

**Impact**

A look back at ASU's impact on the state of Arizona over the years in terms of education, health care, sustainability, urban policy and the economy.

*i1-4*

# ASU<sup>®</sup> Insight

## ARIZONA STATE UNIVERSITY

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2008

### ASU's impact at 50 years

## ASU has lasting impact on state of Arizona

*Morrison Institute for Public Policy builds bridge between university and AZ communities*

By Nancy Welch

Over the years Arizona State University has had a substantial impact on the state of Arizona in terms of education, health care, sustainability, urban policy and the economy. Inherently linked to its surrounding communities, ASU has been a pivotal agent in serving the needs and advancing the competitiveness of Arizona and its residents.

Nowhere else is the university's connection to the state more visible than in the work and mission of ASU's Morrison Institute for Public Policy. As ASU celebrates its 50th anniversary, one can see in Morrison Institute's eclectic history the university's role in helping solve the state's most pressing issues of the day.

Since the mid-1980s, Morrison Institute has researched public policies that impact greater Phoenix, the state and the nation. The efforts of scores of staff members, faculty associates and graduate students have informed, advised and assisted Arizona's leaders, providing a bridge between the university and its communities. Concerns and outlooks have evolved over time, even as the state's fundamental growth-related challenges in such areas as education, urban growth and economic development have remained constant.

The institute began when Marvin and June Morrison wanted to help Arizona's leaders make wise choices in the face of rapid growth and dramatic change. Through the urging of their son Richard and others, they chose to create an applied public policy institute as their vehicle. They selected Arizona State University as its home to ensure credibility, scholarship and independence – and to be close to the action at the Arizona capitol.

### Sparking debate on issues, challenges, choices

From the first major statewide study of urban growth to the initial analysis of the Sun Corridor as Arizona's "megapolitan" region, with more than 200 studies in between, the institute has provided not just facts and figures, but scenarios and choices for Arizona's future.

In 1988, the Morrison report "Urban Growth in Arizona" brought to light ideas and opinions that still resonate today: How can Arizona's urban growth be funded? How can Arizona maintain an adequate water supply for its growing areas? In the



ASU PHOTO

**Celebrating its 50th anniversary, ASU has been pivotal in serving the needs of Arizona's residents and advancing the state's overall competitiveness.**

*Marvin and June Morrison wanted to help Arizona's leaders make wise choices in the face of rapid growth and change. They chose to create an applied public policy institute as their vehicle. They selected ASU as its home to ensure credibility, scholarship and independence – and to be close to the action at the Arizona capitol.*

view of all this growth, what is happening to the quality of life in Arizona? In the 2001 Arizona Policy Choices report "Five Shoes Waiting to Drop on Arizona's Future," Morrison identified five fundamental trends including at the time the state's leadership crisis and its "fuzzy" economic identity. Addressing these challenges before the shoes dropped was a call to action that couldn't be ignored. It asked policymakers to marshal the skills and creativity of

Arizona's residents to ensure a prosperous future for the state.

By 2005, in "How Arizona Compares," Morrison Institute answered "just fair" to the critical question of where this state stacked up relative to others. It answered which state is wealthiest or healthiest? And how does Arizona's home ownership compare to other states? The reference work provided a unique point-in-time view of the state.

More recently in 2007, for Pinal County, Morrison Institute showed the common ground between leaders and residents, and suggested 17 "cool tools" that formed the basis of the county's public involvement process for its comprehensive plan. This year in "Megapolitan: Arizona's Sun Corridor," the scenario for the Arizona's more-than-metro region shows sufficient progress and pain to prompt the question for all Arizonans: in 2035, do you want to live in the Sun Corridor?

### Defining the "next big thing"

Before there was a knowledge economy, there was the "new economy." As business people, educators and policymakers struggled to understand the fundamental shift to an economy based on brains instead of brawn, Morrison Institute provided a primer. In "The New Economy," Morrison looked beyond the tech revolution, defined the terms, and identified the policy choices for Arizona.

Most recently, in partnership with the Global Institute of Sustainability, Morrison helped to explain why sustainability is "the issue of our age" in their report "Sustainability in Arizona."

### Providing a foundation for new policies and programs

When the Arizona Department of Education funded a multi-year, multi-million

(See INSTITUTE on page i4)

## College promotes, provides quality health care in AZ

ASU College of Healthcare & Innovation produces graduates, programs for Arizona

By Terry Olbrysh

For 51 years, the ASU College of Nursing & Healthcare Innovation has been the major source of baccalaureate-prepared nurses in the state of Arizona with more than 8,000 graduates. Perhaps the most recognized of health care professions in Arizona, nursing accounts for the largest segment of the state's health care workforce with a 4:1 ratio to physicians in hospital settings.

A shortage of nurses in the state has been a barrier to improving health care for many years. To help address the shortage – Arizona ranks 45th in the nation – ASU has nearly doubled its annual nursing enrollment to 300 since 2002. In the last 10 years alone, ASU has graduated 1,962 nurses, and most have remained in Arizona.

Educating baccalaureate-prepared nurses to provide quality care is the core mission of the college, says Bernadette Melnyk, the fifth dean in the history of ASU nursing.

"We are proud of our record of educating nurses to provide quality healthcare in this state," Melnyk says. "However, our goal is also to contribute in many other important ways to make this a healthy state and to make this university the healthiest one in the country."

The college also impacts Arizona economically through an intensified focus on research. Since 2005, ASU has increased the number of grants received from the National Institutes of Health and private funding of nursing research, as well as innovative educational programs, by more than \$6 million. These studies are primarily conducted here with expenditures benefiting the Arizona economy.

Many of the studies address ways to promote optimum health in people across the life span with a special emphasis on minority populations and other communities in the state that lack access to quality care. Study results are valuable in providing direction for programs that will target our most significant health care problems and direct funding to the

(See COLLEGE on page i3)

## ASU research sets stage for 'green' growth in Arizona

*The university's sustainability efforts have led to a host of benefits for the state*

By Rick Heffernon

Arizona State University's environmental research and public outreach efforts have led to a host of benefits for Arizona through the years. In key areas that include renewable energy, riparian ecosystems, urban ecology and community policymaking, the university has impacted the state's sustainable landscape as well as contributed to the development of a unique educational opportunity for training sustainability professionals.

"Long rooted in the culture of ASU is the idea of working in interdisciplinary teams to make the world a better place," says Jonathan Fink, the Julie Ann Wrigley Director of ASU's Global Institute of Sustainability. "Through our research, education and outreach to the community our goal is to improve the lives of future generations."

### Solarizing our energy supply

Arizona's favorable climate set the stage for ASU to develop strong solar energy research, development and education programs over the years starting in the mid-1950s. The school served as an early headquarters for the most prestigious solar energy organization of the time, the Association for Applied Solar Energy (now the International Solar Energy Society), and this involvement helped attract professors and researchers to ASU who would go on to win major research grants, develop innovative solar energy systems, and then demonstrate their ideas in novel solar buildings and devices that still influence solar designs today.

As an outgrowth of ASU research, several demonstration

(See UNIVERSITY on page i4)

# University serves students of all ages

ASU partners with schools, organizations to improve education statewide

Education is the very foundation of Arizona State University.

The first public institution in Arizona to provide education beyond the eighth grade, the Territorial Normal School in Tempe, opened its doors Feb. 8, 1886 as a teachers' college and the first form of higher education the state had ever seen. The core of the campus was a 20-acre cow pasture donated by leading citizens who sought an institution to train public school teachers as well as provide instruction to their sons and daughters in agriculture and the mechanical arts.

The first graduating class of Tempe's normal school included 33 students who had earned the first higher education degrees awarded in the American Southwest. It wouldn't be until about 50 years later in 1937 when the first graduate degree would be offered – a master's degree in education.

Today, ASU's education research and practice-oriented programs are provided through colleges across three of the university's four campuses: the College of Teacher Education and Leadership at the West campus, the Mary Lou Fulton College of Education in Tempe, and the School of Educational Innovation and Teacher Preparation at the Polytechnic campus. These education programs consistently appear among the top-rated research-extensive institutions in the United States and tout an array of nationally and internationally distinguished faculty. When graduates from these programs exit the university, many of them enter Arizona's work force, playing critical roles and serving the state as educators, administrators, counselors and psychologists.

ASU's ability to leverage resources from across the university and through community partnerships have helped provide schools in the Greater Phoenix area with cutting-edge programs that bring journalism, sustainability, bioscience, bioengineering, law and athletics to grade-school students. This was particularly evident in the 2003 establishment of the Office of the Vice President for Education Partnerships (VPEP) – a unit that works primarily with prekindergarten-12, public and private sector partners to enhance the academic performance of Arizona's students.

"We are deeply committed to achieving the next level of excellence in working with our partners to improve the education of Arizona's children," says Eugene E. Garcia, professor of education and vice president of education partnerships.

Although the university has a long history of engagement with the K-12 community, the development of a systemwide VPEP office has further enabled ASU to build on existing partnerships that focus significantly on innovative research and development. Since the office's inception, more than 40 Valley school districts have participated as fully engaged partners, supported by \$7.3 million in resources from 27 different agencies or foundations.

The impact can be seen in Maricopa County's high school graduation rates that have improved comparatively with the assistance of university-partnered programs. For example, the graduation rate for Phoenix Union High School District increased six percent in only a three-year period from 2003 to 2006. One high school (Carl Hayden) improved dramatically during this time period from 67.1 percent to 77 percent in its graduation rate.

"As ASU evolves and matures into the New American University, its commitment to meeting the educational needs

of Arizona's children has never been greater," says George W. Hynd, senior vice provost and dean of the Mary Lou Fulton College of Education. "It has not forgotten its roots."

ASU has helped advance K-12 education even further with the 2006 launch of the Arizona Initiative for Math & Science Education – an Arizona public-private, tri-university collaborative model designed to improve educational outcomes in STEM (science, technology, math and science) fields. Since the launch of this initiative, the state has adopted new math and science standards to better prepare students for entrance into college and successfully compete in a 21st century work-



Students at the West campus take classes at ASU's Osher Lifelong Learning Institute. The institute's fall 2008 class offerings provide university-quality learning experiences for adults across the Valley.

force. As part of these efforts, ASU appointed an associate senior vice provost for STEM education improvement. This newly created position has been facilitating new directions for STEM education across the university.

Perhaps the most visible university-community partnership in education is this year's emergence of University Public Schools, Inc. (UPSI), a vision that began five years ago and was brought into fruition through the hard work of highly qualified UPSI personnel and university staff and faculty members. The nonprofit organization works in collaboration with ASU to offer a competitive public school education to students throughout the Valley.

The recent fall opening of Polytechnic Elementary welcomed its first class of students into a unique academic environment that introduces a higher level of global education as well as technology learning. The school is expected to accommodate students from kindergarten through the ninth grade by 2010.

As a university that is succeeding in its mission to increase both student access and student quality, ASU has come a long way from its inaugural year as an official university in 1958.

With a current enrollment that tops 66,000 students, the university is home to an impressive number of National Merit Scholars – placing ASU among the top 20 universities in the country along with Harvard, Stanford, Yale, UC Berkeley, MIT and Princeton – and a record number of Fulbright Scholars. ASU offers more than 250 academic undergraduate programs and first-class research facilities, and since 1994 has been recognized as a premier research university.



ASU's famous Palm Walk on the Tempe campus circa 1966.

## What's in a name?

- 1885 Territorial Normal School
- 1899 Normal School of Arizona
- 1901 Tempe Normal School
- 1925 Tempe State Teachers' College
- 1945 Arizona State College at Tempe
- 1952 The School of Education
- 1955 The College of Education
- 1958 Arizona State University



President G. Homer Durham, right, greets ASU's first Ph.D. recipients at Commencement on June 4, 1963. They are, from left, John H. Mabry, Virginia K. Maresca, and Jesse W. Jones. The fourth recipient, Montrose Wolf, is not in the photograph.

## Who is served?

ASU's education programs have far reach throughout Arizona



### Schools & Families

Bridges to High School/Puentes a La Secundaria Project Hispanic Mother Daughter Program Creciendo Unidos Adult and Family Literacy Project College is for You The Parent Institute for Quality Education Vamanos: Let's Go!



### Students

Biodesign Summer High School Internship Club ASU Junior Law Mars Education Program Barrett Summer Scholars Leaps & Bounds: A Kindergarten Readiness Program The Summer Broadcast and Journalism Institutes Access ASU



### Teachers

Teach for America Beginning Education Support Team ALPHA Teacher Project Exemplary Teachers for Arizona Professional Development School Teacher Education Program CRESMET Center for Learning and Teaching Excellence IDEAL: Integrated Data to Enhance Arizona's Learning



### Leaders

The Learner Centered Leadership ALPHA Administrative Leadership Project Decision Theater Leaders for Learning Teacher Evaluation and Career Ladder Training for School Administrators Education Policy Fellowship Program Learning Forever

# College targets health

(Continued from page i1)

areas of greatest need.

In the past three years, the ASU nursing college has created five collaborative centers that work with many other private and public health care organizations. The centers include: the Center for the Advancement of Evidence-Based Practice (CAEP); the Center for Improving Health Outcomes in Children, Teens & Families; the Center for Improving Healthy Outcomes in Aging; the Center for Healthcare Innovation & Clinical Trials; and the Hartford Center of Geriatric Nursing Excellence.

CAEP has been the catalyst in forming the Arizona Consortium for the Advancement of Evidence-Based Practice, an organization of more than 50 hospitals and health care agencies working together to increase the use of evidence to improve quality health care and best patient outcomes.

A hallmark of the college has been its presence in the community. In 1977, the college was first in the United States to establish an academic nursing center at a university. The mission of the center was to provide health care to the public while providing students with valuable clinical experience under faculty supervision.

That first established center in Scottsdale is still meeting community health needs after more than 30 years. The college now operates five of what are now called Nurse Managed Health

# University

"I can't think of economic vitality."

Fed

With more than 14,000 students, ASU is one of the largest universities in the country. ASU also is a leader in the economy.

ASU graduates are ready to enter the workforce and an innovative business environment for new enterprises. The total of a workforce in economic growth on Arizona.

If ASU were the third largest employer of jobs supported



# ASU's growth drives local, state economy

Research, development serve as seed corn of long-lasting economic growth in AZ

...of a single factor more important than the research university."

— Dr. Robert Parry, president Federal Reserve Bank of San Francisco

...than 67,000 students and graduates annually, Arizona State is one of the largest universities in the world. Foremost an educational institute, ASU is a key driver of the local and state economy.

...drive the Greater Phoenix economy. ASU's expanding research base that yields breakthroughs and plants the seeds of new industries. Overall, ASU accounts for a net economic impact of \$3.2 billion annually, larger than Intel's impact in the Phoenix area.

...re a private employer, it would be the largest in the state. The total number of jobs created by ASU directly, indirectly and

secondarily tops 50,000 and approaches \$2 billion in total wages. According to a 2005 report by the Center for Business Research, Arizona's annual net income was more than \$1.4 billion higher because of the education services provided by the university. As the alumni base expands each year, so does the number.

Over the years, ASU has been critical to regional growth, as it has cultivated social networks of students, innovators and alumni who have contributed to the success of existing firms, enabled start-ups and attracted established firms to the area. The Valley's substantial growth over the last 50 years has been closely linked to that of the university's.

Although the easiest ways to describe ASU's overall economic impact is as an employer, a purchaser of goods and services, and as a population magnet, the university's research capacity has not only provided immediate economic impacts for the state, but has opened up new industries and

created new jobs. If the first 50 years as university were about the raw number of graduates and employees, the next 50 will be about what those graduates and employees create both locally and globally. By spawning new technical fields and firms that can advance the commercialization of ideas, university research and development serve as the seed corn of long-lasting, knowledge-based economic growth.

"Research universities act as magnets for business that seek the talent they produce and benefits derived from the innovations and creative activ-

*"Trace the paths of the most successful entrepreneurial ventures and you are likely to find that research university connectivity played an important role."*

— Dennis Hoffman, economics professor

W. P. Carey School of Business

ity underway," says Dennis Hoffman, economics professor, associate dean for research, and director of the Seidman Research Institute in the W. P. Carey School of Business. "University R&D acts as a catalyst for private activity. Trace the paths of the most successful entrepreneurial ventures and you are likely to find that research university connectivity played an important role."

Similar to other American universities, ASU has evolved over the last decade into a large, diversified system that serves a wide array of research needs posed by a modern industrial society. Since 2001, Arizona State University has added more than 1 million square feet of research space, and the total number of research awards has increased by 50 percent, leading to more federal funding and a universitywide emphasis on innovation.

SkySong, the university's hub for new innovative technologies and entrepreneurial opportunities, serves as an exemplar of the impact



UNIVERSITY ARCHIVES, ASU LIBRARIES

In the 1960s, ASU's Grady Gammage Memorial Auditorium was the university's new signature building. In 2005, the Gammage Broadway series was responsible for more than \$41 million in spending in the Phoenix area.

## University growth

Fall enrollment numbers, 1958-2008

|      |        |      |        |
|------|--------|------|--------|
| 1958 | 9,708  | 1988 | 43,426 |
| 1968 | 23,341 | 1998 | 48,922 |
| 1978 | 37,122 | 2008 | 67,082 |



ASU ILLUSTRATION

SkySong, the university's innovation hub, is expected to create up to 4,000 new jobs.

a university can have on the local and global economies. It is expected to create up to 4,000 relatively high-paying jobs, as well as revitalize its surrounding community. Staff analysis suggest that a redevelopment of nearby centers will help result in a net increase in direct city revenues over a 30 year period of \$146 million. The very nature of SkySong encourages entrepreneurs to train in the region and stay in the region to participate and help create a local enterprise.

SkySong's impact won't be measured just by the businesses onsite. Julia Rosen, associate vice president of Innovation + Entrepreneurship, says SkySong "is a global business portal that will enhance ASU's ability to translate its innovations to the marketplace, as well as expand its number of global technology and entrepreneurial partners."

As a major research institution that is working to shape industry and advance technology, ASU's economic growth trajectory hinges on its ability to generate and direct 21st century innovation. Its growth trajectory — a goal of \$350 million in sponsored research by 2012 and an estimated 100,000 students by 2020 — provides the means to make this happen.

# Arizona State University's impact

over the years...

## With care problems, expands community reach with new programs



ASU PHOTO

Leigh Small, ASU faculty member and coordinator of the Pediatric Nurse Practitioner program, talks with a student at the Phoenix Day Center about good eating habits for a research study on child obesity intervention in small children.

Centers, including the original Community Health Services Clinic in Scottsdale, two clinics housed in multi-generational community centers in Tempe, the ASU Health Center on the downtown campus, and Breaking The Cycle Community

Clinic at Grace Lutheran Church. In 2007, these five centers provided primary care for 8,300 clients and outreach services, such as vaccinations, to an additional 2,500 people.

The college is expanding the reach of its services in the community, says Denise Link, associate dean of Clinical Practice and Community Partnerships, through a specially equipped mobile health van named Wellness on Wheels, which is funded by a grant from UnitedHealthcare. The grant also will support new obesity and mental health treatment programs for children and teens next year.

The ASU Healthcare Center at ASU's new Downtown Phoenix campus in the college's main building provides primary health care to the more than 5,000 ASU students, faculty and staff at the campus, as well as businesses and the public. This is the first time in ASU's history that the college is responsible for providing student health services.

In the fall of 2007, the college also launched a new 3-credit course called "Freshman 5 to Thrive/COPE Healthy Lifestyles." Since one-third of college students say that stress is interfering with their ability to perform in academics, this course teaches: 1) cognitive-behavioral skills building; 2) stress reduction techniques; 3) goal setting and problem solving; 4) nutrition; and 5) physical activity. Students who took this course last fall in comparison to students who did not, had less depressive and anxiety symptoms, made healthier choices, and engaged in greater

physical activity. In addition, there was a higher retention rate into the second semester for students who took "5 to Thrive" in comparison to students who did not take the course.

Nursing students at the college also play a vital role in providing primary care to those in need downtown. Since 2004, the college has had an agency contract with the Central Arizona Shelter System (CASS) for upper-division nursing students to provide primary care under faculty supervision to the 400 residents of the shelter in downtown Phoenix. Overall, the College of Nursing & Healthcare Innovation has more than 700 agency contracts in the state to provide sites for student clinical courses.

For the future, the ASU nursing college is focusing on expanding its impact in the state and nation through innovative new educational programs to prepare the next generation of professionals to meet increasingly complex health needs. Interdisciplinary programs such as the Master of Healthcare Innovation, the Child-Family Psychiatric Mental Health Nurse Practitioner specialty, Clinical Research Management educational programs, and the Hartford Center of Geriatric Nursing Excellence promise to increase the number of health care entrepreneurs, children's mental health nurse practitioners, new products and clinical research managers, and more geriatric faculty for Arizonans.

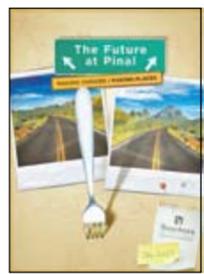
Olbrish, with the College of Nursing & Healthcare, can be reached at [terry.olbrish@asu.edu](mailto:terry.olbrish@asu.edu).

## Institute offers Arizona platform for analysis

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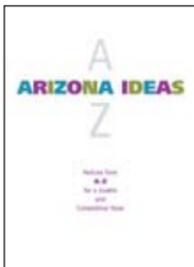
dollar statewide initiative for at-risk students in the 1990s, Morrison Institute evaluated the programs and identified what worked and why. The results prompted a change in the state's funding formula. With domestic violence identified as one of the most common 911 calls everywhere in Arizona, Morrison began to research this topic.

In a series of reports and briefing papers, starting in 1997 and continuing today, Morrison Institute has described the effects of Arizona's "mandatory arrest" law on the attitudes of law enforcement officers, judges, prosecutors, probation officers, victim advocates and victims. Arizona's courts are using the data on high-visibility judicial committees to review Arizona's policies.



In metro Phoenix, a grassroots network is also using the information to help communities see how to better match programs to local needs.

In "Economic Development Via Science and Technol-



ogy" from 2003, Morrison evaluated where Arizona stands compared to other western competitors to determine what Arizona needed to do to better take advantage of building its science and technology economy.

### Nurturing young people's interest in public policy

With the annual Young Stewards for Public Policy essay contest, Morrison offers any high school senior in Arizona the opportunity to compete for a scholarship to ASU. Students are asked to analyze a specific public issue affecting the state and its residents, and to include specific recommendations to Arizona policymakers on how that issue should be addressed. The essays are judged by a committee, including editorial writers from *The Arizona Republic* and *Tucson Citizen*. The winning essays are published in both newspapers.

Chris Herstam, chairman of Morrison Institute's board of advisors, asserts that in his 25-year career, including stints as a legislator and state agency director, he has benefited from Morrison Institute's research and community involvement.

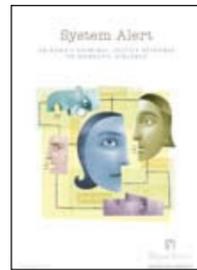
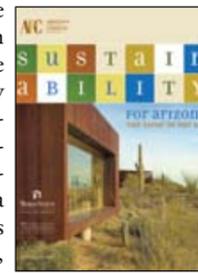
"As a young state legislator in the 1980s, I recall the Morrison Institute conducting educational seminars and legislative orientation sessions for freshman lawmakers," says Herstam. "As a gubernatorial chief of staff and Arizona Department of Insur-

ance director in the 1990s, I relied on Morrison Institute studies and policy analysis for guidance. And as president and a member of the Arizona Board of Regents during this decade, the Morrison Institute was utilized for specific research assignments and reviews of higher education policies.

"Morrison Institute is now in its third decade as Arizona's leading public policy entity because of quality analysis and its objectivity."

When Morrison Institute began, ASU was far less networked in the region and throughout the state even though Arizona was smaller. As the university expands its connections in the state and around the world, Morrison Institute's experience and tradition illustrate how quality and commitment can make for a strong, enduring bridge between the university and its many communities.

Welch, with the Morrison Institute, can be reached at [nancy.welch@asu.edu](mailto:nancy.welch@asu.edu).



## School plans smart growth for another 50 years

By Kenneth Brooks

During the past 50 years, Arizona has observed extensive urbanization. Similarly, the field of urban planning also has evolved and changed, not only as a discipline but also as an academic enterprise at ASU.

Planning has been an area of study at ASU since the early 1960s. Today, urban planning is centered in the College of Design's School of Planning. Its relationship to design reflects foundational interests in the physical planning of cities and human environments. The interests and missions of both the profession and the school have expanded and now include environmental, social, policy and transportation planning and urban design, along with community and economic development.

The school plays a significant role in complementing the college's interdisciplinary approach to the planning and design of functional, aesthetic, healthy, sustainable environments and communities in Arizona and around the world. As the planning profession responded to such issues as the National Environmental Policy Act, smart growth, intermodal transportation and connectivity and sustainability, the school incorporated these and related issues into its mission.

Planning at ASU now reflects New American University concepts of collaboration and transdisciplinary ventures. Although the School of Planning remains the center of the teaching of professional urban planning, a number of departments, schools and research centers with ASU faculty are engaged with planning research and service activities.

The American Planning Association has included the school as one of 20 charter schools in its partnership with universities given the school's emphasis on professional issues. The school is home to accredited undergraduate and graduate professional planning programs and is the largest producer of professional planning graduates in the state. A hallmark of these graduates is that many of them have made significant contributions to the leadership of urban, environmental and community planning activities in Arizona agencies, firms and organizations.

School of Planning alumni and faculty members, well-connected to agencies and communities, have contributed to key task forces, work groups, regional and community master plans, waste reduction and recycling, corridor plans, edge studies, resource preserves and watershed plans.

The school is continuing to expand its efforts to collaborate with other schools and departments as it helps to provide leadership and vision that engages and serves Arizona communities and metropolitan areas. The school also continues to pursue longstanding challenges such as limited resources, population growth and urban revitalization while expanding into new challenges of sustainability, urban design, borderlands planning, modeling and visualization of urbanization, and facilitating partnerships in tribal planning.

The school looks forward to another 50 years of engagement with the communities of Arizona.

Brooks, with the ASU School of Planning, can be reached at [kenneth.brooks@asu.edu](mailto:kenneth.brooks@asu.edu).

## University plants seeds for sustainability advancement

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projects were built in Arizona, including the ASU Solar Research House, which opened in 1981 and helped train a generation of solar professionals, and the APS Environmental Showcase Home, which opened in the 1990s and demonstrated sustainable design ideas to tens of thousands of visitors over the last 15 plus years.

In the early 1990s, the university's solar expertise helped attract funding to establish the Photovoltaic Testing Laboratory at ASU's Polytechnic campus, at the time the only such testing lab in the country and one of only three in the world.

In addition to its R&D program, which includes fuel cell development, the lab provides certification testing of photovoltaic technologies for companies and research centers in Arizona and around the world. The lab also donates tested PV modules to the community – primarily to schools – and for other charitable purposes. More recently, ASU hired two top solar researchers and an industry innovator to establish ASU's Solar Power Laboratory, for which the main focus is to foster economic development for Arizona by advancing clean, sustainable solar energy technologies that can be used throughout Arizona and the Southwest.

### Treating water like gold

ASU scientists have long worked to protect and rehabilitate priceless riparian habitats by understanding their dynamics and needs. In the early 1970s, researchers with ASU's Center for Environmental Studies (a precursor of the Global Institute of Sustainability) and their students began long-term studies of the Colorado River in Arizona, its tributaries, and its associated native fish, birds and other animals. One impact of this work has been the experimental releases of simulated floodwaters into the Grand Canyon as an attempt to rebuild a declining habitat.

ASU researchers and students also founded the Arizona Riparian Council in 1986 to facilitate the exchange of information about riparian management among scientists and public agencies in the state. This organization was one of the groups instrumental in convincing APS to decommission its dam on Fossil Creek and return natural flows to the creek.

### Understanding the ecology of our city

In 1997 ASU was named as one of only two institutions to win a grant to study the ecology of its urban environment. The resulting Central Arizona-Phoenix Long-Term Ecological Research project (CAP LTER) is still going strong, not only producing a rich body of data and perspectives on how humans affect and interact with their environments – a critical need as the planet rapidly urbanizes – but also training hundreds of students in interdisciplinary research methods related to urban ecology involving 11 schools and departments at ASU and more than 150 graduate students.

The project's outreach arm, Ecology Explorers, has worked with more than 140 school teachers across the Valley in 25 school districts, four charter schools and two private schools, most of which serve large percentages of low-income and minority children.

### Making great policies

One of the most recent tools developed to enhance policymaking and to create a more sustainable future in Arizona is the Decision



**The Decision Theater is a resource created by ASU to provide decisionmakers and researchers with information to compare their goals with the impacts of their decisions. It has helped tackle complex environmental issues such as urban growth and water management.**

Theater at ASU. Tackling complex issues such as urban growth, education, public health and the environment, the Decision Theater's approach to great decisions involves a collaborative process, the best science available and interactive visualization through modeling and simulation. Three different examples illustrate its work with local communities.

- Education: Scottsdale Unified School District needed to forecast student enrollment through the year 2030. Decision Theater created a way to display and analyze data with predictive modeling and geospatial visualization to show likely outcomes from different scenarios.

- Disease control: To improve possible reactions to a pandemic flu outbreak, Decision Theater provided a realistic visualization to health officials using scenarios created through simulated television news stories, demographic data panels and escalating threat levels. This gave participants a means to test different management protocols, see their impacts and make corrections to address previously unseen gaps.

- Water: As part of a long-term project for the East Valley Water Forum, Decision Theater built a 3D water modeling tool that helps public and private agencies develop and manage a sustainable water supply. The modeling tool allows participants to compare their goals with the impacts of their actions and policy decisions, thereby letting policymakers take a virtual look to choose actions that best lead to a sustainable water supply.

### Educating for sustainability

To educate the next generation of leaders for Arizona and the world, ASU opened the School of Sustainability in 2007. It is the first in the nation to offer graduate and undergraduate degrees in sustainability.

The school brings together multiple disciplines and leaders to train a new generation of scholars and practitioners on how to develop practical solutions for the most pressing environmental, economic and social challenges that are part of sustainability. As of September 2008, the school has accepted 55 graduate students and 185 undergraduates, and is providing classes for 145 business majors seeking a concentration in sustainability.

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