadth, complexity, and rate of change of professional practice challenges:
- a) The expectation that the BS degree can provide the foundation for the civil engineer to practice at the professional level.
 - b) The profession's ability to assure competence in engineering specialty areas.
 - c) Civil engineers' ability to acquire sufficient non-technical professional skills (such as communication, management, and leadership), thereby limiting opportunities to fill leadership roles.

C) The civil engineer's role as a learned professional in addressing the built and natural environment is being challenged due to:

- a) The growing capability of software/technicians/technologists,
- b) The increasing number of outsourcing/offshoring options,
- c) The hourly basis of pricing that fails to convey the value delivered,
- d) Competitive bidding pressures that undermine qualifications-based selection (QBS) of A/E services.
- e) The limited understanding—by clients, policy-makers, and the future generation of potential civil engineers—of civil engineers' roles and opportunities.
- f) The perception among civil engineers that their services are increasingly viewed as a commodity and that their compensation levels do not match the value they provide.

Issues to Further Clarify Through Research

D) The current level of effort to develop sustainable civil engineering solutions to address the impacts of climate change may leave the global community unprepared to deal with the eventual consequences to the world's infrastructure and environment.

Issues to Monitor

E) The public's growing awareness that it is possible to achieve a sustainable environment, along with the escalating need to defend against terrorism and protect against natural disasters, is reinforcing the civil engineers' changing role from designer/builders to life-cycle project designer/builders and managers (sustainers).

F) The globalization of engineering, and the increasing number of engineers being educated in developing nations, is affecting the practice of civil engineering with respect to:

- a) How U.S. engineers differentiate themselves from those in other countries through the knowledge and skills U.S. engineers can offer.
- b) The implications of "off-shoring" and the need for global standards of practice, including the responsibilities of the "engineer of record."
- c) The need to have knowledge of international engineering and business approaches, local capabilities, and cultural/linguistic contexts.

G) The competitive pressures and professional needs that are increasing the demand for engineers to take advantage of life-long continuing education and mentoring from peers are often offset by limited levels of support in terms of time and cost and the difficulty of finding willing mentors.

H) The failure of the developed world to adopt sustainable water usage and the challenge of providing adequate resources and expertise to appropriately address the developing world's water supply issues will threaten the global economy and international stability.

I) Evolving methods of project delivery are changing the way engineers work and who they work for, thereby challenging traditional business strategies and relationships.

J) Civil engineers' hesitation to assume risk in their work, especially within a litigious society and the relative safer-haven of simply meeting the requirements of codes, tends to restrain civil engineers' willingness to be creative and embrace new approaches to design.

K) Corrupt practices in the engineering and construction market are:

- a) Diverting large sums of money targeted to the advancement of infrastructure.
- b) Challenging the interest and ability of U.S. engineers to participate in some markets.

L) The lack of consistency in state licensing laws makes it difficult for PEs to maintain qualifications when practicing in multiple states.

M) Recent deadly engineering failures call into question the traditional approach to the design of complex engineering systems.

N) The reluctance of civil engineers to rapidly embrace and become expert in the opportunities presented by new civil engineering technology (such as new materials, embedded electronic components, nanotechnology, robotic construction, the integration of IT, and the like) denies the profession a key avenue to enhance productivity and competitiveness in design and construction.

O) The current level of participation by the U.S. and ASCE in influencing and developing international codes and standards related to civil engineering may result in:

- a) The lack of global penetration of U.S. approaches to design and construction and a decline in U.S. competitiveness in this market.
- b) A loss of potential influence and revenue to ASCE from the reduced sales opportunities for ASCE international standards.

Desired Outcomes for Top-Priority ASCE Professional Strategic Issues

The Board adopted the following desired outcomes for the three top-priority professional strategic issues. ASCE entities have developed action plans that will contribute to the fulfillment of the desired outcomes. The work has a multi-year horizon.

Infrastructure

“Infrastructure” Strategic Issue (the motive to act)

Years of deferred infrastructure investment and maintenance, and the profession’s limited effectiveness in communicating with the public and public officials regarding infrastructure needs:

- a) Place public health, safety and welfare at risk.
- b) Hinder the nation’s sustainable economic growth and competitiveness.
- c) Adversely affect the public’s quality of life.

Desired Outcomes (conditions that will exist when the issue is favorably resolved)

1. Civil engineers are effectively engaged and influencing public and private decision-making processes affecting the nation’s infrastructure.
2. Elected and appointed policy-makers are well-informed concerning the capacity and condition of the nation’s infrastructure and the impact infrastructure has on public health, safety, welfare, and quality of life and on the economy.
3. Infrastructure policies will have been created and implemented at all levels of government that favorably impact infrastructure. The policies:
 - a) Define funding requirements and strategies sufficient to ensure appropriate capacity and condition of the nation’s infrastructure systems.
 - b) Promote innovation, sustainability, and security in infrastructure solutions.
 - c) Are effectively communicated to infrastructure policy-makers and the public.
4. Total public and private funding for infrastructure will increase by 3% in constant dollars (after inflation) per year from 2009 through 2015.
5. ASCE’s Report Card will show an average of a one-third grade improvement by 2017. (e.g. C- to C, B- to B, etc.).

Strategic Approach (how the outcomes will be achieved)

ASCE will improve the capacity and condition of the nation's infrastructure by increasing its role as a credible, trusted, and effective advocate and educator with public- and private-sector decision-makers and the general public. ASCE will promote realistic solutions to the challenge of adequately funding the creation of new, and the maintenance of existing, infrastructure systems.

Competency

"Competency" Strategic Issue (the motive to act)

The increasing breadth, complexity, and rate of change of professional practice challenges:

- a) The expectation that the BS degree can provide the foundation for the civil engineer to practice at the professional level.
- b) The profession's ability to assure competence in engineering specialty areas.
- c) Civil engineers' ability to acquire sufficient "soft" skills (such as communication, management, and leadership), thereby limiting opportunities to fill leadership roles.

Desired Outcomes (conditions that will exist when the issue is favorably resolved)

1. An ongoing assessment of the profession's dynamic Body of Knowledge (BOK) has been established.
2. A demonstrated attainment of this BOK is required to earn professional engineer status.
3. There exist multiple, defined paths to fulfill the BOK requirements.
4. The need for, and integrity of, this requirement, as well as client recognition of its value, has been widely accepted by the profession.
5. Civil engineers are of higher quality, increasing the value they add to society and to clients and giving them flexibility and agility over their careers.
6. Widely recognized and accepted post-licensure specialty certifications and/or licenses for all appropriate civil engineering specialty areas have been established.

Role of the Civil Engineer

"Role of the Civil Engineer" Strategic Issue (the motive to act)

The civil engineer's role as a learned professional in addressing the built and natural environment is being challenged due to:

- a) The growing capability of software/technicians/technologists,
- b) The increasing number of outsourcing/offshoring options,
- c) The hourly basis of pricing that fails to convey the value delivered,
- d) Competitive bidding pressures that undermine qualifications-based selection (QBS) of A/E services.
- e) The limited understanding—by clients, policy-makers, and the future generation of potential civil engineers—of civil engineers' roles and opportunities.
- f) The perception among civil engineers that their services are increasingly viewed as a commodity and that their compensation levels do not match the value they provide.

Desired Outcomes (conditions that will exist when the issue is favorably resolved)

1. Civil engineers as master integrators are leaders of collaborative efforts to envision and realize livable, sustainable, and prosperous communities.
2. Civil engineering services are delivered through a widely accepted, multi-tiered system led by civil engineer master integrators and based on a hierarchy of professional and paraprofessional competencies.
3. Civil engineers enjoy increased recognition and compensation commensurate with their public health and safety responsibilities and the value they provide.

ASCE Value Propositions

“Value propositions” are statements that encapsulate ASCE’s ongoing delivery of value to members, as seen from the member’s point of view. Whereas the ASCE goals break into five thrusts what ASCE does for members and the profession, value propositions present a finer breakdown of product, service, and initiative delivery—30 in all.

1. Provide news and feature articles on civil engineering practice, projects, and activities.
2. Produce peer-reviewed journals to disseminate advances in technical and professional knowledge.
3. Provide news about ASCE members, programs, events, and policies.
4. Produce books that give practical technical and professional knowledge that can be applied in every-day practice.
5. Maintain and provide electronic access to an archive of civil engineering technical and professional literature.
6. Provide a gateway on the Web to Society information, event registrations, products and services, and other professional information.
7. Support member collaboration to determine best practices, share technical knowledge, and improve the practice of civil engineering.
8. Provide membership in one ASCE Institute for discipline-specific technical and professional products, services, and volunteer opportunities.
9. Assemble teams of member experts to prepare for and investigate natural and man-made disasters and disseminate lessons learned.
10. Develop and promote the adoption of civil engineering-related consensus standards and standard contract documents.
11. Influence civil-engineering-related public policy affecting the public health, safety, and welfare and the profession.
12. Through awards, recognize individual achievements in technical excellence, professional practice, and service.
13. Promote greater public awareness and recognition of the profession’s contribution to the public’s health, safety, and welfare.
14. Provide opportunities for networking.
15. Provide member discounts on personal benefits such as life insurance, auto insurance, branded credit cards, etc.
16. Educate members and the public on professionalism and the ethical practice of civil engineering.
17. Maintain and enforce a Code of Ethics.
18. Provide continuing education opportunities.

19. Provide conferences.
20. Provide an opportunity for participation in local units (sections, branches, groups, etc.) to deliver the value of ASCE locally.
21. Provide students with targeted information, guidance, activities, and student chapter involvement.
22. Provide leadership skills development opportunities through participation in national and local ASCE governance and committees.
23. Preserve and build awareness for the history and heritage of the civil engineering profession.
24. Define the knowledge and competencies required for entry into the professional practice of civil engineering.
25. Provide for certification in selected civil engineering specialty areas.
26. Facilitate the global exchange of civil engineering knowledge, educate members on professional practice in the global environment, and build the engineering capacity of developing countries.
27. Supply employment data, job opportunities, business and employment practices information, and mentoring contacts to help members advance in their careers.
28. Ensure the continuous improvement of civil engineering education at the undergraduate and graduate level.
29. Provide programs to ensure a sufficient supply of quality civil engineers to meet the future needs of society.
30. Provide programs to attract and retain a diverse civil engineering workforce.