

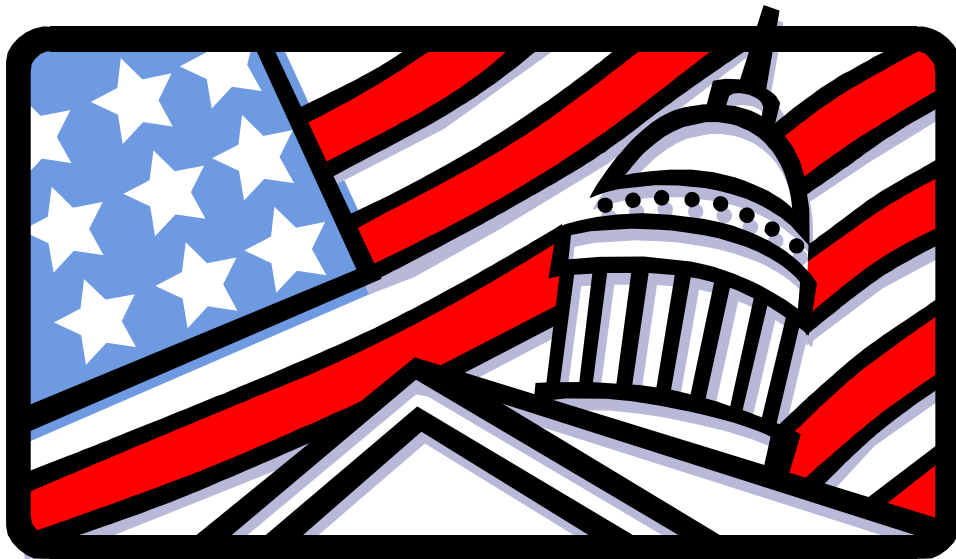


*American Society of Civil Engineers*

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## **2007-2008 Policies & Priorities**

# **American Society of Civil Engineers**



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## **POLICY DEVELOPMENT PROCESS**

In order to promote the goals of the American Society of Civil Engineers, the Board of Direction has adopted official Policy Statements, Position Papers and Resolutions on major technical, professional and educational issues of interest to the civil engineering community and the Nation. Listed here are the complete texts of the Society's **161** current policy documents. These statements reflect the Board of Direction actions through April 24, 2007.

Policy documents must be written in one of three standard formats: a policy statement, a position paper or a resolution. Prior to developing a new proposal, members should examine existing policies to determine whether a new policy document is needed, whether it conflicts with existing documents, and whether it is an issue of broad concern to civil engineers. The purpose of the document and the intended length of its life will determine which of the three formats should be followed.

- A policy statement is a broad overview of policy on a topic of continuing concern to the civil engineering profession.
- A position paper is a more specific examination of a subset of a specific issue.
- A resolution is a short term or interim position of the Society. It is intended to respond to an immediate concern or a specific event for a time frame of not longer than one year.

### **PROCEDURES FOR POLICY DEVELOPMENT AND REVIEW**

The Policy Review Committee (PRC) acts as the oversight body on the procedural aspects of the policy development process, and is responsible for coordinating proposed Policy Statements, Position Papers and Resolutions from the originators to the Board of Direction. The PRC must specifically:

- coordinate and expedite the preparation of proposed policies to be presented to the Board for adoption; and,
- consider proposed policies originated by the various segments of the Society, elicit by appropriate referrals the comments of correlative interests within the Society, review for clarity and conciseness, and compare with established policies to avoid inconsistency and redundancy; and
- regularly review the policies of the Society and stimulate reviews by other groups within the Society to insure that policies are current and meaningful.

Along with the ASCE Government Relations staff, PRC will make every effort to ensure that every appropriate component of the Society has an opportunity to comment on proposed policy documents. However, PRC must balance the desire to provide an opportunity for comment with the need for timely consideration of an issue.

The Board of Direction has established national policy committees which report to the Board through PRC. The committees are composed of at least five members, appointed by the President, who have professional expertise relative to public policy issues of national concern to the civil engineering profession. These committees are the: National Energy, Environment and Water Policy Committee, National Engineering Practice Policy Committee, National Infrastructure & Research Policy Committee and National Transportation Policy Committee

All policy committees are staffed by the Government Relations Department in the ASCE Washington Office. Each committee

has been given the charge to:

- study needs, proposals and legislation related to national public policy in its area of concern; and,
- compile supporting data on policy positions utilizing divisions and committees of the Society as well as liaison with other organizations; and
- advise the Board on policies of the Society in its area of concern, and the issuance of any public statement on behalf of the Society.

In addition to national policy committee's individual members; Institutes; district councils; professional, educational, or technical divisions; directors and national officers can and should be participants in the policy development process. Individuals who are not members of national committees should direct such efforts through their sections or branches, which in turn should route them to an appropriate committee. Those members who serve in the

national committee structure should initiate policy proposals through their appropriate entities. If a public policy resolution is sent directly to the Board of Direction from a Section and District/Regional Council, the proposal normally would be referred by the Board to a national policy committee and the PRC for development.

After approval by the originating group, the proposed policy document must be sent to the Washington Office staff for consideration by the PRC. PRC makes the determination whether a proposed Policy Statement, Position Paper or Resolution should be presented to the Board of Direction. Proposed policy documents are part of the Committee's reports to the Board of Direction contained in the agenda prepared for the semiannual meetings of the Board.

The Board of Direction can reject the policy proposal, remand the proposal to the originating entity for further work, approve the substance of the proposal as official policy while returning it to the PRC for further editorial review, or approve the proposal as presented. The Board of Direction has independent authority over the policy process and may rescind any existing Policy Statement, Position Paper or Resolution.

An important function of the PRC is the ongoing reassessment of existing Policy Statements, Position Papers and Resolutions on a 3 year, 2 year and 1 year cycle respectively. The PRC routinely refers policy documents to the committee of origin for a review of the continued relevance of the subject and for a recommendation for possible rescission, revision, clarification, or incorporation into a new policy proposal.

Occasionally a pending issue of vital importance requires a response or public statement by the Society on short notice. The PRC can accelerate the review and approval process by submitting the approved policy statement to the Executive Committee of the Board which has authority to act when the full Board is not in session. Executive Committee actions must be ratified by the full Board at its next meeting.

For more information about ASCE's Policy Document and the Policy Development Program, contact Martin Hight, Senior Manager, Government Relations at [mhight@asce.org](mailto:mhight@asce.org)

## **2007 ASCE Priority Issues Agenda**

### ***Federal Priority Issues***

In an effort to narrow the focus and to better deploy our government relations resources, the Committee on Government Affairs has identified the following six priorities for First Session of the 110th Congress.

- Clean Water, Drinking Water, and Wastewater Issues
- Math & Science Education
- Natural Hazards Mitigation and Infrastructure Security
- Qualifications Based Selection for Engineering Services
- Smart Growth/Sustainable Development
- Transportation Infrastructure Financing

### ***State Priority Issues***

In an effort to narrow the focus and to better deploy our government relations resources, the Committee on Government Affairs has identified the following seven priorities for state government relations in 2007.

- Infrastructure Financing
- Licensing
- Math & Science Education (K-12)
- Procurement of Professional Services
- Smart Growth
- Building Codes
- Transportation Infrastructure Financing

Priority Issues are listed in alphabetical order. The fact that an issue is not included does not constrain ASCE action.

## POLICY STATEMENTS

### **COASTAL ZONES AND WATERWAYS**

Coastal and Offshore Development (PS 162) ASCE supports the responsible use and development of coastal and offshore resources, the exercise of sound conservation practices and protection of the public health and environment consistent with sustainable development. ASCE recognizes the need for regulatory control of both coastal and offshore regions. Protection of public health, safety, and welfare and protection of the environment require consideration of the potential impact of storm events in planning for all coastal and offshore development. ASCE supports the improvement of regulatory procedures in order to streamline the lengthy and often duplicative approval processes. From the ranks of involved agencies, a lead agency should be charged with initiating and coordinating the needed communication and consultation. (Adopted 04-24-07)

Coastal Data Collection Programs (PS 330) ASCE supports the basic coastal data collection programs of the National Oceanic and Atmospheric Agency (NOAA), the U.S. Army Corps of Engineers (COE) and other government agencies. ASCE urges continued support for the climate change and estuarine science programs, including the status and trends program, of NOAA and the National Wetlands Inventory programs of NOAA, COE, the Environmental Protection Agency (EPA), and the U.S. Fish and Wildlife Service (FWS).

ASCE also supports the COE Coastal Field Data Collection Programs which provide critical understanding of waves and currents, the driving forces of coastal erosion. ASCE recommends that the COE and NOAA organize and operate basic coastal data collection programs in all coastal and Great Lakes states to ensure uniform quality and continuous collection of data. ASCE encourages state and local governments to initiate, support and participate in these programs. (Adopted 04-27-06)

Coordination of Beach Erosion Control with Channel Maintenance (PS 349) ASCE supports the onshore disposal of clean sand dredged from tidal inlets and estuaries. Clean sand dredged from inlets during navigation channel maintenance should be placed on beaches that need nourishment to reduce the effects of erosion. ASCE encourages coordination among planners of coastal navigation projects and beach erosion control projects to ensure that clean beach sand dredged from inlets is not disposed of offshore but is returned to the coastal system from which it originated. (Adopted 04-15-05)

Improvement and Maintenance of Ports, Harbors and Waterways (PS 218) ASCE supports a program of

improvement and maintenance of ports, harbors and waterways as essential to the economic and environmental well-being of each nation. ASCE supports a predictable and reliable source of funding for the maintenance and improvement of our Nation's ports, harbors and waterways. ASCE supports streamlining the regulatory process for improving ports, harbors and waterways. ASCE supports the deepening and widening of ship channels, as may be necessary, to accommodate the new, larger ships in the world fleet and the continued maintenance dredging of ship channels for the efficient handling of maritime commerce. ASCE also supports programs, which limit erosion and sedimentation in ports, harbors and waterways globally. While agreeing with and strongly supporting the environmental objectives of regulatory programs, ASCE supports making the regulatory process more consistent among various jurisdictions. (Adopted 05-14-04)

Louisiana Coastal Wetlands (PS 498) ASCE supports efforts to reduce land loss in the Louisiana coastal wetlands through protection and restoration of the physical processes necessary to sustain these unique ecosystems. ASCE supports the ongoing effort to fund and implement the comprehensive Louisiana Coastal Area (LCA) Program, as appropriately modified by lessons learned from the 2005 hurricanes. Key components of the LCA Program should include the beneficial use of dredged material, regional sediment management, and a programmatic authorization of Federal Civil Works that allow work to continue on a long-term basis.

ASCE endorses the principle that coastal and wetland restoration and hurricane protection must be part of an integrated regional watershed and coastal zone management effort, which considers the interrelationships of natural, social and economic systems and includes Federal, State, local and private initiatives in a collaborative way. (Adopted 04-27-06)

Restoring and Maintaining America's Beaches (PS 507) ASCE supports the Federal Shore Protection Program as it has been established and implemented by the federal government, including the ongoing nourishment and environmental restoration components of this program. (Adopted 07-22-06)

Waste Assimilative Capacity of Ocean and Coastal and Coastal Waters (PS 286) ASCE supports the implementation of waste reduction programs that can significantly decrease the quantity of deleterious wastes disposed in ocean and coastal waters. ASCE further urges the continued study of the environmental effects of disposing wastes into ocean and coastal waters. ASCE is concerned that long term ocean

disposal may cause irreparable damage to the ocean and coastal areas, and therefore supports investigative programs that achieve a greater understanding of the transport and fate of wastes disposed of in ocean and coastal waters. (Adopted 05-14-04)

**DAMS, FLOOD, CONTROL AND LEVEES**

Dam Repair and Rehabilitation (PS 470) ASCE recommends that federal and state legislation be enacted to provide a funding source for repair and rehabilitation of dams in the United States. (Adopted 04-27-06)

Floodplain Management (PS 421) ASCE supports protection of natural floodplains and the concept of building disaster resistant communities consistent with sustainable development and holding paramount the public’s safety, health, and welfare. ASCE urges governments at all levels to adopt proactive floodplain management policies, particularly in vulnerable coastal lowlands and river bottoms, and supports creative partnering between federal, state and local governments to adopt floodplain management policies and to fund the design and implementation of floodplain management policies and flood mitigation projects in a timely manner.

ASCE does not support the development or significant redevelopment of communities below sea level or in high-risk, flood-prone areas because such development is inherently unsustainable and puts the public at unnecessary risk for loss of life and property.

Potential floodplain management tools include education and public information, land-use management, such as zoning, early warning systems and possible reservoir pre-releases, flood-proofing and elevating buildings, acquisition and relocation options, preservation of natural floodplains and open space, and emergency preparedness. Potential structural flood mitigation tools include levees, flood control dams, urban detention and retention basins, channelization, flood walls and sea walls. The multiple-use of flood prone areas and flood mitigation facilities should be pursued, including river restoration, wetland restoration, aquifer recharge, improvements in habitat, ecosystems, and water quality, recreation and open space use, and incorporation of floodplains into comprehensive watershed management programs. (Adopted 04-24-07)

National Levee Safety Program (PS 511) ASCE supports the enactment of federal and state legislation and regulations to protect the health and welfare of citizens from the catastrophic effects of levee failures. Congress should enact legislation to establish a national levee safety program that is modeled on the successful National Dam Safety Program. The federal government must accept the responsibility for the

safety of all federally funded and regulated levees. Similarly, state governments must enact legislation authorizing an appropriate entity to undertake a program of levee safety for non-federal levees. The act should require the federal and state governments to conduct mandatory safety inspections for all levees and establish a national inventory of levees. (Adopted 04-27-06)

Responsibility for Dam Safety (PS 280) ASCE supports the enactment of state and federal regulations and legislation to protect the health and welfare of citizens from the catastrophic impact of dam failure. The federal government must accept the responsibility for the safety of all federal dams and federally regulated dams. This includes reauthorization of funding for the Dam Safety and Security Act of 2002, which will expire September 30, 2006. Federal agencies, including the Departments of Defense and Interior, must be adequately funded to operate and maintain their dams as well as to provide sufficient security improvements.

Similarly, state governments must enact legislation authorizing an appropriate agency to undertake a program of dam safety for non-federal dams which, at a minimum, meet the definition of a dam in the National Dam Safety Act of 1996 (P.L. 104-303). Legislation should follow the FEMA Model State Dam Safety Program. At the federal level ASCE supports a fully funded National Dam Safety Program, administered by the DHS, which provides leadership through technical assistance from Federal agencies and funding to assist states with assuring the safety and security of state-regulated dams. (Adopted 04-27-06)

**DISASTER MITIGATION AND RESPONSE**

Cooperation with Government for Failure Investigation (PS 294) ASCE will cooperate with federal, state and local government and non-profit organizations in the investigation involving the civil engineering aspects of a failure. ASCE should execute a formal written agreement concerning the investigative effort to protect all parties involved defining the scope of services and other elements of the engagement. (Adopted 04-24-07)

Earthquake Engineering Research Funding (PS 359) ASCE supports activities and funding which accomplish the following:

- Increases basic research in earthquake engineering;
- Increases applied research, testing, and accelerated technology transfer of research results;
- Adopts and enforce standards for seismic design and construction of new and existing public buildings;

- Adopts and enforce building codes and zoning provisions to incorporate improved seismic design and construction standards of new and existing buildings and lifelines by state and local governments and by industry;
- Improves collaborative earthquake preparedness, particularly for building safety, lifeline systems and emergency response;
- Increases public education about earthquakes and engineering concepts for hazard reduction; and
- Provides for stronger leadership, and improved inter-agency coordination in the National Earthquake Hazards Reduction Program (NEHRP). (Adopted 04-27-06)

Earthquake Hazards Mitigation (PS 390) ASCE supports research, practices and policies that identify earthquake hazards and mitigate earthquake risks, including:

- Continuance and expansion of the National Earthquake Hazards Reduction Program (NEHRP) and similar initiatives.
- The use of state-of-the-art performance standards for existing critical, essential, educational and disaster-recovery facilities, such as hospitals, schools and emergency shelters.
- Targeting buildings that are likely to collapse in major earthquakes for mandatory retrofit, reduced occupancy, reconstruction or demolition.
- Improvements of collaborative community preparedness and their related civil infrastructure so that they are economically resilient to earthquake hazards.
- Development of nationally accepted consensus-based standards for evaluation and retrofit of existing buildings; and
- Development of national seismic standards for new and existing lifelines. (Adopted 04-27-06)

Emergency Preparedness and Response (PS 499) ASCE supports planning, education and training initiatives that increase the ability and readiness of civil engineers to quickly and effectively respond to both man-made and natural disasters that impact the physical infrastructure (e.g., the nation's built environment, including water, energy, utilities, transportation and building systems). The existing California system of recruiting and training design professionals as "disaster service workers" (under the state's Office of Emergency Services) is an example of an effective model which should be expanded to other states. (Adopted 04-27-06)

Media Interaction Following Catastrophic Failures or Natural Disasters (PS 300) To ensure that information disseminated following natural disasters or catastrophic failures involving civil engineering works is as accurate and complete as possible, ASCE will

cooperate with established news media, defined as: newspapers, radio and TV stations, magazines, on-line publications or media sites, and media intended for trade press audiences. Guidelines that will be followed in response to natural disasters and failures are as follows:

- ASCE's paramount interest is that the media and the public receive timely and factual information and assistance.
- Individuals may respond, in their field of expertise, to an inquiry but statements must be identified as individual comment.
- All contact with the media must follow the established ASCE Protocol for Media Outreach. (Adopted 04-24-07)

Mitigating the Impacts of Natural and Man-Made Disasters (PS 389) ASCE supports sustained efforts to improve professional and related practices in planning, design, construction, operation and maintenance that will mitigate the effects of natural and man-made hazards. ASCE is committed to participating in national and international activities that encourage mitigation of the effects of hazards and provide improved warning of impending hazards. ASCE will collaborate and cooperate with government and private agency initiatives and activities for hazard mitigation, preparedness and disaster recovery. ASCE supports efforts to ensure that federal, state and local disaster mitigation funds be non-taxable. (Adopted 04-15-05)

Physical Infrastructure Security (PS 500) ASCE supports research, planning, design, construction and operation and maintenance initiatives that increase the reliability and survivability of the nation's physical infrastructure (e.g., the nation's built environment, including water, energy, utilities, transportation and building systems) against man-made and natural hazards. (Adopted 05-03-03)

Wind Hazards Reduction (PS 475) ASCE and the Structural Engineering Institute of ASCE support the creation of a unified national program to effectively reduce the avoidable economic and community losses experienced each year as a result of wind storms. The coordinated national plan should include:

- Creation of a public-private partnership to develop the national plan.
- Construction of affordable family and mass shelters to provide protection and peace of mind.
- Improved emergency management planning.
- Development of cost-effective retrofit schemes with existing construction to reduce business interruption and economic losses.
- Development of improved severe weather warnings for longer lead-time, fewer false alarms and more accurate prediction of affected areas.

- Implementation of innovative codes and standards that provide for wind-resistant construction and programs for assuring increased compliance.
- Implementation of research and development to encourage new materials and innovation for robust construction.
- Public education on wind hazards.
- Systematic measurement and analysis of high-wind speeds near the ground. (Adopted 04-27-06)

### **DIVERSITY**

Achieving Diversity and Equity (PS 417) ASCE supports and encourages the equitable opportunity for participation of all people within the civil engineering profession without regard to race, ethnicity, religion, age, gender, sexual orientation, nationality, or physical challenges. The Society will promulgate and implement programs designed to enhance opportunities to participate in the profession. (Adopted 04-15-05)

### **EDUCATION**

Academic Prerequisites for Licensure and Professional Practice (PS 465) ASCE supports the attainment of a Body of Knowledge (BOK) for entry into the practice of civil engineering at the professional level. This would be accomplished through the adoption of appropriate engineering education and experience requirements as a prerequisite for licensure.

ASCE encourages institutions of higher education, governmental units, employers, civil engineers, and other appropriate organizations to endorse, support, promote, and implement the attainment of the Body of Knowledge for individual civil engineers. The Body of Knowledge includes (1) the fundamentals of math, science, and engineering science, (2) technical breadth, (3) breadth in the humanities and social sciences, (4) professional practice breadth, and (5) technical depth or specialization. Fulfillment of the Body of Knowledge requires additional education beyond the bachelor's degree for the practice of civil engineering at the professional level. The implementation of this effort should occur through establishing appropriate curricula in the formal education process, appropriate experience guidelines for the workplace, and related education and experience standards by the 55 engineering licensure jurisdictions.

Admission to the practice of civil engineering at the professional level means professional engineering licensure requiring attainment of a Body of Knowledge through appropriate engineering education, experience and examinations. Fulfillment of this Body of Knowledge will typically include a combination of:

- a baccalaureate degree in civil engineering,

- a master's degree, or approximately 30 coordinated graduate or upper level undergraduate technical and/or professional practice credits or the equivalent agency/organization/professional society courses providing equal academic quality and rigor, and
- appropriate experience based upon broad technical and professional practice guidelines which provide sufficient flexibility for a wide range of roles in engineering practice. (Adopted 04-24-07)

Civil Engineering Education (PS 140) It is the Policy of ASCE to participate in and influence the formal education of the civil engineering community, which is a shared responsibility of educators and practitioners. This policy will be implemented by:

- Participating responsibly and effectively in the accreditation activities of Accreditation Board for Engineering and Technology (ABET);
- Assisting in informing the public about and attracting high quality students to careers in civil engineering and civil engineering technology;
- Encouraging diversity and flexibility in academic programs providing prerequisites for professional practice;
- Maintaining a professional environment that will attract, develop and retain high quality faculty;
- Providing a full range of education and training to develop and keep current the knowledge, capabilities and skills of all individuals in the civil engineering community;
- Motivating and providing opportunities for the civil engineering community to continue professional development to ensure the profession is responsive to changing technology and societal needs;
- Developing and implementing programs that provide interaction among students, educators and practitioners, including provisions for career mobility between academia and practice and a broad spectrum of ASCE activities;
- Encouraging academic institutions to assess achievements in teaching, research, practice and service to the profession when evaluating a faculty member and
- Supporting a vibrant ASCE Student Chapter, that is expected to have an actively participating faculty advisor, one or more practitioner advisors and a department advisory committee comprised of practitioners who are ASCE members and are dedicated to excellence in civil engineering education. (Adopted 10-19-04)

History and Heritage (PS 463) ASCE encourages all civil engineers to be knowledgeable about the history and heritage of civil engineering. ASCE further encourages the study of history and heritage through educational programs including for

undergraduate engineering and continuing professional development programs.

ASCE believes that methods to foster a greater understanding and appreciation of the history and heritage of civil engineering while enhancing the image of civil engineering include:

- Encouraging civil engineers to be knowledgeable about the heritage of their profession, and where possible share this knowledge with engineering students, colleagues and the general public;
- Focusing action at the national, state and local levels through support of history and heritage programs in ASCE and other professional organizations;
- Encouraging civil engineering faculties to incorporate a history and heritage component into existing courses as appropriate;
- Encouraging civil engineering programs to include courses related to the history and heritage of civil engineering in their curricula; and,
- Encouraging the Accreditation Board for Engineering and Technology (ABET) to recommend the history and heritage of engineering as an important component of engineering education. (Adopted 04-24-07)

Mathematics and Science Education (PS 377) It is the policy of the American Society of Civil Engineers (ASCE) to actively develop support and promote programs which initiate and expand an awareness and use of mathematics and science, particularly as they relate to civil engineering, at all educational levels. It is essential to:

- Provide all students, no matter what careers they ultimately pursue, with a strong background in basic mathematics and science to enable them to participate in our increasingly technical society;
- Prepare those students who want to pursue careers based in mathematics and science with the necessary skills in these subjects; and
- Encourage highly qualified students to pursue careers based in mathematics and science and more specifically in civil engineering. (Adopted 05-14-04)

Uniform Continuing Professional Development (PS 425) ASCE supports documented continuing professional development as a condition for maintaining status as a licensed Professional Engineer. ASCE also supports uniformity of continuing professional development requirements among licensing jurisdictions. (Adopted 04-24-07)

## **ENERGY**

The Advanced Hydro Turbine (PS 442) ASCE supports continued industry and federal funding for research and development of Advanced Hydro Turbine Systems. (Adopted 04-24-07)

Building and Consumer-Product Energy Efficiency (PS 487) ASCE encourages Congress and the President to expand tax incentives to encourage the private sector to manufacture energy-efficient vehicles, homes, commercial buildings, and consumer products. ASCE also encourages Congress to provide an increase in funding for research into these energy-efficiency measures. (Adopted 05-14-04)

Clean Energy (PS 489) ASCE advocates continued and expanded funding of research to develop cleaner methods of generating electricity. This research should support cleaner production of traditional sources such as coal and natural gas, and advance solar, wind, bioenergy, nuclear and other energy sources. As improved technologies emerge, tax incentives and other incentivizing vehicles should be provided to establish a market for cleaner energy production. (Adopted 05-14-04)

Electricity Generation And Transmission Infrastructure (PS 484) ASCE supports the maintenance and expansion of power generation and transmission infrastructure based upon reasonable projections of increased demand and need to maintain the nation's energy security. This is consistent with the Energy Policy Act of 2005 and independent examinations of the state of the nation's energy infrastructure.

ASCE supports the continual evaluation and improvement of the nation's electricity infrastructure system to support an integrated operation and control scheme that provides reliable and safe electricity to the nation. Specifically, ASCE supports:

- Design and construction of adequate transmission infrastructure to provide reserve margins and operating capacity are an important part of the national reliability plan of the North American Electric Reliability Council.
- Incentives should be provided to promote energy conservation, the development and installation of highly efficient fossil and nuclear generation and renewable technologies (solar, wind, hydro, biomass, and geothermal).
- A long-term generation research and development plan should be implemented which extends current energy supplies through efficient use and explores new and potential energy sources.
- Research and development for DC transmission and high voltage superconducting materials should be encouraged. Design and construction of these type facilities would serve to support civil engineering

applications and maintain the transmission integrity and ability to meet the nation's energy needs.

Ongoing need for R&D in areas related to improving and enhancing the nation's transmission and generation infrastructure. (Adopted 04-24-07)

Energy Policy (PS 144) ASCE supports the creation of a national energy policy for the United States. The federal government needs to assume the leading role in the adoption of a national energy policy that anticipates future energy needs based on conservation, available energy resources and potential new sources of energy. (Adopted 05-14-04)

Hydropower (PS 379) ASCE supports the continued use, expansion and development of hydroelectric power. The use of hydropower must be done in a manner that takes into account potential environmental impacts. (Adopted 10-19-04)

Nuclear Power (PS 490) ASCE supports a safe, economic increase in the energy supply of the United States. A portion of this increase should come from new nuclear power plants and capacity upgrades to existing plants. This increase should be part of a balanced national energy portfolio. (Adopted 05-14-04)

**ENGINEERING PRACTICE**

Aesthetics (PS 117) ASCE supports aesthetic quality in engineering design. As aesthetics are integral to good engineering design, the cost of aesthetic quality should also be integral to design and construction budgeting. Aesthetic quality should be an element of the planning, design, construction, operations, renovation, rehabilitation, reconstruction and security enhancement of the built environment. (Adopted 04-15-05)

Combating Corruption (PS 510) ASCE supports a zero tolerance policy toward bribery, fraud, and corruption in design and construction. ASCE further actively supports the global effort to stem corruption in the procurement and execution of design services and construction projects. ASCE openly seeks cooperation with others in a domestic and international effort to empower individual engineers in the fight against corruption through education, awareness and the adoption and enforcement of Principles and Guidelines for Professional Conduct. (Adopted 10-26-05)

Engineering Surveying Definition (PS 333) Engineering surveying is defined as those activities involved in the planning and execution of surveys for the location, design, construction, operation, and maintenance of civil and other engineered projects.

Such activities include:

- The preparation of survey and related mapping specifications;
- Execution of photogrammetric and field surveys for the collection of required data, including topographic and hydrographic data;
- Calculation, reduction and plotting of survey data for use in engineering design;
- Design and provision of horizontal and vertical control survey networks;
- Provision of line and grade and other layout work for construction and mining activities;
- Execution and certification of quality control spatial measurements during construction;
- Monitoring of ground and structural stability, including alignment observations, settlement levels, and related reports and certifications;
- Measurement of material and other quantities for inventory, economic assessment and cost accounting purposes;
- Execution of as-built surveys and preparation of related maps and plans and profiles upon completion of construction; and
- Analysis of errors and tolerances associated with the measurement, field layout and mapping or other plots of survey measurement required in support of engineering projects.

Engineering surveying may be regarded as a specialty within the broader professional practice of engineering and, with the exception of boundary, right-of-way, or other cadastral surveying, includes all surveying and mapping activities required to support the sound conception, planning, design, construction, maintenance and operation of engineered projects. Engineering surveying does not include surveys for the retracement of existing land ownership boundaries or the creation of new boundaries.

(Adopted 04-24-07)

Professional Ethics and Conflict of Interest (PS 502)

ASCE believes that:

- The engineer's judgment must be above reproach and beyond the influence of competing interests. Even the appearance of a conflict of interest is to be avoided.
- The ability to exercise the independent judgment required of engineers and their agents and employees to protect the public health, safety, and welfare should not be compromised in any way by the rules of any organization to which the engineer, agent, or employee belong.
- Laws, regulations, conditions of employment and collective bargaining agreements must permit all

engineers, their agents and employees to maintain their independence and avoid potential conflicts of interest to protect the public health safety and welfare.

- Engineers, their agents and employees should not be subject to disciplinary or demeaning actions for holding the public interest above all others. (Adopted 04-27-06)

Use of the Term "Engineer" (PS 433) ASCE believes that the following standards are the only basis on which any title or designation should include the term "engineer".

- Graduation from an accredited engineering program with a degree in engineering;
- Registration as a professional engineer or engineer-in-training under a state engineering registration law; or,
- An official ruling designating an individual or a group in an engineering capacity as meeting the definition of "Professional Engineer" (P.E.) under the Taft-Hartley Act or the Fair Labor Standards Act.

Only persons in one of these categories should be designated by the title "engineer" or "professional engineer". This policy shall not be construed to prohibit using the word "engineering" as a modifier in titles such as "engineering assistant", "engineering aide" and "engineering technologist" where the title clearly implies that the duties of the position are not those of professional engineer.

ASCE further encourages registered professionals to always use their P.E. title on all professional correspondence and communication where premissable and appropriate.. (Adopted 04.24.07)

### **ENVIRONMENTAL ISSUES**

Acid Rain (PS 285) ASCE supports continued control and reduction of the emission of sulfur dioxide and nitrogen oxides, the pollutants shown to contribute significantly to acid rain and other forms of acid precipitation. ASCE also supports further research into the causes, consequences, and mitigation of adverse effects of acid rain. (Adopted 04-15-05)

Consultation on Environmental Regulations (PS 403) ASCE recommends that regulatory agencies seek consultation from outside independent experts knowledgeable in the technical fields affected by the regulation. (Adopted 05-14-04)

Endangered Species Act Reauthorization (PS 438) ASCE encourages Congress to ensure that the Endangered Species Act integrates science and engineering in the process of identifying and listing critical habitat. Critical habitat decisions should require peer review and improved collection and field

testing of data. The law should allow concerned individuals to consult with the U.S. Department of the Interior to determine whether a proposed action will jeopardize a species. The act should require that a scientific demonstration of a take of individuals of a species precede enforcement actions. If a species is determined to be in jeopardy, economically feasible and prudent alternatives for its preservation must be considered. ASCE encourages consideration of social and economic impacts of critical habitat designations and supports incentives for conservation of species including "no surprises" assurances and provisions for multi-species conservation plans. Environmental mitigation alternatives should be reasonable and prudent and related to the nature and extent of the environmental impact. (Adopted 04-15-05)

Global Climate Change (PS 360) ASCE supports continued research on global climatic change. ASCE recommends that policy makers seek the participation of the engineering community during the development and implementation of national policy and research agenda on global climatic change. Resulting programs should incorporate the principles of engineering and sustainable development. (Adopted 10-19-04)

Greenhouse Gases (PS 488) ASCE believes that the Congress should adopt a policy that deals sensibly with the threat of climate change resulting from the emission of greenhouse gases. The policy should lead to significant reductions in national greenhouse gas emissions by incorporating objectives that:

- Include major emitters worldwide.
- Support research into, and the application of, new and more efficient, less polluting technologies to facilitate the continued use of the coal and natural gas resources in the United States.
- Encourage the use of non-greenhouse gas emitting energy-generating sources.
- Promote measures to reduce greenhouse gas emissions from mobile sources.
- Minimize the costs of emission reductions to businesses and taxpayers and distribute these costs equitably.
- Explore the utilization of forests and the ocean as carbon sinks or other mitigation technologies. (Adopted 10-19-04)

Gulf of Mexico Hypoxia Program (PS 482) ASCE supports efforts to reduce the incidence and extent of hypoxia in the northern Gulf of Mexico. ASCE urges continued support for the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 (P.L. 105-383), and supports the timely development of an action plan to reduce, mitigate, monitor and control the hypoxia. (Adopted 04-27-06)

Multimedia Pollution Management (PS 362) ASCE recommends that national, state, and local policies and plans for pollution control be developed and implemented from a multimedia or holistic (i.e. air, soil and water) perspective consistent with the principles of sustainable development in the environment. (Adopted 05-14-04)

National Wetlands Policy (PS 378) ASCE supports the development of federal, state and local policies and programs that balance protection of wetlands and their inherent benefits with other important economic and social needs of the country. This policy should:

- Develop scientifically derived definitions of wetland(s) categories prepared by an interdisciplinary technical group of professionals to reflect regional differences, functional values and variations across a wetland.
- Maximize resources, and provide funding for the creation, protection or restoration of high-priority wetlands.
- Establish a single set of clear and scientifically defensible criteria for delineating wetlands.
- Streamline the existing wetland regulatory process to avoid duplication and multiple assessments.
- Maintain constructed wetlands until ecologically viable.
- Maintain man-made stormwater and water resources management facilities that have developed into functional wetlands until ecologically viable.
- Encourage public/private partnerships for wetlands creation, preservation or restoration. (Adopted 05-14-04)

Oxygenated Fuels (PS 486) ASCE supports the repeal of the federal oxygenated-fuel mandate in the Clean Air Act (CAA). Air emissions control technology has improved as the nation's vehicle fleet turns over. This has reduced and will further reduce in the future the environmental value of fuel oxygenates.

ASCE supports the improvement of federal air-quality goals by means of emissions performance standards. Emissions performance standards provide fuel producers more flexibility to meet vehicle emissions targets than the current reformulated gasoline (RFG) programs. (Adopted 05-14-04)

Risk Management (PS 437) ASCE supports requirements that government agencies conduct risk management on any issue it seeks to address by regulation and provide the studies to the public. The government agencies should verify that their risk assessments and comparative risk analyses are scientific and that the government regulation provides substantial protection. Each government agency needs to verify that the benefits of regulation justify their estimated costs in accordance with the principles

of sustainable development as defined by ASCE. (Adopted 05-14-04)

Transportation Conformity Under the Clean Air Act (PS 327) ASCE supports a balanced approach to maintaining and improving the nation's air quality. The Clean Air Act should be reauthorized in order to protect public health while allowing continued economic development. A reauthorized Clean Air Act should include provisions that increase the efficiency and coordination of the so-called "conformity" process and provide for flexibility in the imposition of statutory penalties for lapses in conformity. (Adopted 10-19-04)

Voluntary Environmental Auditing for Regulatory Compliance (PS 356) ASCE supports the use of voluntary environmental audits as a management tool for producing effective regulatory compliance and responsible environmental management.

ASCE believes that voluntary environmental auditing should be encouraged by government agencies and private organizations through the dissemination of information and assistance, including standards developed by International Standards Organization (ISO) and other governmental agencies. ASCE also believes when owners demonstrate commitment to achieving compliance, regulators should have authority to waive fines which would have been applicable had violations been uncovered by procedures other than voluntary auditing. Although regulators should have the authority to waive fines, ASCE believes there should be no reluctance to take action where public health and the environment are significantly impacted, or potentially impacted, by situations evident from the audit. (Adopted 04-24-07)

**GOVERNMENT ENGINEERS**

Engineering Management Positions (PS 416) ASCE encourages the selection and appointment of qualified professional engineers to government positions requiring professional engineering knowledge for operational or management decisions. Such positions include those involving oversight of design and construction of public works projects, e.g., directors of public works/utilities, leaders and managers of civil engineering related government entities, and other positions involving similar responsibilities for the safety, health and welfare of the public. (Adopted 04-24-07)

Post Public Sector Activities (PS 393) ASCE supports the establishment at all levels of government of reasonable policies, regulations and statutes for managing and controlling potential conflicts of interest that could result from activities undertaken by certain employees, including engineers, after leaving public sector employment. Controls should focus on prohibiting, for a specified period, attempts by a former

employee to influence for unethical personal gain an agency on matters in which the employee had personal and substantial involvement. (Adopted 04-15-05)

Professional Grade Salary Structure for Government Engineers and Scientists (PS 346) ASCE supports the concept of professional grade salary structures for licensed professional engineers employed by all government jurisdictions. In order to encourage well-qualified licensed professional engineers to enter and remain in technically demanding government positions, ASCE believes that dual career ladders should be established such that position status and total compensation levels for licensed professional engineers are at least equal to those structured for technical and non-technical administrators and are comparable with positions in the private sector. Advancement in professional grade positions should be managed by professional peers and be based primarily on performance and responsibility. (Adopted 04-24-07)

Recruitment and Retention of Qualified Engineers for Government Service (PS 386) ASCE supports the establishment of personnel policies and career packages which will attract, develop and retain engineers who can perform at a high level of service in the public interest. These policies and packages should include: competitive total compensation (wages and benefits); career advancement based on merit; professional development through involvement in technical and professional societies; support for career advancement; and, a positive and challenging work environment. (Adopted 05-14-04)

## **HAZARDOUS WASTE**

Hazardous Waste Reduction (PS 331) ASCE supports and encourages:

- Safe and environmentally sound reduction in the volume of hazardous waste produced in the United States through better utilization of natural resources, the development and implementation of alternative manufacturing procedures and processes, recovery and the reuse of hazardous wastes as resource materials;
- Development and implementation of legislation, including economic incentive programs, which consider environmental costs and encourage hazardous waste reduction “at the source” i.e., point of generation and/or design of reuse programs;
- Federal and state programs which foster cooperation in the exchange of information on the recovery and use of hazardous wastes as resource materials; and
- Implementation of federal and state regulations and international treaties to ensure hazardous

wastes are properly identified, categorized, packaged and transported to authorized waste disposal sites adequately designed for containment and prevention of degradation to air, land, surface water and groundwater resources. (Adopted 05-14-04)

High-Level Nuclear Waste Management (PS 491) ASCE believes that the permanent geologic disposal is essential for managing spent nuclear fuel from commercial electric power generation. ASCE believes that the disposal of these materials at the Yucca Mountain Project beginning in 2010 will help the nation to meet its future energy needs and ensure the disposal of high-level radioactive waste and spent nuclear fuel from federal facilities, including the nuclear weapons program, as well as commercially generated spent nuclear fuel and high-level radioactive waste. The capacity of the Yucca Mountain Project will be reached within 25 years of its projected opening at current waste production rates and the planning for an expansion of Yucca Mountain or the construction of a second repository must begin as soon as possible. (Adopted 05-14-04)

Radioactive Waste Management (PS 262) ASCE supports and encourages protection of public health and the environment by the proper and timely treatment and disposal of radioactive wastes. ASCE encourages the early involvement of the public and regulatory agencies in the development of reliable disposal facilities for high-level, low-level and intermediate classes of radioactive waste. Disposal methods used should not place an undue burden on future generations. ASCE also supports the engineered rehabilitation of existing storage and disposal facilities so they continue to safely meet the needs of government and industry. (Adopted 04-27-06)

Revitalization of Brownfields (PS 485) ASCE supports continued federal financial aid to the redevelopment of brownfields sites and urges Congress to reauthorize the Brownfields Revitalization and Environmental Restoration Act of 2002.

Congress also should amend the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 to repeal that portion of the Environmental Protection Agency (EPA) regulation of November 1, 2005 (70 Fed. Reg. 66,070), that allows persons with less than a baccalaureate degree to perform “all appropriate inquiries” at brownfields sites under section 107 of CERCLA in order to establish a defense to liability under the Act for prospective purchasers. (Adopted 10-19-04)

Superfund Reauthorization (PS 305) ASCE supports reauthorization of the Comprehensive Environmental

Response, Compensation and Liability Act (CERCLA). ASCE recommends modifications that will:

- Increase funding to support all stages site cleanup for both non-Federal Superfund sites and Federal Superfund sites;
- define and clarify an appropriate hierarchy of federal and state responsibilities;
- promote the use of professionals with appropriate levels of education, experience, and certification to perform site investigation and cleanup work;
- protect engineers and contractors from liability for site cleanup work conducted in accordance with the standards of care and professional practice at the time the work was performed;
- promote the use of innovative technology and presumptive remedies;
- allow for clean up criteria that take into account future uses of sites; and
- provide a dedicated federal funding source to adequately investigate and clean up sites where responsible parties cannot be identified. (Adopted on 10-26-05)

**INFRASTRUCTURE**

Endorsement of Infrastructure Projects (PS 404) ASCE may endorse or oppose specific infrastructure projects only when the proposed project has national implications. This includes, but is not limited to, projects pertaining to water resources, transportation and energy. (Adopted 05-14-04)

Federal Capital Budgeting (PS 453) ASCE supports the establishment of a federal multi-year capital budget for public works infrastructure construction and major rehabilitation, similar to those used by state and local governments. The capital budget must be separated from non-capital federal expenditures. (Adopted 04-27-06)

Growth and Development (PS 131) ASCE supports growth and development which incorporates urban form, diversity of land use and good engineering design to achieve a balance between community interests, rights of individual property owners, economic development and the environment. Community planning should balance community concerns, private initiatives and local, state and regional planning objectives. Full provision of public infrastructure and facilities redevelopment should be concurrent with all growth initiatives and should be managed at the lowest appropriate level of government. (Adopted 05-03-03)

Infrastructure Improvement Policy (PS 299) ASCE supports actions by federal, state and local governments to fully fund America’s infrastructure needs. These actions should support sound program management, innovative financing and appropriate research and technology transfer. (Adopted 04-24-07)

Infrastructure Security and Survivability Research (PS 493) ASCE supports basic and applied research efforts to support design and construction initiatives that will be fundamental to increasing the reliability, safety, security and survivability of the nation’s vast infrastructure (e.g., water, energy, utilities, buildings and transportation) against natural and man-made disasters. This includes research and development that identifies and addresses vulnerabilities in the infrastructure along with promoting implementation of innovation that leads to safety, security and survivability. (Adopted 04-24-07)

Investing in America’s Schools (PS 452) ASCE supports increased public school construction and maintenance and believes that regular construction and maintenance programs are needed to ensure a sound future for America’s growing school age population.

This emphasis must also be supplemented by research and development for construction methods and design to meet the rapidly changing teaching environment of the 21st century including information technology and remote teaching and activities. The nation’s engineering community needs to be included as an active partner.

Governments are encouraged to explore alternative financing including lease financing, where the facility is privately owned, and public-private partnerships which can provide a combination of financing/ownership/use arrangements to facilitate construction. ASCE also supports federal programs to reduce school bond interest rates (Adopted 04-27-06)

Life-Cycle Cost Analysis (PS 451) ASCE encourages the use of Life-Cycle Cost Analysis (LCCA) principles in the design process to evaluate the total cost of projects. The analysis should include initial construction, operation, maintenance, environmental, safety and other costs reasonably anticipated during the life of the project, whether borne by the project owner or those otherwise affected. (Adopted 04-27-06)

National Parks Infrastructure (PS 503) ASCE supports immediate and sustained federal action to reinvest in the Nation’s deteriorating National Parks, Monuments, Battlefields, and other preserves. This action should consider both protection of our national heritage and enhancement of the experience of Park visitors. ASCE support initiatives such as the National Park Centennial Act to make the National Park Service financially sound in time for its 100<sup>th</sup> anniversary. (Adopted 04-27-06)

Physical Infrastructure Security (PS 500) ASCE supports research, planning, design, construction and operation and maintenance initiatives that increase the reliability and survivability of the nation’s physical

infrastructure (e.g., the nation's built environment, including water, energy, utilities, transportation and building systems) against man-made and natural hazards. Furthermore, risk assessments for future hazards need to consider the relative likelihood of the various hazards – to the extent that this can be quantified – in determining how the nation's limited expenditures shall be distributed amongst these varying threats. (Adopted 04-27-06)

Reconstruction of Greater New Orleans Area (R 514)

ASCE supports the sustainable reconstruction of New Orleans and Gulf Coast areas that were devastated by recent hurricanes. In order to achieve this, ASCE supports the following activities:

- Protection and restoration of coastal wetlands, which provide a first line of defense against storm surge flooding.
- Redesign and reconstruction of hurricane protection systems for New Orleans and other Southern Louisiana communities at a level appropriate for protection of the population, critical infrastructure and the environment.
- Reconstruction that incorporates appropriate urban design, application of technology, land use, zoning, flood plain management and utilization of natural systems to recreate communities that are sustainable, more livable and less vulnerable to hurricanes and coastal flooding.

(Adopted 04-24-07)

Regulatory Process for Infrastructure Development (PS 427)

ASCE recommends the creation of strategies to streamline the regulatory process for infrastructure projects at federal, state and local levels. This will allow critical infrastructure projects to proceed in a timely manner.

ASCE also recommends the following strategies to streamline the regulatory process for infrastructure development.

- Mandate concurrent reviews at all levels.
- Establish authority with a single administrative processing/permitting agency to shorten and improve the approval process.
- Establish time limits for approvals of public works infrastructure projects. (Adopted 04-24-07)

The Role of the Civil Engineer in Sustainable Development (PS 418)

ASCE believes that sustainable development is the challenge of meeting human needs for natural resources, industrial products, energy, food, transportation, shelter and effective waste management while conserving and protecting environmental quality and the natural resource base essential for future development.

Sustainable development requires strengthening and broadening the education of engineers and finding innovative ways to achieve needed development while conserving and preserving natural resources. To achieve these objectives; ASCE supports the following implementation strategies:

- Promote broad understanding of political, economic, social and technical issues and processes as related to sustainable development.
- Advance the skills, knowledge and information to facilitate a sustainable future; including habitats, natural systems, system flows, and the effects of all phases of the life cycle of projects on the ecosystem.
- Advocate economic approaches that recognize natural resources and our environment as capital assets.
- Promote multidisciplinary, whole system, integrated and multi-objective goals in all phases of project planning, design, construction, operations, and decommissioning.
- Promote reduction of vulnerability to natural, accidental, and willful hazards to be part of sustainable development.
- Promote performance based standards and guidelines as bases for voluntary actions and for regulations, in sustainable development for new and existing infrastructure.. (Adopted 04-24-07)

**INTERNATIONAL**

Capacity Building (PS 506) ASCE in cooperation with the US Government, other interested official and non-government organization, and ASCE's international partners, will champion the building of indigenous engineering capability in the developing world. ASCE will actively participate in the World Federation of Engineering Organizations (WFEO) Committee on Capacity Building through the American Association of Engineering Societies (AAES). (Adopted 05-14-04)

Millennium Development Goals (PS 517) ASCE supports the internationally agreed development goals contained in the Millennium Declaration as they apply to improving the quality of people's lives around the world through science and engineering. ASCE works in collaboration with other domestic and international organizations to engage engineers in addressing the needs of the poor through capacity building and the development of sustainable and appropriate solutions to poverty. (Adopted 07-22-06)

Relationships with International Organizations (PS 146) ASCE encourages the development and growth of civil engineering societies in all countries to help

communicate, share and grow the accumulated knowledge and experience of members.

Where an engineering society exists in another country, representing the civil engineering profession, ASCE will promote and develop an Agreement of Cooperation with that society. Such agreements will ensure mutual self-interest and embody terms that encourage reciprocal exchange of knowledge and publications and that promote reciprocal memberships.

ASCE will seek to expand and evolve the agreements, when mutually beneficial, into substantive partnerships by adding value through new and existing products and services, by securing additions to the civil engineering body of knowledge (BoK) and by enhancing professional practice.

Under such agreements, ASCE will extend hospitality, courtesies and guest privileges to members of cooperating societies who attend ASCE functions in the United States and abroad. (Adopted 05-14-04)

### **LEGAL REFORM**

Alternative Dispute Resolution (PS 256) ASCE supports dispute avoidance and alternative dispute resolution techniques such as those contained in the Engineers Joint Contract Documents Committee's (EJCDC) documents to bring disputes related to engineering and construction to a fair, timely and cost-effective conclusion without litigation. (Adopted 04-15-05)

Indemnification for Pro Bono Service (PS 443) ASCE endorses legislation to protect professional engineers from liability claims when providing pro bono services to charitable causes and those in emergency situations. (Adopted 04-27-06)

Prevention of Frivolous Lawsuits (PS 364) ASCE believes that the prevention of frivolous lawsuits involving civil engineers is beneficial to the ultimate users of engineering services. ASCE encourages and supports efforts at the state level to adopt legislation to reduce the filing of frivolous lawsuits. (Adopted 04-15-05)

Professional Liability/Tort Reform (PS 318) ASCE endorses comprehensive tort reform that includes these elements:

- Limits on non-economic damages;
- Limits on joint and several liability;
- Limits on attorneys' contingency fees;
- Limits on application of the collateral source rule;
- Periodic payments for large awards;
- Use of alternative dispute resolution techniques;
- Reasonable access to insurance industry data;
- Reasonable statutes of limitations or repose; and,
- Use of Certificate of Merit procedures to discourage frivolous suits. (Adopted 05-14-04)

Sole Source Workers Compensation Statute (PS 508) ASCE believes Sole Source Workers Compensation Statutes are appropriate because they protect engineers, who are not negligent, on engineered construction projects from litigation. (Adopted 04-15-05)

### **LICENSURE**

Ethics Training For Continued Licensure (PS 376) ASCE encourages all state boards of engineering licensure to institute a minimum professional development requirement consisting of at least one (1) hour per year on professional ethics for professional licensure which would be reciprocal with other states. The one hour per year should be based upon the fundamental canons of professional conduct and other appropriate administrative rules or regulations, and designed to demonstrate a working knowledge of professional ethics. (Adopted 4-24-07)

Licensure Examinations (PS 432) ASCE supports licensing examinations that recognize the breadth of civil engineering practice by providing the candidates with the opportunity to demonstrate their unique competency covering a reasonable range of problems from several different discipline subsets. (Adopted on 04-15-05)

Licensure of Professional Engineers and Land Surveyors (PS 130) ASCE endorses, supports and promotes the licensure of professional engineers and land surveyors with necessary standards for education, experience, examination and continuing professional development. ASCE also supports the establishment of rules of professional conduct for engineers and land surveyors consistent with the Society's Code of Ethics to guide licensees in their practice. (Adopted 04-15-05)

Professional Licensure Mobility Agreement (PS 464) ASCE supports the adoption of mobility agreements for transfer of professional licensure among licensing jurisdictions. (Adopted 4-24-07)

The Purpose of the Fundamentals of Engineering Examination (PS 369) ASCE asserts that the primary purpose of the Fundamentals of Engineering Examination (FE) is to measure the preparedness an individual for progress through the engineering licensure process. (Adopted 04-24-07)

Registration Requirements for Government Engineers (PS 385) ASCE encourages government agencies at the local, state and federal levels to require registration of its civil engineers who have responsible charge for preparing, supervising and/or approving public projects, in accordance with the legal professional requirements of the jurisdiction within which the project is to be constructed or regulated.

Government agencies are encouraged to pay registration fees of their engineering employees. Should multi-state registration be required, registration costs should be paid for by the employer. (Adopted 04-24-07)

State Boards of Registration for Professional Engineers and Land Surveyors (PS 450) ASCE believes that the licensure of professional engineers and land surveyors should be the responsibility of state boards of licensure that meet the following criteria:

- The majority of the each state licensure board consist of licensed professional engineers and land surveyors
- At least one public member serve on each state licensure board;
- At least one engineering educator serve on each state licensure board; and
- The state boards of registration work closely with the state legislators in maintaining appropriate licensure laws that affect the practice of engineering or land surveying.

ASCE also supports the following:

- The state licensure boards maintain a continuing surveillance over the technical competence of licensed professional engineers and licensed professional land surveyors;
- The state licensure boards administer and regulate licensure by comity/reciprocity for those licensed professional engineers and land surveyors meeting the necessary criteria for that state;
- Licensure and renewal fees imposed by the state licensure boards be consistent with the cost of services involved in the administration and enforcement of the appropriate regulatory acts, and that all fees be used implementing the licensure act; and
- Elimination of special or general purpose taxes as a condition of licensure or professional practice. (Adopted 04-15-05)

**PROCUREMENT / CONTRACT ISSUES**

Design Build Procurement (PS 400) ASCE strongly supports the use of the two-phase competitive source-selection process required by the Federal Acquisition Reform Act of 1996 (Pub.L. 104-106) for design-build contracts awarded by government agencies. The design-build team must be selected using the modified qualifications-based selection (QBS) criteria specified by the Act. The owner must provide sufficient architectural and engineering (A/E) services to prepare the design-build request for proposal (RFP) to identify the disciplines needed in the design-build team, and to evaluate, manage and assess the owner’s requirements throughout the project. The

contract between the design-build team and the owner must establish the means for direct communication between the owner and the designer as well as other team members. On complex projects, the owner must provide predetermined reimbursement for the firms selected to make complete design-build proposals. (Adopted 04-24-07)

Design Competition (PS 439) ASCE endorses the selection of consultants for engineering projects based on design competition, provided that each competing firm is properly compensated for reasonable competition costs; the makeup of the selection panel includes engineers who are competent in the technical aspects of the project; and, selection is based on design quality, not design fee. (Adopted 04-15-05)

Engineering Services for Government Agencies (PS 138) ASCE believes it is proper and desirable that civil engineers employed both in the public and private sectors are allowed to perform engineering functions and tasks for government agencies. It is in the best public interest for federal, state and local government agencies performing engineering to maintain expertise within their organizations by employing civil engineers and providing for their professional development. It is also in the best public interest for publicly supported institutions and agencies not to compete with engineers in private practice. Public sector engineering projects that can be accomplished more efficiently by private engineering firms should be contracted out with proper oversight by the public agency. The resulting ratio of in-house to contracted engineering services should be based upon the agency’s on-going project and policy requirements rather than rigid rules or percentages fixed by legislation or regulation. (Adopted 04-24-07)

Government Fee Withholding (PS 520) ASCE supports the immediate repeal of Section 511 of the “Tax Increase Prevention and Reconciliation Act of 2005” (P.L. 109-222) which mandates a 3% withholding on payments to companies for any contract with a government entity. (Adopted 10-18-2006)

Offshoring of Engineering Services (PS 509) ASCE believes that the offshoring of engineering services should be accomplished in a manner that protects the public health, safety and welfare. ASCE believes that A/E services must address the following criteria:

- Appropriate homeland security requirements;
- Licensing laws related to responsible charge;
- Principles and/or requirements of Qualification-Based Selection using full disclosure of staffing and location; and
- Fair trade agreement practices which apply. (Adopted 04-15-05)

Qualifications Based Selection of Professional Engineers (PS 304) ASCE believes that the selection of professional engineers as prime consultants and subconsultants should be based on the qualifications of the engineering firm. Qualifications including training, experience, capabilities, personnel and workloads should be evaluated when selecting an engineering firm.

Cost of engineering services, while important and meriting careful negotiations, is related to work to be performed which often is not clearly defined at the time the engineer is selected. Therefore, selecting consultants based on cost is not recommended.

Accordingly, ASCE supports qualifications-based selection (QBS) procedures such as those specified by the 1972 Brooks Law (P.L. 92-582) and the American Bar Association's Model Procurement Code for State and Local Governments for the engagement of engineering services. ASCE recommends that the application of these procedures to the development of a scope of work and the selection, procurement and administration of contracts for engineering services be the responsibility of technically qualified staff of the project owner. (Adopted 04-24-07)

Use of Electronic Signatures (PS 492) ASCE supports the use of electronic signatures for sealing drawings provided adequate security measures are used. (Adopted 04-15-05)

Use of Warranty and Guarantee Clauses in Contracts for Engineering Services (PS 388) ASCE opposes the inclusion of warranty or guarantee clauses in contracts for engineering services. (Adopted 04-24-07)

**PUBLIC INVOLVEMENT**

Appointment of Engineers to Policy Positions in Government (PS 101) ASCE believes that civil engineers should be appointed to policy level positions in government agencies. (Adopted 04-27-06)

Public Involvement in the Decision Making Process (PS 139) ASCE actively participates in and strongly supports the involvement of civil engineers, as well as individual citizens and coalitions, in the legislative and regulatory decision-making processes at the local, state and national levels. (Adopted 04-24-07)

The Role of Non-Profit Educational Organizations in the Public Sector (PS 460) Non-profit educational organizations operated under Section 501(c)(3) of the Internal Revenue Code must be free to perform their educational function in the public sector without unreasonable government restrictions or the loss of opportunities for federal assistance for their activities. (Adopted 04-27-06)

**QUALITY / STANDARDS**

International Codes and Standards (PS 365) ASCE encourages broader participation by the U.S. in development of international codes and standards while supporting, maintaining and strengthening the existing domestic standards development system.

ASCE supports the development and harmonization of international codes and standards and advocates the revision of International Standards Organization (ISO) standards if and where the American National Standards Institute (ANSI)/ U.S. standards provide better requirements. Similarly, ASCE supports revision or development of new ANSI/U.S. standards appropriate for domestic use if and where ISO standards provide better requirements. (Adopted 04-15-05)

Quality Management Systems Standards (PS 431) ASCE supports the development and application of quality management system standards, including international standards such as the ISO-9000 and the American Society for Quality Control (ASQC) Q90 series, to professional engineering services and the application of those standards to the constructed project. Such standards shall be consistent with civil engineering standards of practice and the principles of sustainable development.

ASCE supports certification and registration procedures which establish that appropriate quality management processes are in place within an organization.

ASCE will actively cooperate with other organizations seeking to develop and provide guidance for implementation of international quality management system standards.

ASCE supports worldwide recognition of registration status under ISO-9000 and mutual recognition agreements between qualified accrediting organizations.. (Adopted 04-24-07)

**RESEARCH**

Aviation Infrastructure Research (PS 471) ASCE supports the continued funding of the Airport Cooperative Research Program for research necessary to improve aviation civil infrastructure systems. ASCE urges that Congress permit Airport Improvement Program (AIP) or Capital Improvement funds to be used for research and development. (Adopted 10-18-06)

Building and Fire Research (PS 319) ASCE supports research, development and technology transfer in the construction industry. This is to enhance design and construction of new and existing structures as well as protect building infrastructure from both natural and man-made hazards. New funding initiatives are urgently needed to expand the national research effort

into fire, its effect on structures and how to mitigate these effects. (Adopted 04-24-07)

Incentives for Construction Innovations (PS 456)

ASCE believes that federal, state and local governments should establish and maintain incentives to foster the use of innovative procurement and construction practices, technologies and materials in publicly supported construction and infrastructure renewal activities, including the development of guidelines and standards. (Adopted 04-15-05)

Infrastructure Research and Innovations (PS 313)

ASCE supports efforts to foster research and development related to infrastructure facilities. The goal is to enhance support of economic vitality while assuring public safety and disaster resilience through increased innovation, productivity and security in design, materials, construction, rehabilitation, maintenance and operations as applied to America's infrastructure facilities.

ASCE believes appropriate methods to implement infrastructure research, innovation and security include:

- Supporting legislation and policies that encourage development of new technology and processes;
- Supporting and encouraging, through appropriate incentives, research to accelerate the development of existing technology and develop new technology in the fields of design, materials, construction, maintenance, rehabilitation, and operation of the infrastructure with understanding of the need for disaster resilience;
- Supporting appropriate funding for infrastructure research at the federal level in conjunction with state/local agencies, universities and private enterprise;
- Supporting efforts to identify and disseminate information on federal, state, and local governments, academia and private sector infrastructure research and development activities;
- Supporting efforts to limit the risk and liability that would discourage innovative infrastructure technology;
- Focusing national attention on infrastructure needs through cooperative efforts;
- Providing opportunities for academia and practicing engineers to conduct research and development activities; and
- Supporting efforts that develop and implement new strategies and technologies to mitigate the impact of disasters on the nation's infrastructure in a consistent manner. (Adopted 04-24-07)

National Science Foundation (PS 336) ASCE supports the science and engineering mission of the National Science Foundation (NSF) and promotes programs and funding that support the research and education needs of the civil engineering profession. Specific attention should be given to the following:

- Periodically highlighting the research and education needs of the profession by communicating directly with government leadership;
- Identifying, encouraging and promoting individual members to participate in NSF advisory committees, review panels, rotating leadership positions, and the National Science Board;
- Establishing appropriate mechanisms to provide support for NSF, its Engineering Directorate, and for other civil engineering research and education programs in NSF before Congress and the Administration; and
- Encouraging an increase in funding for NSF with a specific focus on increasing funding to engineering research needs. (Adopted 04-15-05)

Research and Development Tax Credits (PS 455)

ASCE supports a permanent research and development (R&D) investment tax credit for corporations. The tax credit should be applied to total R&D spending.

To be most effective, tax policy should:

- Motivate industry to adopt a longer-term view of return on investment in engineering R&D and encourage the reinvestment of profits;
- Encourage risk taking in the commercialization of new technology and processes;
- Apply equally to both large and small corporations;
- Encourage collaborative research, which leverages federal R&D funds through government-university-industry partnerships; and,
- Encourage investment in new and upgraded research facilities through more favorable depreciation rules and equipment credits. (Adopted 04-15-05)

Research in Civil Engineering (PS 187) ASCE supports basic and applied research and development (R&D) along with demonstration and commercialization programs in civil engineering as its research objectives. Such research programs should be structured to meet national needs for:

- Enhancing environmental quality;
- Revitalizing the Nation's public works infrastructure to protect citizens, improve durability, improve function and reliability and reduce maintenance costs;
- Increasing the application of emerging technologies, materials and processes to improve

security, durability and performance of engineered systems;

- Advancing the competitiveness and business performance of the practice of civil engineering and the industries supported by civil engineering services to improve the Nation’s competitiveness;
- Supporting the goals of sustainable development to promote green technologies to help reduce energy consumption and impact on global climate; and
- Enhancing the security, safety and robustness of critical infrastructure to protect the Nation against natural and manmade hazards. (Adopted 04-27-06)

The Role of the Federal Government in Civil Engineering Research and Development (PS 444)

ASCE supports a focused federal civil engineering research and development (R&D) program consistent with national goals. Programs should promote new U.S. capabilities, improve efficiencies and advance the practice of civil engineering to improve the quality of life.

ASCE encourages coordinated and integrated basic and applied civil engineering research that leverages federal R&D funds through government-university-industry partnerships. Programs fostering basic research should focus on maintaining a steady flow of talent and technology to U.S. industry and agencies. Programs focusing on higher risk research with the potential for high payoff should meet national needs and improve the quality of life by:

- Enhancing public health and safety;
- Enhancing environmental quality;
- Supporting the goals of sustainable development;
- Improving public works infrastructure;
- Improving global competitiveness in U.S. civil engineering products and processes; and
- Enhancing national security. (Adopted 04-27-06)

**SAFETY**

Construction Site Safety (PS 350) ASCE believes improving construction site safety requires attention and commitment from all parties involved when:

- Safety issues be addressed for each project on a project specific basis
- Owners take an active role in project safety by:
  - Assigning overall project safety responsibility and authority to a specific organization or individual, (or specifically retaining that responsibility);
  - Designating an individual or organization to develop a coordinated project safety plan and monitor safety performance during construction ;
  - Designating responsibility for the final approval of shop drawings and details through

contract documents; and

- Including prior safety performance as a criterion for contractor selection.
- Design Engineers have responsibility for:
  - Recognizing that safety and constructability are important considerations when preparing construction plans and specifications;
  - Assuring through the specifications that the design or details of the critical elements of temporary construction, erection and lifting schemes, complicated form work and scaffolding be prepared by a professional engineer.
- Contractors have responsibility for:
  - Developing and implementing a coordinated project specific safety plan, as per ANSI A10.33 and ANSI A10.38;
  - Maintaining the safety of their employees and for other persons in the work area they control;
  - Developing and implementing a coordinated safety program for each project with project specific safety guidelines including substance abuse programs. The safety program does not replace the contractor’s responsibility for means and methods of construction.
  - A Construction Manager who functions as an owner’s agent should assume the same safety responsibilities as a contractor
  - The responsibilities of design-builders are the same as those of design engineers and contractors.
- Educators are encouraged to:
  - Incorporate project site safety and constructability concepts in design and construction curricula;
  - Emphasize engineers’ role in providing a safe and healthy environment to personnel engaged in project activities through proper planning and design;
  - Conduct basic and applied research to advance the knowledge and practice of safe design and construction;
- All employers with employees on the construction site shall provide appropriate safety training for their employees on specific hazards they may encounter, and inform employees concerning hazardous materials under the right to know provisions of the law.
- All on site workers, after proper training, assume personal responsibility and accountability for their actions, including knowing and observing safety rules and safe work procedures, wearing and using the required clothing, equipment and protective devices and being free from drugs and alcohol.
- Design or details of critical elements, such as,

temporary construction, erection and lifting schemes, form work, scaffolding, and the use of lifting equipment and its supports be approved by a professional engineer.

- The construction industry should develop innovative methods, techniques, and equipment, and assist in the formulation of legislation and in the development of ongoing safety training and education.
- The Occupational Safety and Health Administration (OSHA) should continue to identify safety and health hazards and establish technical rules and standards in conjunction with the construction industry, while emphasizing voluntary participation, education and training. (Adopted 10-26-05)

Crane Safety on Construction Sites (PS 424) ASCE recognizing that crane and rigging operations on construction sites require special consideration in order to protect against deaths and injuries, believes that improvements in the site operation of cranes can and should be made. ASCE supports efforts in the construction industry to promote and specify safety improvements which:

- Protect the public during crane operations;
- Provide owners an active role in project safety including the assignment of responsibility to develop a coordinated project safety plan that addresses crane and rigging safety and electrical power line hazards.
- Assign a prime contractor/construction manager (PC/CM) the primary authority and responsibility to coordinate construction site safety including the management of crane operations;
- Require the PC/CM to develop a crane and rigging safety program to plan and train management staff and job site personnel in crane and rigging safety procedures, specifically addressing electrical power line hazards on or adjacent to the site;
- Encourage manufacturers to standardize load chart formats and equipment control configurations, with all manuals written in the language and vernacular of the end user in addition to SI units and containing detailed explanatory graphics;
- Support existing programs that promote the certification of crane operators. The programs should:
  - Be recognized by OSHA;
  - Provide uniform, national standards;
  - Be industrial relations neutral;
  - Provide local testing on demand; and
  - Require periodic, equipment-specific retesting
- Support the establishment of a Rigging Certification Program.

- Encourage colleges and universities to offer courses within their civil engineering, construction, and continuing education programs that address the safe operation of cranes and proper rigging procedures
- Require a Professional Engineer to review the crane and rigging safety plan whenever there is risk to the general public and/or jobsite personnel. (Adopted 10-26-05)

Project Peer Review (PS 351) ASCE promotes and supports the use of peer reviews for projects:

- Where performance is critical to the public health, safety and welfare;
- Where reliability of performance under emergency conditions is critical;
- Using innovative materials, techniques, or design methods;
- Lacking redundancy in the design; or,
- That have unique construction sequencing or a short/overlapping design-construction schedule.

Peer reviews can be initiated by the owner/client, the design organization, or regulatory agencies. Reviews address a defined scope as set forth by the initiating party. A peer review should occur throughout the design process. (Adopted 04-24-07)

Periodic Inspection of Existing Facilities (PS 283) ASCE supports requiring all buildings and structures be maintained in a safe and functional condition through periodic inspections, maintenance programs and/or rehabilitation projects, supervised by a qualified individual. In the interest of public safety, building, structure and utility system owners, whether public or private, should develop inspection, maintenance and rehabilitation plans appropriate to their particular facilities and occupancies. (Adopted 04-24-07)

Post Construction Surveys of Civil Engineering Works (PS 290) ASCE believes that post-construction surveys showing the location and layout of civil engineering works should be performed and certified by qualified licensed professional engineers and/or by qualified licensed surveyors. (Adopted 10-26-05)

**SPACE**

Access to Space (PS 512) ASCE supports a national policy which encourages the exploration and the economic development of near-Earth space for the benefit of all humankind. ASCE further supports programs and policies to make access to near-Earth space and to nearby bodies cheaper, more reliable and far more widely available.

ASCE further supports action to reduce the launch cost required to achieve Low-Earth Orbit (LEO) for both crewed and cargo-only flights by at least an order

of magnitude (e.g. a factor of ten) by 2010. (Adopted 04-27-06)

Critical Space-Based Information (PS 472) ASCE supports strong national and international, public and private, programs for obtaining and disseminating space-based information critical for development and renewal of the world's physical infrastructure. The information includes understanding and measuring of Earth's processes, such as weather and earthquake forecasting, climate and environmental monitoring, and data for accurate geographical positioning systems (i.e. GPS). This information is especially critical in the monitoring and evaluation of the world's climate, disaster response and recovery, and to providing policymakers with accurate information for making essential decisions in both the public and private sectors. (Adopted 04-24-07)

Engineering and Construction in Space (PS 384) ASCE supports the active participation of civil engineers in the design and construction of extraterrestrial facilities. In order to achieve this, ASCE supports the following activities:

- Research and development programs directed at the technologies for engineering, constructing, operating and maintaining extraterrestrial facilities;
- Research and development directed at in-situ resource utilization, for example the extraction of water, oxygen or minerals;
- Studies involving civil engineers in the sustainable development of extraterrestrial environments;
- Research and development programs directed at new materials, systems and equipment including robotics, to be used for construction and operation of space facilities; and,
- Data acquisition programs that will provide necessary engineering data about extraterrestrial environments, which augment available scientific data, but will be used for engineering and construction of facilities. (Adopted 04-24-07)

National Space Education (PS 392) ASCE supports programs that educate:

- Civil engineers on their opportunities in the space program;
- Civil engineers on the potential terrestrial uses of space-related technologies;
- Civil engineers on the potential benefits of the economic development and settlement of space by both the public and the private sectors;
- The space industry on the important contributions of civil engineers; and,

- The general public on the role of civil engineers in the space program. (Adopted 04-24-07)

National Space Policy (PS 358) ASCE supports a strong national and international space program with the goal of developing extraterrestrial resources for the benefit of humanity. ASCE further supports the development of these resources in a manner consistent with the principles of sustainable development. ASCE supports programs to achieve the following goals:

- Understanding and measurement of Earth's processes (such as weather and earthquake forecasting, environmental monitoring and the technical use of GPS [Global Positioning System]);
- Exploration and colonization of space with an eye toward developing new resources, technology and knowledge;
- Promotion of the commercial uses of space; and,
- Education of the general public on the benefits of space exploration and technology, and also the benefits expected to result from the settlement and economic development of space. (Adopted 04-24-07)

## **SOLID WASTE**

Municipal Solid Waste Management (PS 516) ASCE supports federal and state legislation that would promote, enhance, or facilitate development of resource recovery facilities, including those for recycling, composting and energy recovery as well as technologies for reduction of waste generation. In particular ASCE supports the United States Environmental Protection Agency's (USEPA) Resource Recovery Challenge (RCC) strategic plan, with goals of achieving the national recycling rate of 35 percent for municipal solid waste (MSW), beneficial use of secondary materials, priority and toxic chemical reduction, and green initiatives for electronics. (Adopted 07-22-06)

## **TAX ISSUES**

Taxation of Employee Paid Educational Assistance (PS 314) ASCE believes reasonable educational assistance paid for by an employer should not be considered as additional employee income. ASCE supports exclusion of employer-paid educational assistance for undergraduate, graduate and continuing education from the employee's gross income for tax purposes. (Adopted 04-24-07)

Unrelated Business Income Tax (PS 325) ASCE supports preservation of the existing unrelated business income tax (UBIT) statute, as well as increased Internal Revenue Service (IRS)

enforcement of the current UBIT rules. (Adopted 04-27-06)

**TRANSPORTATION ISSUES**

Aviation Transportation Program (PS 445) ASCE supports the permanent extension and increase of user fees to adequately fund the Airport Improvement Program (AIP) through the Airport and Airway Trust Fund. Furthermore, ASCE recommends that all monies collected from these user fees should be deposited in the Airport Trust Fund, that the Airport Trust Fund be removed from the unified federal budget. ASCE supports the timely reauthorization of the program before the current legislation expires on September 30, 2007 to ensure predictability and stability in airport improvement funding.

Trust fund balances should not exceed necessary funds to meet obligations plus an appropriate reserve. Revenue Aligned Budget Authority (RABA), which allows for the allocation of all trust fund revenues, should be established in the airport trust fund.

AIP funding and Passenger Facilities Charges (PFC) are the primary sources for funding airport capacity improvement projects. Congress needs to provide continued but separate funding for security operations that are not reliant on AIP and PFC funds. The Airport and Airway Trust Fund should not be used to pay for security costs but specifically used for air traffic and airport maintenance and improvement. (Adopted 10-18-2006)

Bridge Safety (PS 208) For the continued safety of the nation's bridges, ASCE advocates that a bridge safety program for both public and private bridges be established, fully funded and consistently operated to upgrade or replace deficient bridges and to properly maintain all others. This program should preserve full functionality of all bridges to support the operation of safe, reliable and efficient transportation systems, and to allow these systems to be utilized to their full capacity. Such programs as a minimum should include:

- Regular programs of inspection and evaluation that incorporate state-of-the-art investigative and analytical techniques, especially of older bridges which were not designed and constructed to current design loading and geometric standards;
- Posting of weight and speed limits on deficient structures;
- Implementing and adequately funding regular system-wide maintenance programs that are the most cost-effective means of ensuring the safety and adequacy of existing bridges;
- Establishing a comprehensive program for prioritizing and adequately funding the

replacement of functionally obsolete and structurally deficient bridges; and

- Set a national goal that fewer than 15% of the nation's bridges be classified as structurally deficient or functionally obsolete by 2010. (Adopted 04-24-07)

High-Speed Ground Transportation (PS 402) ASCE supports the development, construction, and operation of expanded passenger rail systems including advanced technology high speed ground transportation (HSGT) systems in the United States. (Adopted 04-24-07)

Highway Safety (PS 367) ASCE advocates a significant, sustained effort to develop transportation system performance requirements, improved standards for planning/design, improved understanding of accident causation, and implementation of safety improvement programs.

ASCE supports a program where significant enhancements in highway safety and the resulting reduction of highway crashes can be achieved by:

- Establishing a national highway safety goal;
- Implementing a national coordinated plan to achieve this goal including safety management systems;
- Establishing accurate and complete traffic crash data systems.
- Inspecting and auditing the existing roadway systems to detect and correct traffic hazards;
- Enhancing the organizational prominence of highway safety within federal, state and local transportation agencies to provide a more effective voice in agency administration, leadership development and program direction;
- Improving Work Zone Safety and Mobility;
- Continuing to improve coordination among the motor vehicle industry, National Highway Transportation Safety Administration and Federal Highway Administration and others to better evaluate the interaction of vehicle standards and highway system design and by devising alternate safety programs to improve the overall effectiveness of existing standards;
- Encouraging universities to include highway safety issues in educational programs for engineering and other highway professionals;
- Including implementing new technology and management practices into all levels of transportation systems;
- Supporting additional funding for highway safety research and for the education of highway safety professionals;
- Increasing dedicated federal highway safety research funding. The enhancement of highway safety should be an integral element of Intelligent

Transportation Systems (ITS) programs, including research for the Intelligent Vehicle Initiative (IVI) to link vehicle technologies and infrastructure for safety benefits;

- Improving and expanding public education programs for highway safety; and,
- Providing flexibility in the spending of the Highway Trust Fund for high priority highway safety improvement construction programs. The successful targeting of national safety problems by means of categorical funding should be continued (Adopted 04-15-05)

Incorporating Bicycle Facilities into Transportation Planning and Design (PS 436) ASCE supports the routine inclusion of bicycle facilities in the planning, design, construction and maintenance of roadways and multi-modal transportation systems as required by the Transportation Equity Act for the 21st Century (TEA-21) and as recommended by the USDOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure . ASCE encourages the routine inclusion, when practical, of bicycle facilities in all highway, roadway and public transportation facilities as an integral element in the design of a sustainable community infrastructure.

The number of injuries and deaths related to crashes involving bicycles is of concern to ASCE. Roadway designs that provide for safe cycling are needed. For some individuals bicycles may offer reduced costs, more livable neighborhoods and door-to-door flexibility of the automobile. (Adopted 04-15-05)

Innovative Financing for Transportation Projects (PS 496) ASCE supports innovative financing programs for transportation projects and advocates making programs available to all states where appropriate. Additionally, the federal government should make every effort to develop new programs and/or additional flexibility in innovative procurement approaches.

ASCE supports the following changes to enhance the existing programs that seek to leverage existing revenue streams:

Transportation Infrastructure Finance and Innovation Act (TIFIA)

- The TIFIA process for review, approval and negotiation is regarded as burdensome, and should be streamlined.
- TIFIA loans should be "fully subordinated". Current TIFIA legislation is written to subordinate TIFIA loans to other creditors. However, in the event of liquidation/default, the TIFIA loan advances to parity status with other creditors. This is known as the "springing lien" provision. It is thought by some that this has limited the availability of other credit. The issue is

controversial, with pros and cons on both sides, but reform should be seriously considered.

State Infrastructure Banks (SIBs)

- With the exception of five states (Rhode Island, Florida, Missouri, Texas and California), TEA-21 did not permit further capitalization of SIBs with federal funds. It is felt that this has suppressed SIB activity.
- Federal regulations still apply to loan funds that are repaid to the bank, encumbering SIB funded projects with federal regulatory requirements.

Grant Anticipation Revenue Vehicles (GARVEEs)

- Increase the flexibility of GARVEE bond repayment methods. For example, utilize the total apportionment amount as a source of repayment (i.e., all funding categories), so that no particular funding category is overburdened. (Adopted 04-24-07)

Intelligent Transportation Systems (PS 454) ASCE supports Intelligent Transportation Systems (ITS) as a cost effective means of addressing the rising demand by increasing the efficiency of our transportation systems. The federal government should provide the leadership and commitment to continue the deployment of ITS for consumers of passenger and freight transportation across the nation.

ASCE strongly endorses federal leadership in the research and development—and the practical and timely deployment of Intelligent Transportation Systems (ITS) nationwide to increase the efficient utilization of our transportation systems and enhance safety and security through the application of technology advancements. (Adopted 04-15-05)

Integrated Truck and Highway Design (PS 276) ASCE supports a program where:

- Truck vehicle characteristics and highway design should be coordinated through joint research activities, such as in the National Cooperative Highway Research Program. ASCE urges Congress, the Federal Highway Administration, the Federal Motor Carrier Safety Administration, the state transportation agencies, and the trucking industry to form these strong cooperative relationships.
- New and reconstructed roadways should be structurally, geometrically, and environmentally designed to support modern truck sizes and weights, and to insure the safe operation of the system.
- Intelligent Transportation Systems should be integrated to the extent possible into truck and roadway systems to ensure safe, efficient, reliable and secure trucking operation and movement of

freight, to assist in monitoring trucking activity, and to enforce driver and vehicle regulations.

- Truck designers should consider the effects of vehicle configuration and suspension systems on pavement and bridge performance and the effects of these factors on the safe operation of the vehicle in mixed traffic.
- Industry and government should ensure that trucks operating on highways meet legal size and weight limitations and are safely maintained and operated, and that driver regulations are strictly adhered to.
- When federal and state governments adopt changes in truck size and weight, sufficient funding should be provided to accommodate necessary infrastructure improvements. (Adopted 05-03-03)

Intermodal Transportation Systems (PS 149) ASCE supports the vision of the Transportation Equity Act for the 21st Century (TEA-21) in the development of "a National Intermodal Transportation System that is safe and secure, economically efficient, and environmentally sound; provides the foundation for the Nation to compete in the global economy; and, will move people and freight in an energy efficient manner." Support for partnerships among the federal, state and local governments, with various citizens, groups and firms from the private sector are essential to further the intermodal goals of TEA-21. (Adopted 04-15-05)

Operation and Maintenance of Transportation Systems (PS 495) ASCE supports a strong federal role in the nation's transportation system and strongly endorses federal leadership in increasing the focus on transportation operations and maintenance thereby enhancing the performance and preserving our investment in the transportation system.

Federal surface transportation legislation should accomplish the following regarding Operations and Maintenance:

- Support and assist homeland security initiatives. Transportation operations and homeland security share many of the same goals and functions. Resource sharing (e.g. communications infrastructure and traffic control centers) and joint planning are appropriate. Transit security and preparedness, international border security, asset security and tracking, vulnerability assessment, planning, and creation of system redundancy are important transportation priorities for homeland security.
- Support and assist state and local agencies. Beyond establishing transportation operations and maintenance as a national priority, the Federal role should be to support and assist state and

local entities in accomplishing related goals. This includes support of research and development, provision of tools, promotion of best practices, and enhancement of education and training at all levels.

- Provide flexible funding. Flexible funding approaches are an important component to supporting operations and maintenance needs. Expanding funding eligibility for operations and maintenance programs, enabling direct funding to local and regional operating agencies, and simplifying and clarifying federal funding processes are important actions.
- Encourage partnerships. Recognize that the private sector has much to offer in management and technical skills when partnering with the public sector to accomplish operations and maintenance.
- Specific programs. In addition to flexible funding, several programs should be considered for targeted funding:
- Homeland security initiatives related to transportation;
  - Incident management programs ;
  - Implementation of infrastructure for data collection and management;
  - Provision of real-time information to and from customers;
  - Support for regional cooperation and partnerships; and
  - Programs to alleviate bottlenecks. (Adopted 04-15-05)

Public Transportation (PS 494) ASCE supports the funding, planning, design, construction and operation of safe, efficient and cost-effective, new and upgraded public transportation systems as part of the comprehensive, multimodal approach to meeting existing and future transportation.

ASCE promotes the expanded use of public transportation including urban mass transit systems, and commuter rail systems. Properly managed public transit systems have demonstrated their value in reducing the dependence upon the automobile as the primary transportation mode in urban areas. Establishing an effective operating public transportation system improves our ability to control traffic congestion, enhance mobility, lessen pollution and other environmental affects, improve safety and reduce energy demands. (Adopted 04-15-05)

Rail Infrastructure Development (PS 521) ASCE supports a strong rail transportation system within this country. A federal rail trust fund should be developed to fund rail improvements, using the 80/20 match formula to encourage state participation. Revenues for this trust fund could come from sources such as a tonnage fee, mileage fee, ticket tax, and/or general

treasury funds. ASCE also encourages the use of innovative financing methods like revenue bonds and tax exempt financing at the state and local levels, public-private partnerships, and state infrastructure banks. (Adopted 10-18-2006)

Rehabilitation of Historic Bridges (PS 504) ASCE supports the development of an Historic Bridge Management Plan for each state. The goal of these Historic Bridge Management Plans is to develop historic bridge inventories, identify those bridges where rehabilitation/preservation are appropriate and feasible, and develop specific treatments for those bridges. ASCE also supports the maintenance, repair and rehabilitation of historic bridges preferably in continued vehicular use, and when that is not possible, in use for some alternative transportation means such as a pedestrian or bicycle bridge. (Adopted 04-27-06)

Surface Transportation Research Funding (PS 497) ASCE supports the following general principles in the reauthorization of research and technology programs in the nation's surface transportation legislation:

- Improvements resulting from research and technology (R&T) are critical to achieving national transportation goals in safety, quality of life, economic health, environmental impacts, sustainability, and security.
- Adequate funding should be dedicated to R&T activities.
- Research programs should be conducted according to the highest scientific and engineering standards, from priority-setting to award of contracts and grants to review and evaluation of research results for implementation.
- Research programs should be carried out with appropriate involvement from stakeholders in the public, private, and academic sectors.
- Technology transfer activities are critical to successful implementation of research results and should be supported with R&T funds.
- Public-private partnerships should be fostered by identifying appropriate roles for each partner and providing incentives for private investment.

Within the context of the general principles set out above, ASCE supports the following actions regarding specific surface transportation R&T programs.

- The research and technology portion of the State Planning and Research (SPR) program should be maintained to help support state-specific activities while continuing to encourage the states to pool these resources to address matters of more general concern.

- University research should continue to be supported through the University Transportation Centers (UTC) program using a competitive selection process that guarantees quality participants and fairness in the allocation of funds. The Federal Highway Administration's (FHWA) program should be strengthened by giving it sufficient funding and flexibility to implement the recommendations of *TRB Special Report 261 The Federal Role in Highway Research and Technology*: to focus on fundamental, long-term research; to perform research on emerging national issues and on areas not addressed by others; to engage stakeholders more consistently in their program; and to employ open competition, merit review, and systematic evaluation of outcomes.
- A continuation of the Strategic Highway Research Program SHRP II beyond the life of SAFETEA-LU, ensuring that critical research will be continued in key areas of surface transportation.
- The Federal Transit Administration's (FTA) research program should be given sufficient funding and flexibility to work with its stakeholders to develop and pursue national transit research priorities.
- The new Research and Innovative Technology Administration (RITA) should have a well-defined scope and responsibility and appropriate funding, in addition to currently authorized research funding, so that it may supplement and support the R&T programs of the modal administrations. (Adopted 10-18-06)

Transportation Funding (PS 382) ASCE recommends that funding for transportation system improvements, associated operations and maintenance be provided by a comprehensive program including:

- User fees such as motor fuel sales tax;
- User fee indexing to the Consumer Price Index (CPI);
- Appropriations from general treasury funds, issuance of revenue bonds and tax exempt financing at state and local levels;
- Trust funds or alternative reliable funding sources established at the local, state and regional levels, including use of sales tax, impact fees, vehicle registration fees, toll revenues, and mileage based user fees be developed to augment allocations from federal trust funds, general treasuries funds and bonds;
- Refinement of the federal budget process to establish a separate capital budget mechanism, similar to nearly all state budgets, to discern long-

term investment decisions from day-to-day operational costs;

- Public-private partnerships, state infrastructure banks, bonding and other innovative financing mechanisms as appropriate for the leveraging of available transportation program dollars, but not in excess of, or as a means to supplant user fee increases;
- The maintenance of budgetary firewalls to eliminate the diversion of user revenues for non-transportation purposes, and continuing strong effort to reduce fuel tax evasion. (Adopted 04-24-07)

Transportation Trust Funds (PS 434) ASCE supports the concept of transportation trust funds. Furthermore, ASCE insists these funds be invested in their intended purposes by removing them from the unified federal budget or by other legislative means.

The budgetary firewalls instituted in the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) have been successful in protecting trust fund dollars. The application of such firewalls should be continued in the upcoming transportation trust fund authorization bill and implemented in other transportation authorization bills (i.e. reauthorization of AIR-21). In addition, Revenue Aligned Budget Authority (RABA), which allows for the allocation of all trust fund revenues, should be continued in the transportation trust fund reauthorization bill, as well as be implemented in upcoming trust fund authorizations. However, the existing transportation trust fund RABA formula needs modification to reduce the volatility in the funding available, which will allow the state Departments of Transportation to better anticipate federal funding levels.

In order to better meet the funding needs for the construction of new and maintenance of existing infrastructure, the user fees utilized to provide revenues to the federal trust funds should be indexed to an appropriate inflation index, thus allowing the available trust funds to grow at a rate that at least matches inflation.

Trust fund balances should not exceed necessary funds to meet obligations plus an appropriate reserve. (Adopted 04-27-06)

**WASTEWATER**

Clean Water Act Reauthorization (PS 420) ASCE supports a Clean Water Act (CWA) that maximizes, to the extent possible, both the protection of our nation’s waters and the beneficial use of those waters. ASCE encourages Congress to reauthorize the Clean Water Act (CWA). The Clean Water Act should aggressively address non-point source pollution from watersheds and also point source pollution from sanitary sewer

overflows, combined sewer overflows, and storm sewer discharges. The reauthorized Clean Water Act should:

- Increase funding for infrastructure needs to meet the goals and objectives of the Act;
- Provide funding for training of treatment plant operators;
- Set national standards for certification of treatment plant operators;
- Establish source water protection programs;
- Establish standards for the use of recycled water
- Include provisions to encourage pollution prevention;
- Integrate watershed management;
- Protect fish and wildlife habitat;
- Safeguard the quality of coastal waters and estuaries;
- Provide meaningful information to the public about water quality in their communities; and
- Authorize regulations that are effective in protecting the beneficial uses of the nation’s water and flexible enough to allow innovative practices and means to achieve these goals.

ASCE supports the use of the Total Maximum Daily Load (TMDL) regulation for improved water quality. (Adopted 04-24-07)

Control of Combined Sewer Discharge (PS 395)

ASCE supports the Environmental Protection Agency’s national policy statement for combined sewer overflows which represents the consensus of states, environmental groups, municipalities and other interested parties. ASCE supports increased funding, the required level of control, the guidance for developing control options and strategies, the need for consideration of cost versus performance, and the flexibility afforded to the states to adapt local and regional water quality standards to reflect site-specific conditions. (Adopted 04-27-06)

Municipal Wastewater Biosolids (PS 429) ASCE supports beneficial use of municipal wastewater and encourages wastewater management practices that promote generation of biosolids of acceptable quality. ASCE supports biosolids-quality standards that protect public health and the environment. ASCE also supports alternative quality criteria that define maximum contaminant levels that allow safe application, distribution and marketing of biosolid products (Adopted 04-27-06)

Non-Point Source Water Quality (PS 461) ASCE supports efforts to mitigate pollution from non-point

source runoff into rivers, lakes, ground water basins and ocean environments. The development, for all sectors of society, of educational programs which influence the quality of waters in rural areas is encouraged, especially those for the agricultural and silviculture sectors. Furthermore, ASCE supports programs or methods to identify best management practices (BMP) to control non-point source pollution and to implement them at the federal and state levels. ASCE also supports the establishment of local stream, lake and ground water quality standards. ASCE supports the use of the Total Maximum Daily Load (TMDL) regulation for improved water quality. (Adopted 04-27-06)

Roadway Runoff Water Quality Management (PS 466)  
ASCE supports the need to regulate urban area and highway stormwater runoff water-quality for protection of public health and the environment.

ASCE supports elimination of point-source discharge requirements for roadway stormwater runoff based on the adoption of guidelines for stormwater-quality in a strengthened Nonpoint-source Management Program. These nonpoint-source regulations must focus on receiving waters and their watersheds, define pollutants in stormwater runoff in terms of significant impairment to the beneficial uses of a receiving water, and incorporate the control of pollution from stormwater runoff to the maximum extent practicable (MEP) as defined through a community planning process, using best management practices (BMPs). (Adopted 10-19-04)

Wastewater Facilities Construction Funding (PS 326)  
ASCE supports increasing and expanding the federally funded State Revolving Loan Fund (SRF) program (Adopted 04-27-06)

Water Reuse (PS 332) ASCE supports and encourages wastewater reclamation and reuse. Through the cost-effective reclamation and reuse of water the total water resources available can be utilized more effectively to meet growing water needs by incorporating the principles of sustainable development. ASCE recommends the following.

- The use of non-potable water should be encouraged when it can be provide at a reasonable cost and the public health is protected.
- The safe use of reclaimed water should be maximized as part of any plan to develop new water supplies for non-potable uses where technically and economically feasible to do so.
- Incentives, such as federal and state grants and/or loans, should be made available to local utilities for reclamation planning studies, pilot programs, and research and development.
- Requirements set by regulatory agencies for water reuse projects should have a balanced and sound

scientific, environmental, engineering and financial basis. (Adopted 05-14-04)

**WATER RESOURCES MANAGEMENT**

Atmospheric Water Resources Management (PS 275)  
ASCE supports and encourages the protection and prudent development of atmospheric water (also known as “weather modification” or “cloud seeding”) for beneficial uses. Sustained support for atmospheric water data collection, research and operational programs, and the careful evaluations of such efforts including the assessment of extra-area and long-term environmental effects, is essential for prudent development. ASCE recommends that the results and findings of all atmospheric water-management programs and projects be freely disseminated to the professional community, appropriate water managers and to the public. (Adopted 04-27-06)

Beneficial Use of Dredged Material (PS 513) ASCE supports the beneficial use of dredged material. It recommends the following as policy guidance for the beneficial use of dredged material in the United States:

- All dredged sediment should be used beneficially unless it is clearly impractical to do so;
- The federal government should revise its methodology for economic analysis of dredging costs, where applicable, to reflect both gaining the benefits of using dredged material for coastal protection and avoiding disposal costs ;
- Government and private entities that develop and execute projects requiring dredging should be stewards for the beneficial use of dredged material;
- Dredged material should be managed as a resource using life-cycle dredged material management plans that consider regional sediment management needs; dredging frequencies, locations, and quantities; as well as landscape use and change;
- Contaminated sediments, considering the contaminant and degree of contamination, should be evaluated for selected beneficial uses.
- ASCE, in collaboration with its Institutes and sister organizations, should enact a system of technological exchange to ensure that best practices and lessons learned in the beneficial use of dredged material can be leveraged in future dredging activities. (Adopted 04-27-06)

Cooperation on Water Resource Projects (PS 312)  
ASCE urges federal, state and local governments, and private enterprises, to cooperate in planning, designing, constructing, financing, maintaining and

operating water resource projects. All entities should cooperate on legislative and regulatory affairs involving interstate and intrastate watersheds. (Adopted 05-14-05)

Desalination (PS 407) ASCE recognizes that desalination of saline or brackish waters can be an alternative source for potable water. Economic feasibility for desalination projects should be consistent with other potable water projects. The public, legislators and regulators should be educated on desalination processes and benefits. Research on improvements in desalination technology as well as techniques for the environmentally safe disposal of by-products should be continued. (Adopted 04-24-07)

Disinfection of Drinking Water (PS 462) ASCE recommends the continued use of chlorine and chlorinated compounds for the disinfection of drinking-water and supports further studies of health effects associated with chlorinated byproducts. ASCE also supports investigations on alternative means of disinfection such as treatment by ozone and ultraviolet light. (Adopted 10-13-04)

Emergency Management Planning by Water Providers (PS 348) ASCE supports the development of emergency plans by water providers to prevent or minimize the disruption of service during emergencies. Plans should be developed in conjunction with neighboring water utilities in order to ensure mutual aid when needed. Since some emergencies are likely to involve the need to coordinate with other services and utilities, the plans should be developed jointly with other public and quasi-public organizations that are likely to be impacted by an emergency. Plans should be updated periodically as new threats are identified, system vulnerability changes, or the need for coordination with other organizations becomes apparent. Measures to prevent service disruption should be an essential part of the plan. Plans should assess risks and plan for emergencies in a way that provides equitable distribution of risk and resources throughout the service area. Response plans should be tested periodically to ensure that they are meeting current needs and that personnel are prepared to implement them. (Adopted 04-15-05)

Evaluation of Federal Water Resources Projects (PS 515) ASCE believes that Congress must enact legislation to revise and update the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines)* of 1983, the central planning document employed by the U.S. Army Corps of Engineers for conducting economic analyses of major civil works construction projects. The *Principles and Guidelines* is outdated and does not reflect a

balance among the economic, social, and environmental goals of the nation. (Adopted 07-22-06)

Groundwater Management (PS 243) ASCE supports and encourages a nationally coordinated effort to improve management of the nation's ground water resources. ASCE encourages efforts to ensure adequate supplies and safeguard public health by:

- Coordination of federal, state and local programs for
  - collection and dissemination of field data,
  - research on ground water flows, and
  - technical assistance in ground water management.
- Administration of regional and state water rights and establishment and enforcement of regulations for
  - judicious use and management of ground water resources,
  - protection of ground waters from degradation,
  - remediation of areas of known ground water contamination; and
  - management of ground water resources by federal, state tribal and regional agencies where appropriate. (Adopted 05-14-04)

Hydrologic Data Collection (PS 447) ASCE urges the federal government to establish a long-term hydrologic data collection program for major watersheds and their associated coastal areas, with funding on a continuing basis sufficient to allow prediction of storm surges, major flood events, and sediment transport as well as to allow effective management of changes to established hydrogeomorphological processes, that is, the interaction of water and soil through river systems. (Adopted 04-24-07)

Implementation of Safe Drinking Water Regulations (PS 361) ASCE supports efforts by the federal government, the water industry, and professional associations to ensure the quality and safety of the nation's drinking water. The Environmental Protection Agency (EPA) regulations implementing the Safe Drinking Water Act must be reasonable and sufficiently flexible to accommodate regional variations in the nature, size and quality of the drinking water sources. Regulations promulgated under the 1996 amendments to the Act need to balance the concern for drinking-water quality with risk-based contaminant limitations that include adverse health effects, frequency of occurrence and treatment technologies to avoid undue financial burdens on consumers.

Adequately funded state and federal programs to develop and enforce the EPA regulations under the Act are necessary. We encourage Congress, through the EPA, to support the state programs by providing federal funding and program planning assistance with sufficient flexibility to accommodate state and local

issues. ASCE encourages the professional education, research and development necessary to formulate new methods of water quality analysis, water treatment and related technologies. (Adopted 04-15-05)

Peer Review of Water Resources Projects (R 519)

ASCE believes that independent peer reviews should be conducted on every water project built by the U.S. Army Corps of Engineers (USACE) in which performance is critical to the public health, safety and welfare; the reliability of performance under emergency conditions is critical; innovative materials or techniques are used; for projects lacking redundancy in the design; or for projects that have unique construction sequencing or a short or overlapping design and construction schedule.

Congress must enact legislation to establish an Office of Peer Review within the USACE to oversee independent peer reviews to be conducted through boards of consultants composed of individuals with expertise in engineering project design and construction, environmental restoration, economics, and other disciplines necessary to ensure the integrity of the peer reviews. (Adopted 04-24-07)

Planning and Management for Droughts (PS 408)

ASCE endorses the development of regional drought preparedness and response plans (DPRPs) by water providers in cooperation with local, state and federal agencies. Plans should be based on sound engineering principles and assessments and on a locally developed balance between economic investment and risk assessment. While the fundamental responsibility for development of such plans rests with the water supply agencies and their sponsoring government entities, all interested parties should be involved and all primary and secondary impacts identified. Planning and management efforts should include initiatives that will reduce the vulnerability from future droughts. Where possible, such plans should include public information and education campaigns, ongoing water conservation programs, water use restrictions, water transfers from region to region, water transfers from agriculture to municipal and industrial uses, conjunctive use and local sharing of supplies and facilities. Federal and state governments should provide encouragement and support, both technical and financial, to water providers in the development of drought preparedness and response plans. (Adopted 04-15-05)

Regional Sediment Management (PS 522) ASCE supports regional sediment management for watershed and coastal zones to ensure ecosystem preservation and sustainable development. Regional sediment management is critical to restoring hydrogeomorphic processes within a watershed,

which in turn is important to ecosystem vitality, balance and diversity, particularly in threatened ecosystems such as the Mississippi Delta or the South Florida wetlands. ASCE recommends:

- Government and private entities that develop or execute projects and activities affecting water resources or hydrogeomorphic processes, and related regulatory entities, promote a culture of stewardship and partnering to manage sediments effectively.
- Sediment should be managed as a resource by developing regional sediment inventories and sediment budgets that consider inputs, movements, uses, and outputs throughout the system;
- Governments and stakeholders at all levels should collaborate to establish property rights for sediment and an appropriate legal mechanism to allocate and transfer sediment resources for different uses and to resolve conflicts among multiple competing demands for the same sediment source;
- Proponents of projects and activities that affect sediment resources must work collaboratively with regional stakeholders to mitigate adverse impacts to hydrogeomorphic processes and affected sediment regimes. (Adopted 4-24-07)

Storm Water Management (PS 441) ASCE supports and encourages coordinated local, state and regional programs to manage the quantity of and improve the quality of stormwater entering streams, lakes and estuaries.

ASCE supports stormwater management techniques that prevent and mitigate the effects of urbanization and other land use changes on surface runoff, including detention and retention methods, innovative stormwater drainage systems and other techniques needed to reduce, to the maximum extent practicable, the impact on ecosystems and stability of receiving water.

ASCE supports increased funding, the required level of control, the guidance for developing control options and strategies, the need for consideration of cost versus performance, and the flexibility afforded to the states to adapt local and regional water quality standards to reflect site specific conditions. (Adopted 05-14-04)

Water Conservation (PS 337) ASCE supports conservation as an essential aspect of water resources management. Water conservation, a part of demand management, is the prudent and efficient use of available sources of supply. There should always be a balance between demand management and the development of new water sources.

ASCE encourages suppliers, regulators, legislators and consumers to support laws, regulations, policies and programs for water conservation that achieve:

- Reduced waste through accurate accounting of water volume from points of withdrawal to points of sale through metering, leakage control, etc.;
- Fair pricing that encourages conservation for all water user classes;
- Water conservation education;
- Research on efficient water use practices;
- Demand management consistent with the climatology of the region and the availability and ease of development of new sources of water; and
- Drought preparedness. (Adopted 04-24-04)

Water Infrastructure Funding (PS 480) ASCE recommends that funding for water infrastructure system improvements and associated operations should be provided by a comprehensive program. ASCE supports the creation of a Water Infrastructure Trust Fund to finance the national shortfall in funding drinking water and wastewater infrastructure systems and other projects designed to improve the nation's water quality. ASCE further supports a variety of financial mechanisms for the trust fund, such as appropriations from general treasury funds; issuance of revenue bonds and tax exempt financing at state and local levels; public-private partnerships; state infrastructure banks; user fees on certain consumer products; and other innovative financing mechanisms, including broad-based environmental restoration taxes to address problems associated with water pollution and wastewater management and treatment. (Adopted 10-26-05)

Watershed Management (PS 422) ASCE supports basin-wide water resources management. ASCE encourages government institutions to plan and regulate water on a watershed basis, and supports integrating programs and goals across political boundaries. ASCE believes that effective watershed management is facilitated when the government, the public and the private sector work collaboratively on this issue. Federal legislation defining the goals and standards for watershed managers should permit flexibility and accommodate regional needs. (Adopted 04-27-06)

Weather Radar (PS 409) ASCE endorses the deployment of weather surveillance Doppler radar units across the United States, including an aggressive program to extend access to Doppler radar in areas with geographical limitations. ASCE supports programs that use and interpret weather radar information. (Adopted 04-15-05)



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