ARIZONA'S ECONOMY

Geography | Infrastructure | Human Capital | Development | Public Policy | September 2014

ARIZONA TOWN HALL
Creating Solutions

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ARIZONA TOWN HALL

Creating Solutions

The 105th Arizona Town Hall, which convened at the Grand Canyon in November 2014, developed consensus on the topic of Arizona's Economy. The full text of these recommendations is contained in this final report.

An essential element to the success of these consensus-driven discussions is the background report that is provided to all participants before the Town Hall convenes. Arizona State University coordinated this detailed and informative background material and it provided a unique resource for a full understanding of the topic.

Special thanks to Andrea Whitsett, Special Projects Manager for ASU's Morrison Institute for Public Policy for spearheading this effort and marshaling many talented professionals to write individual chapters.

For sharing their wealth of knowledge and professional talents, our thanks go to the authors who contributed to the report. Our deepest gratitude also goes to Arizona State University President, Michael Crow, and Dean of the College of Public Programs, Jonathan Koppell, who made great efforts to ensure that the university could provide this type of resource to Arizona.

The 105th Town Hall could not have occurred without the financial assistance of our generous Professional Partners: Premier Partner APS, Catalyst Partner Blue Cross Blue Shield of Arizona; Consensus Partner SRP; Collaborator Partners Arizona Commerce Authority, Arizona Lottery, and Freeport McMoRan Copper & Gold Foundation; and Civic Leaders Cox Communications, Jennings, Strouss & Salmon, PLC and Wells Fargo.

The consensus recommendations that were developed during the course of the 105th Town Hall have been combined with the background information prepared by ASU into this single final report that will be shared with public officials, community and business leaders, Town Hall members and many others.

This report, containing the thoughtful recommendations of the 105th Town Hall participants, is already being used as a resource, a discussion guide and an action plan to support a thriving economy for all of Arizona's diverse communities.

Sincerely,

J. Scott Rhodes
Board Chair, Arizona Town Hall

PARTICIPANTS OF THE 105TH ARIZONA TOWN HALL: *"ARIZONA'S ECONOMY"*

GRAND CANYON, ARIZONA NOVEMBER 2-5, 2014

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Report of the
105th ARIZONA TOWN HALL
"Arizona's Economy"

Grand Canyon, Arizona
November 2-5, 2014

Introduction

As Arizona pulls itself out of the deepest recession that it has faced since the Great Depression, this 105th Arizona Town Hall is convened to examine Arizona's economy. In Arizona Town Hall's fifty-two year history, this is the eleventh time citizens from across the state have come together to reflect on the current state of Arizona's economy and how best to shape its future.

Some of the topics discussed in this report were considered in previous Town Halls on the economy but need to be regularly re-considered for potential improvement because the economy and the factors that impact it are fluid. Additionally, this topic was addressed earlier this year by a number of regional town halls and forums across the state. The outcomes of these events were available to the participants in this Town Hall and a number of their outcomes are also reflected below.

These topics are a product of changes in technology and the world economy. No topic that affects our economy can be considered in isolation. Our dynamic economy is complex and subject to many factors, all of which affect the others. Whether a topic has been considered before or is new, Arizona's economy is at a crossroads. Now is an opportune time to reflect on how we came to this place and how we as a state can chart our best path forward.

The background report for this Town Hall ended with a quote from Arizona's first governor, George W.P. Hunt, who said that "it remains for us as Arizona's champions and sponsors to make this [48th] star represent the best things in statehood." One of Arizona's greatest strengths is the independent spirit and resiliency of its people. We are a state of trailblazers inspired by the many different people who have called Arizona home. We continue to need trailblazers who can build on Arizona's proud history as we move forward into a new economic era.

We hope the recommendations of this 105th Arizona Town Hall will inspire our state to pursue a resilient prosperity for generations to come. This report captures the consensus that emerged from the discussions that occurred at the Town Hall. Although not every Arizona Town Hall participant agrees with every conclusion and recommendation, this report reflects the overall consensus achieved by the 105th Arizona Town Hall.

SETTING THE STAGE

Arizona's economy has many diverse strengths. These strengths are not focused in one particular region within the state, but are rather spread throughout the state. They include Arizona's climate, its lack of natural calamities (such as tornados, hurricanes, and earthquakes), and its western heritage.

Arizona's tourism industry is strong statewide which is based, in part, on our natural beauty, geographical location and diversity in climate. Additionally, our arts and cultural industry is thriving statewide, with strong symphony orchestras, theater companies, world class museums, performance centers and a myriad of local museums, historical societies and art associations. Arizona also is a leader in astronomy tourism, with Flagstaff and Tucson being leaders in planetary science. This area of tourism would not be possible but for efforts to preserve dark skies in parts of Arizona.

In recent years, Arizona has been able to market itself as a state with cutting edge trends in healthcare. This has been benefitted, in part, by the biosciences roadmap and the presence of elite medical facilities. Additionally, Arizona has a strong community healthcare system that is establishing ways to deliver high-end services to both underserved communities and the general public. This industry also has the added benefit of strengthening Arizona's ability to deliver healthcare to the retirees who continue to be drawn to our state and attracts other complementary businesses to relocate to Arizona.

Arizona's economy is heavily impacted by opportunities created by the federal government and the aerospace industry. It is of paramount importance that major military installations in Arizona such as Luke Air Force Base, Davis Monthan Air Force Base, the Yuma Marine Corp Air Station and Fort Huachuca be actively defended from the Defense Base Closure and Realignment Commission (BRAC) and other deleterious actions such as encroachment and sequestration. Emerging technologies such as the drone industry have the potential to attract significant resources to be invested in the state.

Other strengths include: Arizona's geography and natural resources (discussed below); agricultural production, including wineries; winter visitors; cultural diversity; its location as a transportation corridor to and from Mexico, California and other surrounding states; Arizona's universities; its community college system; a growing trade school industry; and a dynamic, young, diverse, up-and-coming workforce.

ARIZONA AT THE CROSSROADS

In celebrating these strengths, we must also consider the positive and negative factors that have influenced and framed our current economy. There is no question that Arizona has been shaped by the Five C's (climate, copper, citrus, cotton, and cattle), but other factors also have had a significant influence, including: geography; natural resources; international trade; affordable cost of living; inexpensive reliable power; and many others.

Tourism and recreation have contributed to a large influx of money and people to the state. This, in turn, has resulted in population growth, which has impacted all areas of the economy but particularly the housing market. Retirees have also had an impact as they bring their wealth and "mailbox incomes" to the state and use that income to purchase goods and services in Arizona. The overall population growth, in addition to the growth of our retirement communities, significantly impacts Arizona's healthcare industry.

Since the World War II era, the federal government has infused federal funds into Arizona's defense and technology industries. With military bases came servicemembers and their families with relatively stable employment that spurred other industries and services. In addition, Arizona has benefited from other public investment projects, such as the vast system of dams and reservoirs across the state.

In order to develop a more competitive workforce, Arizona must be a leader in preK-12 education by encouraging a STEAM (science, technology, engineering, arts, and math) curriculum. Public investment in the education system - both primary and secondary - has a direct impact on strengthening the future of Arizona's economy. Enhanced engineering

capabilities and research and development at institutions of higher education are critical to further innovation, entrepreneurism and our ability to attract high wage technology jobs.

We have to consider the benefits of trade within the United States (especially California) and globalization on Arizona's economy. Mexico has and will continue to shape our economy. Arizona should diligently fight to erase the recent negative stigma that Arizona lacks diversity and is unwelcoming as a result of legislation such as House Bill 1070 and Senate Bill 1062.

The political climate in Arizona also affects the economy. Individuals and companies can be discouraged from coming to the state because of the political environment. Our political leaders need to be conscious of the messages they are sending, in particular bills that are discriminatory toward segments of the population, and their potential negative impact on the economy. We need our political leaders to be part of the solution.

There are many other challenges to the optimal development of Arizona's future economy. Some challenges include a lack of thoughtful political discourse and insufficient civic engagement. Many Arizonans feel they are not being adequately represented. For Arizona to be as successful as it can be, this is a problem we must fix immediately by becoming more active in the political process and holding our leaders accountable including consideration of structural changes in state government proposed by previous Town Halls.

Additionally, Arizona is facing increasing concerns about water conservation and management, including overdevelopment, differing water use priorities, the legal relationship between groundwater and surface water, and the delayed adjudication of water rights.

The retention of a skilled and educated workforce is required in order to attract and foster business growth. Creating quality work-life environments that address the needs of college graduates and young professionals will help to retain and increase business development. Increasing funding for education, from early childhood through universities, is an investment we need to make in our future workforce. We cannot compete with other states unless education is an Arizona strength. Our investment in education must include vocational training, career preparation, liberal arts, and STEAM fields. Supporting and increasing interest in the arts and cultural communities is a challenge we need to confront as arts and culture have been a mechanism for successful economic development in many Arizona communities.

Addressing the state's aging infrastructure and development of new infrastructure, including transportation and utilities (as mentioned below), is critical to the development of Arizona's future economy. Arizona should develop a program to maintain our existing infrastructure before replacement costs become cost-prohibitive. Increasing access to broadband Internet in all communities, especially rural and tribal, is important to economic development and supporting educational opportunities.

Arizona has over nine million acres of state lands held in trust. We need to work with political, community and business leaders to develop appropriate state land reform to maximize the value of this land while balancing the environmental impact. Previous Town Hall recommendations on state trust land reform should be revisited for implementation by the state Bureau of Land Management.

Other challenges we face include the retention of existing military bases, protecting Arizona's vulnerable populations and preserving the unique character of Arizona's cities and towns.

GEOGRAPHY, NATURAL RESOUCES AND INFRASTRUCTURE

Arizona's geography, access to natural resources, and our existing infrastructure have been instrumental to our economic rise. They will also be the foundation for our resilient economic future.

Numerous factors showcase our place within the United States and will drive Arizona's future economy: strengthening our tourism industry, water conservation, renewable energy, agriculture, forestry, mining, tribal lands and maximizing business relationships with our neighbors.

Our state can remarket and rebrand itself based on our diverse geography to promote tourism, including specific parks, monuments, and activities, such as photography, professional sports and outdoor activities. In addition, Arizona can benefit from a heightened focus on small town tourism. Arizona should better market events in small town and local communities to showcase Arizona's Southwestern culture, while promoting Arizona as an attractive economic and cultural base.

Arizona is poised to maximize its trade and business relationships with the Las Vegas metropolitan area, California, Canada, and Mexico. The proposed Interstate 11 project from Nogales to Las Vegas and onward to Canada and inward ports provides an important opportunity to increase trade with all of our neighbors, as well as to promote Arizona as an inland port. Many manufacturers are looking to expand outside of California. The expansion of trucking and railway routes would not only increase business with the ports of Los Angeles but would also enhance our access to markets in Canada and Mexico. Arizona can better serve these large markets with increased trade access, awareness and incentives with Canada and Mexico. If we fail to pursue trade opportunities with Mexico and Canada, those countries will pursue trade with our competitor states, and Arizona will lose this growth opportunity.

While much progress has been made, Arizona has not yet taken complete advantage of its solar and other alternative energy resources. Further investment in renewable energy will become easier if technological advances in these industries result in lower costs.

Water conservation and management is a concern across the state. Some communities in Arizona, particularly in rural and tribal areas, wonder whether they can sustain economic activity with regard to their available water resources. In order to address these concerns, Arizona should continue to manage and implement its existing groundwater management plan. In addition, Arizona should develop a long-term, comprehensive water use and augmentation plan to support efficient use of the resource. Such a plan could include a state water value index and a water delivery and prioritization plan.

Arizona should continue to foster its position as a leader in crop research in arid land agriculture. State and local programs could encourage the planting of xeriscaping and removal of non-native vegetation, including lawns, and the limitation of man-made potable water features in order to encourage water conservation. Additionally, Arizona should look at water conservation and management through alternative means, including expansion of reuse and perhaps desalinization.

The development of the state's natural resources – including copper mines – provides both opportunities and challenges to state and local communities. Arizona's copper mining is a major contributor to our economy and, as a state, we produce more copper than we consume. Most of this production is sold and used outside of Arizona. Arizona should strive for a balance between effective regulation and development of the state's natural resources. Lifecycle costs of the development of these resources should be considered moving forward. Industry leaders, government and the environmental community must collaborate in this effort.

Arizona's forests require wise and balanced management, including landscape-scale thinning projects, and allowing the use of forests and other federal lands for multiple use purposes, such as grazing and biomass harvesting. Thinning would help reduce catastrophic forest fires and also create jobs and provide biomass and timber resources. The state should work with federal agencies to promote better forest management. In so doing, the focus should be on healthy forests, the opportunity for an industry to be built around timber, and biomass harvesting. The benefit of additional water runoff improves the available watershed.

Arizona should strive for better collaboration with tribal communities in order to promote agricultural, mineral extraction, energy, water and other mutually beneficial economic developments. Some tribal communities enjoy an inventory of natural resources; however, federal government regulations can impede opportunities for development of those tribal assets. The state should work with tribal leaders to promote common interests and greater collaboration among all levels of government with tribal communities.

Natural resource development must be balanced with preservation of those resources for the benefit of Arizonans both present and future. The cost of resources (water especially) must take into account Arizona residents who are low-income, so they do not suffer as a result of a market system for resources. Arizona's natural wonders, including the Grand Canyon, Monument Valley, Canyon de Chelly, the Red Rocks and many more, need to be better marketed to strengthen the tourism segment of our economy.

FOUNDATION FOR ARIZONA'S ECONOMIC FUTURE

The availability and accessibility of reliable infrastructure drives the economy and is a key element in attracting new businesses. Deteriorating transportation infrastructure negatively impacts the state economy. Roadways and highways that are in disrepair or not properly maintained negatively affect the economy and inhibit business growth. State, tribal, and local entities and businesses should encourage and invest in construction of roadways and other projects through coordinated public-private partnerships. This would allow for cost-effective development.

Infrastructure funding and building could be changed from population-based (in which rural areas are underserved) to a data-driven and service-area needs approach. For example, Arizona should establish an infrastructure need or value index to evaluate priority, types of options, age and condition, and maintenance requirements, for infrastructure statewide. This inventory of all of Arizona's infrastructure assets would enable a better understanding of the scope of the overall infrastructure challenge and create a tool for development of maintenance and replacement priorities. Improvement of our infrastructure must be accomplished through the collaboration of individual communities throughout the state.

Three statewide infrastructure needs should be made a priority for the growth of Arizona's economy: transportation infrastructure (roads/airports); transit modes (rail/public/air); and broadband Internet access.

Aviation significantly influences Arizona's economy in terms of both income and jobs. Although restrictions to protect existing airports have created some challenges to local, private development, general aviation, as well as commercial airports and military airbases should be protected to promote overall economic growth. Along with the investment in airports, investment in air transportation, in particular to rural areas and international destinations, is crucial to Arizona's growth. The federal government had previously assisted with rural aviation as a transit mode, but that subsidy has gone away. Finding ways to replace those lost funds will be a challenge for our future economy.

The state and industry should work together to expand our multimodal land ports and rail options across the state, permitting greater ease in rail and air travel and cargo service. Our efforts should be concentrated on investment in

public transportation preservation, expansion of heavy rail statewide, consideration of high-speed rail, and expansion of light rail and streetcar options. In addition, we should enhance the use of existing air cargo facilities and capacity for offshore trade.

Broadband Internet access and use of technology will be vital to our future economy. Currently such access is limited in rural and tribal communities, causing a digital divide between urban and rural areas of the state that has a detrimental effect on education, access to healthcare, business development and growth, and other areas. The infrastructure investment needed to expand these services to areas with small populations may be too great to attract the private sector to take on this task. As a result, a combination of public and private efforts will likely be necessary to solve this important issue.

FUNDING INFRASTRUCTURE

There must be a statewide conversation about funding for increased roadway infrastructure and maintenance. Our road transportation system is vital to our economy and needs to be maintained, and in some cases expanded, to allow movement of goods and services within our state. This would require the state to update the gas tax rate and to re-implement the allocation of revenues from the gas tax for local roadway construction. Increase capacity within the state to leverage state and federal revenues. There are critical needs in rural communities for water and sewer infrastructure improvements.

Options for funding statewide infrastructure needs include, but are not limited to: re-thinking how local communities can influence the gas tax (which currently cannot be increased by local communities), tolls, tax increment financing, public-private partnerships, reconsidering the use of lottery funds, and the consideration of grant opportunities.

To assist with these goals, Arizona's government needs to facilitate and collaborate with the many chambers of commerce, other private institutions, and economic development organizations to expand economic opportunities. The state has attempted to do this through the development of the Arizona Commerce Authority.

GETTING THE JOBS WE WANT

An ideal mix of employment opportunities in Arizona includes job and entrepreneurial opportunities at all levels of education and income. Innovation and creativity will continue to be drivers in the state economy going forward through the creation of this ideal mix. This will help Arizona prepare for the unknown jobs of the future.

Communities should build and capitalize on existing industry that they already have as a foundation for developing new opportunities. For example, Arizona's healthcare industry should encourage employment of all varieties of medical professionals, from pure medical services to research sciences. A vibrant medical profession sector also creates jobs in ancillary areas, such as hospitality, food service and construction.

Retirees, in moving to Arizona, bring their existing accumulated wealth, which can impact job growth and community engagement. Arizona's retirees do not only bring their needs, but also their diverse background and work experience and can serve as workers, mentors to students and entrepreneurs. Arizona's large retiree population will remain an important driver in the further growth of our healthcare industry.

Entrepreneurs and the next generation work force are often drawn by a certain type of community and lifestyle. Some employers, especially some entrepreneurs, are attracted to vibrant places, urban and rural, with a high quality of life and opportunity for job growth, development, and expansion. A major opportunity for job growth is through the expansion

and support of a network of incubators and Small Businesses Development Centers and a network of incubators and accelerators that can encourage Arizona's entrepreneurs in all areas of the state. The state should also consider a source of funding for new entrepreneurial projects, such as loan programs.

Arizona's natural resources and geography can also generate job opportunities through the expansion of our existing solar energy sector, forestry, agriculture and mining industries, as well as through outdoor activities, tourism, and a burgeoning wine industry. While tourism remains a powerful economic sector, growth in this industry lies in its continued expansion in small communities and exploring the rebranding of our state. These efforts will further encourage people to recognize small communities as desirable places to live and work.

Manufacturing, mining, agriculture, aerospace, transportation, and technology are all significant economic sectors. These industries continue to evolve, and their demands will require their employees to evolve with them, which will require quality education and training programs. Our education system, including universities, community colleges, vocational schools and workforce development programs, will need to be supported in order to meet these needs. A failure to invest in Arizona's education infrastructure will place Arizona at risk of losing talent and jobs to other states.

INSENTIVES' PLACE IN ECONOMIC DEVELOPMENT

Arizona needs to evaluate how government utilizes its current incentive programs and strive for a balanced approach with non-government incentives in an effort to benefit the economy.

Government programs should not simply result in the government giving money away, but instead should result in a "win-win" for our communities. For example, incentives in the form of grants focusing on collaborative partnerships between business and Arizona's communities to effectively create long term jobs. Many government incentive programs target primarily large businesses, at times to the detriment of small business. We should take a balanced approach between the attraction and retention of large businesses and the development and retention of small and medium-size businesses. Additionally, there should be greater emphasis on whether the business or industry is likely a long-term fit for the community in question and the return on investment in exchange for the provided incentive.

Incentives are most effective when they are performance-based, taking into consideration a cost-benefit analysis of the business and the impact on the local community in which it resides and Arizona as a whole. Temporal and physical presence conditions should be established as part of incentive programs, which might include benchmarks for local job creation and requirements to support education and training programs in the community. "Clawback" provisions or performance-based incremental payments should be utilized on incentives to companies failing to meet the designated requirements. Examples of incentives Arizona should consider implementing or continuing to use include: the reinstitution of the film rebate; the angel investment tax credit; making research and development tax credits more available and tax increment financing (TIF) incentives.

Government incentive programs should not simply be focused on the business community. For example, the attraction and retention of qualified educators, engineers and other needed professionals will benefit from expansion of loan incentive programs, such as loan repayment assistance and loan forgiveness programs. Arizona should explore ways in which incentives could be created to retain our university graduates within the state.

Our veteran population is a strong community in Arizona and greater emphasis should be placed on incentives the Veteran's Administration provides to invest in and develop business, as well as career advancement training and education.

Quality of life is one of the most effective non-governmental incentives available that can help to ensure a high return on investment. In this sense, quality of life can include: lifestyle, low crime rates, excellent educational institutions, effective government, and a clean environment. Arts and culture is one way to build a sense of community and can add beauty and increase vitality within cities and towns. These factors help employers attract and retain the very best talent for their growing businesses. Arizona's younger generation is also considering where to live and work based on the quality of life, sense of place, access to arts and culture, commute times, recreational opportunities and social values supported by the state. Arizona's leaders should engage this population when developing neighborhoods, public amenities and community centers.

Challenges in achieving the most effective mix of governmental and non-governmental incentives include the lack of collaboration between state, county, municipalities, private businesses, and private associations. At times, businesses have more resources, expertise or perceived credibility than government agencies in the realm of recruiting and retaining business. This is an opportunity where public and private sectors should collaborate, understanding the need to be flexible to best solve problems and meet common needs. Building public-private coalitions is enhanced by chambers of commerce, economic developers and others. These sorts of coalitions could have an immediate impact on the marketing and branding of Arizona to attract business through collaboration to reflect Arizona's rich, western spirit. In addition, military facilities retention and expansion should be promoted.

EDUCATION AND THE ECONOMY

Education is the key to eradicating several of the economic and social problems in Arizona. A robust and well-funded public pre-K through college educational system, which could be described as "cradle to career," is essential to attracting business to our communities and driving our internal economic growth. Arizona's education system needs to align itself with the economic needs of the state. The opportunity for higher education should be available to all Arizonans, regardless of whether they choose that path for themselves.

Arizona's education spending should be restored to pre-recession levels. Plans should be made to sustain funding in order to improve the quality of the state's education system. Such an investment should include the recruitment and retention of qualified teachers, competitive teacher's salaries, decreasing class sizes, funding of school counselors and expansion of early childhood education programs. Students should be given opportunities in high school to choose career paths that would allow them to prepare for college or receive training in the trades or the arts. School counselors should not focus only on college. They should also focus on alternative paths, as these may be the best choice for some students. Greater focus should be placed on funding proven programs that help educate both students and parents about post-secondary opportunities. Additionally, a financial literacy curriculum needs to be taught in our schools. Students need to know how to create a budget, manage credit cards and understand the need for saving in order to properly handle their personal, family and business finances going forward.

Arizona should shift its emphasis from drop-out rates to increasing college readiness rates across all communities in the state. Arizona schools need to focus on innovating to assist the struggling student, as well as providing an environment that fosters education.

Higher education, whether college, university, trade or vocational, is cost prohibitive to many in our communities. Some percentage of incoming college students are lower income, first generation students. Consequently, student loan debt has become an enormous burden for many Arizonans. As long as this burden remains, our younger generation's ability to move forward, embark on entrepreneurial ventures, and contribute to the economy will be impeded. Government and the private sector should increase investment in programs to support educational opportunities for students seeking post-secondary education.

Fixing the educational system is a long-term process. To address this issue effectively we will require adequate funding and a collaborative effort between community leaders, education leaders, chambers of commerce, business leadership and concerned citizens. It will take a commitment from all of us to address the needed improvements.

SETTING PRIORITIES AND TAKING ACTION

Arizona's history is filled with stories of individuals and communities who, due to their independent spirit and resolve, built the resilient state that is Arizona. In order for the items below to be accomplished, we must work together to increase communication and collaboration.

Below are the five top priorities for Arizona to pursue:

1. Education and workforce development
2. Infrastructure
3. Tourism
4. Entrepreneurship, local business and expansion of trade
5. Establish Arizona as a welcoming, culturally diverse place

Priority No. 1: Education and workforce development

Proposed Action No. 1: Increase education funding for preK-12, community colleges, and universities to above pre-recession levels and search for new funding sources, including comprehensive tax reform as needed. The funding method should address issues of equity in source and distribution, educator salaries, and should be sustainable and support long-term planning.

Who is responsible for this action: Arizona Legislature and the Governor.

Proposed Action No. 2: Support a comprehensive education improvement plan, which would include a robust public pre-K through college educational system ("cradle to career") and college and career ready standards and that places Arizona in the top tier in educational achievement.

Who is responsible for this action: Arizona Department of Education, individual school districts, the Arizona Board of Regents and community college boards.

Proposed Action No. 3: Promote career technical education (CTE) opportunities, trade schools, and vocational opportunities to school districts, high schools, parents, those who do not complete high school and adult workers.

Who is responsible for this action: Department of Economic Security, workforce investment boards, community colleges, the Superintendent of Public Instruction and the private sector.

Proposed Action No. 4: Conduct a comprehensive study of the workforce needs of businesses in Arizona to serve as a tool for the development of new curriculum and training programs, including bilingual education and adult learning.

Who is responsible for this action: The private sector, the chambers of commerce, the Arizona Workforce Investment Board and other workforce investment boards, the Arizona Commerce Authority, universities, community colleges, and trade and vocational schools.

Proposed Action No. 5: Implement programs to help retain "home-grown talent" within Arizona with a focus on millennials and consider incentives to retain graduates such as loan repayment assistance and loan forgiveness programs.

Who is responsible for this action: Youth leadership groups, such as student life and leadership, student government associations at community colleges and universities, workforce investment boards, the Arizona Board of Regents and the Arizona Society of Human Resources Management (AZ SHRM)

Proposed Action No. 6: Ensure that liberal arts curriculum and critical thinking skills are a substantial component of the education system across the entire age spectrum. This includes an emphasis on teaching the skill of engaging in respectful civil dialogue with people of different perspectives.

Who is responsible for this action: Arizona Department of Education, individual school districts, the Arizona Board of Regents and community college boards.

Priority No. 2: Infrastructure

Proposed Action No. 1: The state's gas tax should be indexed to inflation or another measure to appropriately fund increasing costs for road construction and maintenance and to expand the financial capabilities of counties, cities and towns across Arizona to develop roads and transportation maintenance to address pressing local needs.

Who is responsible for this action: Arizona Legislature, the Arizona Department of Transportation, Municipal Planning Organizations, counties and local communities.

Proposed Action No. 2: The state's air, rail and road transportation systems should be improved and expanded, including the proposed I-11 corridor, from Nogales to Las Vegas and onward to Canada and inward ports.

Who is responsible for this action: Governor, Legislature, Arizona Department of Transportation, the federal government, local governments and public-private partnerships.

Proposed Action No. 3: Rural and tribal broadband should be expanded to promote business growth and strengthen education.

Who is responsible for this action: Private service providers, state, local and tribal governments.

Proposed Action No. 4: Local councils of governments, in connection with tribal communities and local and county governments, should work together to create a plan for future infrastructure and cooperate in finding ways to fund these efforts.

Who is responsible for this action: Councils of governments, tribal communities, federal and local governments, and the Arizona Department of Transportation.

Proposed Action No. 5: Water-related infrastructure must be expanded in rural areas to support business attraction and expansion.

Who is responsible for this action: County governments, private utilities, local governments, and Arizona's congressional delegation.

Priority No. 3: Tourism

Proposed Action No. 1: Through a coordinated effort, promote Arizona's geographic and cultural diversity and location to enhance tourism, sports and business development opportunities.

Who is responsible for this action: Arizona Office of Tourism, Arizona Commerce Authority, local governments, the Arizona Tourism and Sports Authority, local chambers of commerce, local convention and visitors bureaus, and the private sector.

Proposed Action No. 2: Continue to promote our natural resources, climate and geography to enhance the state's image as a welcoming, culturally diverse place where people can live, work and play.

Who is responsible for this action: Arizona Office of Tourism, Arizona Commerce Authority, and all Arizonans.

Proposed Action No. 3: Reinstate the Arizona's Film Office and rebate to promote our state within the entertainment industry.

Who is responsible for this action: Governor and the Legislature.

Proposed Action No. 4: Utilize existing mechanisms to better promote regional arts and culture, fostering perceptions and relationships as well as generating tourism revenue.

Who is responsible for this action: Local arts agencies, chambers of commerce, the Arizona Office of Tourism, CALA Alliance and tribal museums.

Priority No. 4: Entrepreneurship, local business and expansion of trade

Proposed Action No. 1: The Arizona Commerce Authority, under the direction of the Governor, should take the lead in collaborating with other trade groups, including but not limited to, the Arizona-Mexico Commission and the Canada/Arizona Business Council, to restore or enhance strong trade relations with Mexico, Canada and California, including the expansion of programs to allow for quicker border crossings between Arizona and Mexico, particularly for commercial traffic.

Who is responsible for this action: Arizona Commerce Authority and the Governor.

Proposed Action No. 2: Encourage Arizona's federal representatives to prioritize immigration reform.

Who is responsible for this action: Federal government representatives.

Proposed Action No. 3: Support and develop entrepreneurial and local and small business owners (the "entrepreneurial ecosystem"), which includes the expansion of statewide entrepreneurship and the expansion of incubators and accelerators where advising, mentorship, and other resources could be made available and promote procurement practices for state and local governments, universities and community college districts that remove barriers to competition for small and medium-size businesses.

Who is responsible for this action: Arizona Commerce Authority, state and local governments, non-government organizations (including Small Business Development Centers "SBDCs," community colleges and universities) and chambers of commerce.

Proposed Action No. 4: Support financial resources for entrepreneurship in the state by working to increase accessible venture capital; increasing the availability of loans to small businesses; changing state laws to permit loans to businesses by cities and municipalities; research benefits to the state of establishing a state preference for Arizona companies; and tax increment financing (TIF).

Who is responsible for this action: Representatives of the financial community, the Legislature, the Governor, counties, Arizona Commerce Authority, League of Cities and Towns, Arizona Association of Counties, and non-government organizations (including Arizona chambers of commerce).

Proposed Action No. 5: Protect usage of water resources for recreation, industry, commercial, residential, and biological diversity through measures such as: state, regional and local water budgets; the clarification in state statue of the connectivity of surface and ground water; and the adjudication of water claims.

Who is responsible for this action: Arizona Department of Water Resources, the state legislature, county and municipal governments, the governor and the Arizona court system.

Proposed Action No. 6: Engage Arizona entrepreneurs and inform voters and elected officials of the potential for legal cannabis which includes: increased workforce and sales tax revenue to pay for critical programs; and retention of Arizona university graduates and create new opportunities for entrepreneurs in industrial agriculture, biofuel, biotechnologies, specialty foods and medical research.

Who is responsible for this action: Interested Arizona Town Hall delegates and Arizona agribusiness.

Proposed Action No. 7: Create an office within the Arizona Department of Agriculture to support and develop sustainable small farms and provide low cost organic certification for Arizona farmers.

Who is responsible for this action: Arizona Department of Agriculture, state government in concern with The University of Arizona Cooperative Extension Office.

Proposed Action No. 8: Enhance and use existing airport facilities to capture excess air cargo capacity to and from off shore.

Who is responsible for this action: State of Arizona, city airports, Arizona Commerce Authority.

Proposed Action No. 9: Preserve and expand Arizona military installations by engaging federal, state and local elected officials and business communities.

Who is responsible for this action: Governor, the Arizona Military Affairs Commission, Luke-West Valley Counsel, DM50, Yuma and other support groups, congressional leaders, cities and counties.

Priority No. 5: Establish Arizona as a welcoming, culturally diverse place

Proposed Action No. 1: Mobilize all business, cultural, educational, social and media resources to support, publicize and reward positive behavior consistent with 21st century norms.

Who is responsible for this action: All businesses.

In addition to the action items referenced above, what actions can we as individuals take when we leave Town Hall to help improve Arizona's economy? Since many of the recommendations from the 105th Arizona Town Hall recommend that a number of state department heads be responsible for their implementation, a small representative group of Town Hall panel members should be formed to advise the Governor of these recommendations, and seek his support. As individuals, we should also take the following actions:

• We need to work to emphasize the importance of respectful civic involvement and make that a part of our daily lives.

• We need to exercise our right to vote.

• Within our families and communities, we need to instill in Arizona's children the desire to learn, to plan for their future, and to foster an entrepreneurial spirit.

• We need to share what we have learned and the conclusions reached at this Arizona Town Hall with our peers; friends; families; community leaders and organizations; our chambers of commerce; the League of Arizona Cities and Towns; and Arizona Association of Counties.

• We should support efforts to educate and inform the Governor and the Legislature annually on current issues and consensus and concerns in Economic Development.

• We, the Town Hall participants, will make ourselves available to the Governor to be engaged in the development of his Economic Development Plan to be completed during his first 100 days in office.

• We need to be actively involved and support our non-profit and philanthropic community organizations including patronizing and supporting arts and culture.

• We can each take steps to promote Arizona's image, including the use of social media and traditional media such as television, billboards and radio.

• To strengthen Arizona's economy, we must make a special effort to support Arizona's businesses, including a "buy local, grow local" campaign.

• Finally, each of us should commit to doing one of these individual actions and reporting back to each other.

Reports from Regional Sessions

Prior to the statewide gathering, several regional sessions convened to discuss issues relating to Arizona's Economy. Their reports were provided to participants of the 105th Town hall and are included here for reference.

FINAL REPORT
OF
"YUMA'S REGIONAL ECONOMY"
SEPTEMBER 19, 2014

ECONOMIC IMPACT OF THE YUMA REGION

Yuma County's economy is currently based largely on agriculture, tourism and the military. These industries, however, are facing multiple challenges including changes to water policy, military industry consolidation to other states and the demographics of the winter visitors.

With the exception of the recent recession, Yuma County's economy has historically been stable and consistent. Growth has seemingly stayed constant or level rather than dropping during cyclical recessionary periods. This recession, however, saw Yuma County getting caught up in the same housing phenomenon that impacted the rest of the nation which caused us all to suffer from the economic drop.

There are a number of misconceptions about the local economy in Yuma. Negative headlines about our economy can be self-fulfilling and cause people to feel as if the economic outlook is worse than it actually is. As a result, the Yuma region may struggle to attract outside industry due to a misperception about the quality of life offered here. This misperception needs to be changed and our significant resources (proximity to borders and existing and ready workforce) highlighted.

The misperception is not always limited to those outside of the Yuma region. Today, many young people in the Yuma area do not see educational opportunities in the community, whether it be traditional post-high school degree programs or advanced certificate programs. This can be improved through implementing programs like a Joint Technical Education District (JTED) which can expand opportunities for training of young residents in the community. Programs like this may also enhance the attraction recruitment and retention of other industries to the area, such as healthcare, while providing quality jobs and careers to young people. Many of these programs provide stepping stones to additional education and training. The absence of such opportunities could lead to an increase in social problems such as domestic violence, drug use and mental health disorders.

Changing perceptions and creating opportunities for success are part of the solution, but it is important that the Yuma region attract and retain businesses or industries that are compatible to those that are already here. Individuals and families need jobs to survive, but there is a need to ensure that those jobs are the correct ones for the region. An economy is more than just the income that it produces; it affects the culture and impacts the quality of life for everyone in the community.

THE UNIQUE ECONOMIC STRENGTHS OF THE YUMA REGION

Yuma has a variety of unique strengths or traits relating to a vibrant and sustainable economy. One of Yuma's greatest strengths is that in spite of our recent growth it has retained a great small town, collaborative spirit and community feel. Our small town atmosphere also allows for more opportunities to be involved in leadership positions and community groups that effect positive change.

Yuma is centrally located between several metropolitan areas and Mexico with millions of consumers. We have a distinct logistical advantage because we can be in other areas of the country faster than other communities. This also means that tourism is an important part of the Yuma community. Yuma has the ability to draw a lot of people that other communities would love to have. Winter visitors feel very comfortable and at home in the Yuma area and consistently return due to our relatively low cost of living, lack of significant traffic problems and lower crime rates than in larger cities.

The Yuma region is fortunate to have a positive image and many natural resources such as the Colorado River and its senior water rights. Water is the key to our future. Yuma currently has senior rights to Colorado River water; however, other communities are continually seeking to alter that position. We also need to recognize our opportunities to sustain renewable energy, such as solar, and need to take better advantage of our resources to improve our community. The Yuma region has a reputation for working together with its regional neighbors to protect both its natural resources and the jobs that they create.

The Yuma area has had challenges in recruiting and retaining industries. Some of that may be related to misconceptions about the region and a belief that Yuma cannot compete with the Phoenix metropolitan area. A broader brand discussion, focusing on Yuma being a regional player, can mitigate the misperception of Yuma being "too hot" and suffering from an abnormally high unemployment rate. We can alter the dialogue about this market by talking about labor supply, cross-border transactions, available distribution logistics through our airport, rail, and other transportation modalities and manufacturing opportunities to strengthen the "brand" of Yuma and its image. We also have a workforce that is diverse, eager and ready for technical or industrial training in order to retain and strengthen this asset.

There are tremendous potential synergies between Yuma, the lower Colorado region, and Mexico. Other communities, such as Mexicali's view to be the Silicon Valley of Mexico, have a clearly defined vision. The Yuma region needs to become a part of a collaborative vision to experience true regional growth. We need to change the mindset in our view of Mexico, especially for those residents in the Yuma area that have never even been to Mexico.

IMPORTANT TOOLS NEEDED TO SUPPORT A VIBRANT AND SUSTAINABLE ECONOMY FOR

OUR REGION

Improving the education and training opportunities for our workforce is vital in order for us to compete for high paying jobs and create a vibrant economy. A focus should be on technology and engineering programs that will increase the number of individuals completing Bachelor Degrees. Other specific training should also be offered as needed by industries. We currently have a number of existing educational assets in our community, including our local colleges (Arizona Western College, Northern Arizona University - Yuma), however, we are short of teachers in our educational system. The pipeline nationwide is thin, and it is difficult to attract teachers nationally due to the lower wages received in Yuma County. Also, Yuma currently doesn't have the ability to educate and certify new teachers, but we are beginning a tradition of "Growing our own" with initiatives such as the Yuma Regional Medical Center residency program and the NAU elementary education program. Finally, Yuma Schools need to offer life skills classes that teach business knowledge, work ethic and technical skills so that students have an opportunity to gain practical experience even before they reach graduation.

Attracting desired employers is important to grow our economy. As such, our presentation to outside industry needs to be refined in order to do this better. One tool that could use improvement is our branding. We do a poor job at "telling our story" and lack a cohesive message that resonates. We do not educate people outside the community of our wonderful attributes. This has to be a collaborative effort, where all local communities (Yuma, San Luis, Somerton, Mexicali, Imperial Valley, etc.) create an image for our region. Additionally we need to create better infrastructure (power, gas, rail, etc.) as well as fully understand our market and what it has to offer. We should also consider reducing regulations in order to mitigate the hurdles that are required to open and operate a business.

We have a wonderful Downtown area in Yuma that has been showing great improvement over the years. However, we can capitalize on that more by providing more special events and by improving access to this area through increased means of transportation.

Finally, state government needs to participate in changing the image of Arizona in regard to highly charged issues, such as immigration and unaccountable tax reductions. With this change in perception, benefits to the local government and a better business environment would follow.

ACTIONS THAT WOULD HAVE A BENEFICIAL IMPACT

Overall, we need to alter the perception that people have of our region. We don't do a great job of telling our own story. A process should be developed to collectively deal with the issue of branding and focus on removing negative perceptions. All of our non-governmental entities can work together toward the creation of common goals along with a comprehensive plan to collectively finance the marketing of our brand and then move that message to front line businesses such as hotels, supermarkets, etc. so that the message is apparent everywhere. We can further reach out to targeted companies and potential individual talent to convey the welcoming nature of the community.

We also need to invest in the community by cleaning up areas that have fallen into disrepair so that we can be more attractive and marketable. Industry partnerships should be created to address "bigger goals" that can be shared by stakeholder industries. Assets unique to industry partners will strengthen our market by demonstrating a positive relationship among existing businesses. Further utilization of existing business venues for community or similar events would also contribute to a positive perception that local businesses are enjoyed and supported.

The community needs to take more of an interest in our success by becoming involved. Ouryouth should be aware of what industries thrive in our area, such as agriculture, and they should be encouraged to learn about other industries so that they can be engaged when opportunities arise. Expanding opportunities for work experience (such as JTED) will provide practical experience. A partnership between high achieving students and school administrators to develop relevant programs would have a positive impact on our educational systems and would be seen as an asset by those outside of our community.We should support what we have but also identify what is next for our community. Our existing assets can then be used to align with the next big expansion to industry.

We focus on winter visitors and tend to underestimate the benefit of providing opportunities for students. Putting a college campus downtown would allow for partnerships between Industry and businesses that could provide jobs, training and other opportunities to connect with students to keep them interested and involved in the community. The common thread in all of this seems to be education.

Rules, regulations and barriers that restrict people from getting into business should be reviewed so that we can make it easier for people to start a business, thus creating jobs. There are a number of industries throughout Yuma County, that have an aging workforce population and there is nobody to replace them. Opportunities will be available that we need to make sure the youth of this community are aware of. One way to do this is integrating this with already existing programs. Some industries, such as field workers, are not pushing their children to do the same thing or the children do not want to follow in their parents footsteps, like it was in past generations. The purpose of technology is to improve our quality of life, but what would happen to the actual workforce that cannot afford the education? If we can identify opportunities, and the future of that opportunity, to young people, they would be interested and motivated. One way this should be done is by bringing businesses into the classroom and have them engage with students. There is a business-school barrier that should be broken. Students do not have the opportunity for job fairs or to learn about the local businesses and the opportunities they have.

WHAT ELECTED LEADERS NEED TO KNOW

Elected leaders should make more of an effort to go into the community and actually speak to the people. Government officials need to be more visible and recognizable. They need to focus on the future for our community and let go of obstacles from the past. The community should feel welcomed to participate in government at public meetings without feeling intimidated.

Streamlining processes and removing bureaucratic obstacles will make it easier for businesses to come to Yuma County. Officials should also understand that the economy is not as bad as they are being told in comparison to other areas. They control the tax base and an increase in government income means less money in the communities' pocket.

Many of the elected leaders at the state level are more idealistic than pragmatic. Solutions do not readily come out of the state legislature. The region needs to come up with a solution on its own, put together the resources, and implement it.

Elected leaders have done a very good job in regard to economic development but would still benefit in being more business friendly by streamlining the process related to starting up a business, providing start up incentives and being flexible with regulations related to development and expansion of existing businesses. Perhaps by spending more "hands on" time with actual businesses, this practical experience may enhance their leadership abilities.

Our leaders should focus on education, not only university, but also K-12. They must be good stewards of our tax money. Some infrastructure improvements have occurred, but we also need to make sure we are spending education money wisely. We need to get our critical program funding back from the State and adopt tax increment financing.

THE ROLES OF PUBLIC AND PRIVATE SECTORS IN PROMOTING ECONOMIC DEVELOPMENT

The government's purpose and function needs to be reevaluated. The role of economic development should stay, whenever possible, in the private sector. Government support is needed, but it can be too intrusive and its growth needs to be controlled, as opposed to the individual or private sector.

Government should recognize that small business is the backbone of our community, paying wages and healthcare for employees. Regulatory programs should be limited to necessity and administered in ways that do not harm businesses. Private industry are the risk takers and will play on the field that the public sector creates and maintains.

Both public and private sectors should be unified, working in tandem to look for ways to benefit the people. It is a partnership and they need to work together in getting the proper message out to others about our community. They need to promote economic development through testimonials, advocacy and evangelism and need to coach them on how to do this. However, we should also respect experts and real information rather than just anecdotal opinion or experiences. We want good "customer service" and a positive brand, but should communicate the reasons behind our processes so that there is better understanding by constituents. Saying what is needed to be done and actually doing it needs to be emphasized by identifying what it is we are really good at and back it up, through marketing and the utilization of those services by the members of the local private and public sectors. If areas of the region are lacking, both sectors can react to help fill that void through the use of partnerships and resources.

The State Legislature should invest in people and concentrate on bigger issues. They need to spend time in Yuma to see what is actually going on in our schools and community. Also, we need to keep our non-profits robust and not let them suffer or fail in the face of a constricting economy. These programs can help to improve our economy by providing support for those populations that need help preparing for future economic challenges.

Summary Report of the 27th Annual Pinal County Town Hall

October 2 – 3, 2014

Economics of a Healthy Community

Delegates to the 27th Annual Pinal County Town Hall developed recommendations for enhancing local area and countywide good health measures to improve the overall health of county residents. More than 120 attendees heard six speakers on varying topics related to health in Pinal County and Arizona. Topics ranged from: statistics taken from a recent health assessment of Pinal County residents; to the impact of infrastructure on a healthy county; to current, successful programs that can be replicated in other parts of the county. The delegates then divided into five breakout groups to discuss strategic recommendations and personal commitments to form a healthier county.

All groups agreed good paying jobs with good benefits were critical to a healthy economy. A healthy workforce plays a major role in creating a sound foundation for economic development.

What makes a healthy community?

• Interaction within the community/knowing your neighbors/communication

• Healthy workers and good jobs with good benefits - creating a good economy

• Access to services, healthcare

• Infrastructure: water, sidewalks, parks, connectivity, places to recreate (opens spaces and trails)

• Having an active lifestyle/prevention of obesity

• Education on health issues/role models/ leadership in health issues

Do you and your family have healthcare insurance or access to healthcare?

• All delegates had healthcare insurance and access to healthcare. Some delegates had all services available within Pinal County, however, many had to use specialists and medical facilities in either Pima or Maricopa counties.

• Transportation was listed as an issue in many locations

Specific health concerns in Pinal County were:

• Mental health/Substance abuse/Smoking/Alcohol

• Obesity

• Mental health with lack of local resources/Homelessness

• Access to healthy food choices (popularity of fast food was seen as an issue)

• Lack of indoor/outdoor workout facilities

• Lack of local resources for veterans and seniors

What types of programs do you want to see implemented in your community to improve health?

- Employers promoting fitness programs/access to fitness facilities
- Centralized community resources focused on health
- Programs to reduce isolation
- Increased preventative healthcare/access to health education
- Peer to peer programs
- Start drug education programs earlier (elementary school)
- Support farmer's markets, local growing of foods, community gardens
- Community investment in open spaces and trails for active lifestyles
- Programs on nutrition/access to good nutrition
- Need for grassroots movement to affect a behavioral change
- School facilities opened longer/after school hours for activities

What are you willing to do?

Personal Commitments:

- Talk to my Town Council and let them know about what we learned at Town Hall about healthy choices
- Educate and promote local, available services (HOA, as a member of local clubs, associates at work)
- Volunteer my time as a person knowledgeable in health insurance to help build a wellness model for the county identifying insurance benefits tied to good health to be deployed through local chambers of commerce, city/town governments, United Way, non-profits
- Play the game show that was part of the Town Hall called "Eat This or That", (a game identifying the best food choice between two items) at school during the Central Arizona College Health Fair held each year
- Help connect Pinal County law enforcement agencies with training programs on mental health/domestic violence issues
- Join with neighbors in exercising before going to work
- Professionally collaborate with industry to promote wellness programs
- Re-educate myself on minimal walking exercise to keep healthy and share with people in my family, friends and work group
- Be a role model for healthy practices
- Get local community group to keep Arizona Trail in good condition and use it for regular hiking
- Disseminate information on social media
- Take charge of my wellness
- Have healthy behaviors (buckle up, stop smoking, no texting while driving)

- Work on getting a mobile unit for veterans implemented
- Start safe driving
- Motivate other youth to assume leadership roles/inspire others to better health and healthier life styles
- Communicate what was learned during Town Hall to my community
- Change my attitude toward health
- Start a leadership for young women's group
- Get sports teams to do volunteer projects regarding healthier lifestyles
- Follow up on outreach to Child Protective Services
- Open a Veterans One-Stop Center
- Bring non-profits together to work more efficiently
- Create a healthcare directory for the City of Maricopa
- Engage with organizations across the county to work together
- Continue to advocate for children and families

ARIZONA'S ECONOMY

APRIL 2015

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ARIZONA'S ECONOMIC FUTURE: OUR CHOICE

TO ADDRESS ARIZONA'S FUTURE WE CANNOT ONLY ASSESS WHAT WE THINK THE FUTURE WILL BE, BUT MUST DETERMINE WHAT WE *WANT THE FUTURE TO BE*.

Arizona is, in part, defined by its shifting identity. Less than one hundred years ago our now heavily developed cities were lightly populated and the sectors that would dominate Arizona's economic development in the latter half of the 20th century – agriculture, industrial mining, and tourism – had barely emerged. The engine of growth that fueled our state in recent decades – residential development – was unimaginable as statehood dawned in 1912.

Yet, as Arizona Town Hall convenes to once again consider the state's economy, we gaze into what can only be described as an uncertain future. What is the path, or more accurately, what are the paths, toward prosperity? What does a dynamic economic future look like? Will the demands of the decades ahead resemble those of the recent past or must Arizona chart a new economic course?

This background report is designed to provide Town Hall participants with the foundational knowledge necessary to engage such questions. Yet, for all the information and analysis provided by the experts in the following pages, there are questions of value and direction that cannot be answered statistically. Thinking about our state's economic future is not simply an exercise in calculating the number of jobs generated with one tactic or another, or the expected growth of a particular industry, it requires judgment regarding the types of communities we want in Arizona. It forces us to determine what exactly we mean by "quality of life," one of the most consistently cited magnets for new business and residents.

To address Arizona's future we cannot only assess what we think the future will be, but must determine what we *want the future to be*.

We are right now at a moment of reckoning, making it appropriate to engage such a grandiose question. The post-recession recovery was weaker in Arizona than in most of the rest of the country. As of summer 2014, the state had recovered only 60 percent of the jobs lost during the recession. This is a departure from historical norms. Typically, the aggregate growth rate in Arizona is far *higher* than the national average after an economic downturn. In the current cycle, Arizona lagged behind the nation until late 2010. Since then, its growth rate has roughly matched the national average. And, lest we think this is a reflection of the idiosyncrasies of the financial crisis, it is consistent with a broader pattern. On both per employee and per capita measures, Arizona compares less favorably to other states than it did prior to the mid-1980s.

The oft-stated view is that Arizona is too dependent on boom and bust real estate cycles. This is certainly part of the diagnosis, but the analysis in this report suggests something more. Even when the development engine is humming, our economy is not yielding the type of outcomes to propel Arizona to a stronger economic future. While Arizona does, indeed, generate jobs during good economic times, too few are cutting-edge, well-compensated jobs. Instead, the state relies upon moderately skilled labor yielding modest incomes. The most lucrative jobs – of which Arizona has too few – are in emerging skills-based and knowledge-based industries, jobs not fed (or starved) by the vagaries of the real estate market.

BY JONATHAN KOPPELL, PH.D.
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Understanding how to grow, maintain and attract companies providing these jobs is, therefore, critical and will, in all likelihood, challenge Town Hall participants. Arizona's human capital – our people – is a critical asset for our future economy. A skilled workforce is a top priority for many companies looking to expand or relocate; they require a skilled workforce five, ten and more years into the future. Companies want to see a continued commitment to improving education quality in Arizona, particularly but not exclusively in science, technology and math.

Arizona's unique geography puts it in a position to a serve a key role in the 21st century economy. With ready access and historical ties to Mexico, our state can thrive in conjunction with one of the world's most dynamic countries. Our substantial population with ethnic, social and cultural ties to Mexico could prove to be a great economic advantage if properly leveraged.

Arizona's location at the nexus of east-west and north-south transit routes makes it a natural logistics and trade hub, of particular importance to Latin American and Pacific trading partners. And our climate provides the consistency and reliability contemporary global supply chains require.

But even such observations and an enlightened view of what Arizona's economic future *could look like* are not enough. It is important to be deliberate in choosing what steps will be taken to arrive at this destination.

A good part of the answer lies in public policy. This report offers a candid assessment of the efficacy of government efforts to improve the economic conditions in our communities. It appears the public policies that most affect economic performance are those that directly affect factors most important to businesses. As discussed in the overview chapter, the critical factors that drive the economy are quality of labor force, physical infrastructure, and costs.

The quality of a labor force is directly dependent upon education and job training programs, as noted already. But it is more nuanced than that. It is also critical that we support an Arizona that is an attractive and desirable home for those who acquire that education – the educated labor force must want to settle in Arizona. We need to ensure that investors and entrepreneurs start companies, grow them in Arizona, and keep them here.

Similarly, we need to ensure that the infrastructure accommodates current growth and is designed to support future expansion. Indeed, rapid population and business growth is the primary driver of Arizona's infrastructure needs; even success is expensive!

And so this economy-focused Arizona Town Hall, in fact, forces us to use statistics, charts and data to address many questions that cannot be answered with an equation. What do we want prosperity in Arizona to look like? Perhaps it is defined by explosive population growth reminiscent of our boom years with burgeoning communities scattered around the state. Or, perhaps it is a continued expansion of a service and natural resource-driven economy yielding steady but modestly-compensating employment with limited opportunities for advancement. Or perhaps it is an economy that thrives on the knowledge and creativity of Arizonans and an environment that allows their entrepreneurial impulses to find expression.

Around us we see the seeds of all three economic futures taking root. The choices we make now, the investments we make, the priorities we set, will determine which Arizona economy thrives in the years ahead.

OVERVIEW OF ARIZONA'S ECONOMY

BY TOM REX, MBA

INTRODUCTION

During the 19th century and the first few decades of the 20th century, Arizona's economy was dominated by mining and agriculture (farming and ranching). These activities are part of the economic base: the minority of economic activities that "drive" an economy. The relative importance of each of these activities has decreased sharply as other economic base activities have developed in Arizona. Mining began its relative decline in the early 1930s, while agriculture's relative decline began in the 1950s.

Tourism was one of the earliest of the other economic base activities, but it was not until after World War II that it became a significant driver of Arizona's economy. Tourism continues to be one of Arizona's major economic drivers. Tourists impact many industries, including lodging places, passenger air transportation, golf courses and country clubs, travel agencies, and various retail trade industries.

The role of the federal government as a driver of the Arizona economy expanded substantially during World War II, as it spent heavily to develop physical infrastructure and military bases. Federal expenditures – particularly along the international border and at military bases – continue to boost the state's economy.

The modern Arizona economy began to emerge after the war, with the transition largely completed by the late 1960s. One key to the transition was the emergence of manufacturing industries after the war, particularly aircraft, electronics, and industrial machinery. Over time, the original aircraft industry expanded to incorporate space activities; aerospace manufacturing remains an important driver of the economy. In contrast, the relative importance of the electronics industry has declined since the 1980s, though it remains a driver of Arizona's economy. The industrial machinery industry helped fuel Arizona's growth during the 1950s and 1960s, but has shrunk substantially in importance since the 1980s.

In addition to the expansion of tourism after the war, Arizona also became a destination for seasonal residents. Mostly retired, these individuals stay in the state longer than tourists and do not lodge in motels and hotels; many own second homes in Arizona. Starting in the late 1950s, a growing number of retirees permanently migrated to Arizona, bringing with them their assets and retirement incomes that were earned elsewhere.

Various service activities that have customers outside of Arizona have grown in importance as drivers of Arizona's economy, particularly since the 1980s. Telemarketing, various back-office financial operations such as credit card issuing, and insurance carriers are among the service activities contributing to Arizona's economic base. Associated with manufacturing, particularly electronics, certain wholesale trade activities also are basic contributors to Arizona's economy.

Today, Arizona has a varied economic base. High-technology manufacturing – led by the guided missile and space vehicle, semiconductor, and search and navigation equipment industries – is the most important as measured in dollars. These high-tech activities pay high wages and have a high value added. Tourism is the major employer, but its true economic impact is not as large due to its low average wage and heavy use of part-time and/or seasonal workers. Service activities such as telemarketing and back-office finance and insurance operations play a moderate role in driving Arizona's

KEY FINDINGS

- Regional economies are driven by "basic" economic activities that bring money into the region that would otherwise not be present, by selling goods and services to customers who do not live in the region.
- "Population-serving" activities sell to residents and businesses located within the region. They respond to conditions within the economic base and do not cause economic growth.
- To become more prosperous, a region must be economically competitive, as determined by a long list of location factors.
- The most important business location factors are the quality and availability of the workforce, the quality and availability of the physical infrastructure, and cost factors, of which labor costs are the most important.

economy. Seasonal residents and in-migrating retirees provide a boost across a broad range of industries. Though not as important as in the past, mining, agriculture, military bases, and other federal government activities remain components of the economic base. A number of other activities, some relatively new to Arizona, also are basic, but activities such as biomedical research and optics make up only a very small part of the Arizona economy.

The relatively large size of growth-related activities such as construction and real estate, and the very high cyclicality of those activities, have led some to declare that these activities drive the economy and that Arizona's economy lacks diversity. In reality, these activities respond to growth occurring in the economic base and the state's economy is reasonably diverse. As long as the state continues its fast growth, growth-related activities will remain disproportionately large. Further diversification of the economy will have little effect on moderating the state's severe economic cycles – that cyclicality primarily results from fluctuations in the growth rate.

The state sometimes is divided into three economic regions – the Phoenix metropolitan area, the Tucson metro area, and the balance of the state. Among the three regions, the Phoenix area has the most diverse economy with the largest number of driving economic activities. This is a natural outcome of its much larger employment size. Though the Tucson area and the balance of the state are of roughly equal economic size, the Tucson area's economy is more diverse.

Unlike the metro areas, the balance of the state consists of multiple local economies, with the composition of the economies varying by town. Most of the local economies are driven by only one or a few economic activities. Only rarely is an activity other than agriculture, mining, the federal government, tourism, and seasonal residents important outside of the two large metro areas. Economic diversification would be of significant benefit to this part of Arizona, but opportunities for diversification are extremely limited in much of rural Arizona given such factors as geographic remoteness, small population size, and low levels of educational attainment among the residents.

REGIONAL ECONOMIES

Regional economies, such as the Arizona economy, are driven by economic activities that bring money into the region that would otherwise not be present, by selling goods and services to customers who do not live in the region. Bringing money into a regional economy is a necessity since "leakages" of money from the regional economy inevitably occur – no region produces all of the goods desired by its residents. Similarly, money leaves the region when residents spend money earned in the region in other regions when they travel.

Activities that import money into a region drive the regional economy. Such activities have been variously labeled as "tradable," "export" or "basic" – the latter term is used in this chapter. Basic activities are responsible for the prosperity and growth of the regional economy. Yet these activities represent a minority, perhaps one-third, of a region's total economic activity.

Basic activities fundamentally differ from "population-serving" activities, which sell to and support residents and businesses

HIGH-TECHNOLOGY MANUFACTURING – LED BY THE GUIDED MISSILE AND SPACE VEHICLE, SEMICONDUCTOR, AND SEARCH AND NAVIGATION EQUIPMENT INDUSTRIES – IS THE MOST IMPORTANT DRIVER OF THE ECONOMY AS MEASURED IN DOLLARS.

A TYPICAL MINING TOWN ILLUSTRATES THE RELATIONSHIP BETWEEN BASIC AND POPULATION-SERVING ACTIVITIES.

located within the region. These population-serving activities respond to conditions within the economic base. They do not cause economic growth – they would not exist if basic activities were not present.

To illustrate the relationship between basic and population-serving activities, consider the case of a community, such as a typical mining town, that is wholly dependent on one basic activity: the sale of copper or other mined resources to businesses located outside the town. Until the mine began to hire workers, few people lived in the vicinity. While the mine was operating, a variety of economic activities sprang up to serve those employed at the mine, but the output of the mine remained the sole product sold to outsiders. When the mine closed, the mine's employees left the town to seek work elsewhere and the businesses engaged in population-serving activities immediately lost many of their customers. A community cannot survive by selling goods and services to each other because of leakages. Without a means of bringing money into the community to offset these leakages, the remaining businesses in the former mining town eventually shut down, resulting in a ghost town. (In some cases, old mining towns have survived, primarily by drawing tourists, who replace the mine as the source of outside monies.)

BASIC AND POPULATION-SERVING ECONOMIC ACTIVITIES

Many businesses can be classified as largely basic or population serving, but few economic activities sell wholly to customers outside the region or entirely to residents of the region. For example, a citrus grove may predominantly ship its fruit to regions of the country unable to grow citrus, but also may sell to a regional grocery store. Most retail operations primarily sell to residents of the region, but may also make sales to tourists. Other businesses have a more even mix of regional/nonregional customers.

Most companies that form the economic base can locate anywhere since their customers are geographically dispersed. Regions within the United States compete with one another and with the rest of the world for basic activities with their "business climate," which consists of a broad range of factors important to businesses, such as the availability of a trained labor force. Examples of mobile basic industries include manufacturing, insurance carriers, software producers, and call centers.

Unlike basic economic activities, population-serving activities are location specific since they sell their goods and services to regional customers, who may be individuals or businesses that engage in population-serving activities, such as a hair salon. Economic activities whose market predominantly is the regional population include retail trade, many types of services, and local government. Construction and real estate also largely serve regional residents and companies.

While necessary to the functioning of a regional economy, population-serving activities do not bring money into the regional economy. Their presence in the region is due to the spending of businesses that sell goods and services to customers outside the region and to the spending of the employees of these businesses. In this way, basic activities drive the economy while population-serving activities respond to the growth occurring in basic activities.

A distinction can be made in population-serving activities between locally owned businesses and branch locations of national or international companies. The leakage of money from the regional economy is somewhat less if a business is locally owned.

Regional economic development efforts do not need to be concerned with attracting companies to serve regional residents and businesses. In a free enterprise, capitalist

system, if an unmet demand is present, a company will fill the opening without any intervention from local governments or economic development agencies. Therefore, regional economic development focuses on basic activities since other regions – not only in other states, but in other nations as well – are competing to become the home of these basic activities.

In contrast, *local* economic development efforts sometimes do compete for population-serving activities. Cities within a metropolitan area compete with each other to attract companies serving the local population in order to receive the tax benefits that accrue from a development locating within one city instead of in the neighboring city. To the extent that cities offer incentives to companies serving the regional population, this local competition is counterproductive from the perspective of the region.

Just as private-sector markets that work most effectively allocate resources freely across competing uses to the ones that are most likely to result in growth, public-sector policies need to distinguish between economic-base and population-serving industries to the extent possible in order to maximize economic competitiveness and growth. For example, providing tax cuts and incentives to population-serving companies serves no economic purpose.

While regional economic development efforts focus on basic activities, they do not give equal attention to each type of basic activity since the various types of basic industries do not have an equal effect on the regional economy. A low-paying basic industry such as tourism has a much lesser impact per employee than does a high-paying basic industry, such as high-technology manufacturing. An industry's prospects for growth also are considered in economic development. Some basic industries are unlikely to be a source of future growth. Many of the mature manufacturing industries have limited growth prospects, at least within the United States. Thus, regional economic development needs a more finely tuned target than simply basic industries, taking into account opportunities and threats (e.g. strong competition from other regions). Moreover, in choosing the economic activities to focus on, regional economic development must consider the region's strengths and weaknesses.

CLASSIFICATION OF SECTORS AS BASIC ACTIVITIES

Classic basic activities include many agricultural, mining, and manufacturing activities – goods produced in one region largely are sold to customers in other regions. With the evolution of the economy, a much broader range of basic economic activities have become important. In addition to goods, various services are now exported. For example, a mortgage loan customer support center that serves clients throughout multiple states may be located in Arizona.

Of special interest to Arizona are tourists, seasonal residents – the bulk of whom are retirees – and those who move permanently to Arizona at retirement age. These individuals represent a different type of basic economic activity. They travel/move to Arizona, spending money in the state that was earned elsewhere; money that would not reach Arizona if not for their travels. Those retirees who permanently settle in Arizona are of particular importance since they generally bring with them wealth and assets earned elsewhere as well as their retirement income. The expenditures of tourists, seasonal residents, and in-migrating retirees occur across a large number of industries.

The relative importance of location factors considered by tourists, seasonal residents, and in-migrating retirees differ from those of businesses. In particular, local natural attributes – such as climate, mountains, and bodies of water – are more important in attracting tourists, seasonal residents, and in-migrating retirees. The aspects of quality of life that are determined by human decisions and activities also more greatly influence the number of visitors that any region receives than the businesses it attracts.

Regardless of the nature of the economic activity, there are no hard data on how much of the economy consists of basic activities – data are not available by company or by industry to indicate the percentage of sales that are made to local residents and companies versus the proportion made to out-of-state customers. Some estimates of the shares of sales made to outside customers have been made, but these estimates vary widely by source for many economic activities.

Manufacturing. For most of the 20th century, manufacturing was the most important basic activity in most regions of the country. It often still is viewed as the primary target of economic development. For most manufacturing operations, a company can choose a location among many regions.

About two-thirds of Arizona's manufacturing is considered to be basic. The percentage varies with the nature of the manufactured product. A high percentage of the aerospace and electronics goods manufactured in Arizona, for example, are sold to customers outside the state. The basic shares are considerably lower for food and beverages produced in the state.

Agriculture and Mining. Unlike manufacturing, agricultural and mining activities are not mobile. Their locations are dependent on local attributes of the land. While these activities are not targets of economic development, the companies in Arizona do compete with companies in other regions. Thus, regional business climate still plays a role in the success of a region's agricultural and mining enterprises.

The basic proportions of agriculture and mining are roughly between 80-and-90 percent. While a very high percentage of many agricultural and mining products, such as copper, are exported from Arizona, other products largely are sold within the state. For example, the construction sand and gravel mined in Arizona, and the milk produced in the state, are almost entirely sold to local customers.

Wholesale Trade and Transportation. Wholesale trade and transportation are inherently a blend of basic and population-serving components. For example, a trucking company may both (1) transport goods into Arizona that will be sold by local companies and ultimately consumed by Arizona households, and (2) transport goods manufactured, mined, or grown in Arizona to out-of-state customers. Wholesale trade is a similar activity that brings goods (such as groceries) into Arizona and arranges for goods produced in Arizona to be sold outside the state.

Estimates of the basic shares of these sectors vary widely, with perhaps one-third of wholesale trade and one-half of transportation and warehousing being basic. The basic share is particularly high in air transportation, due to the number of tourists arriving by air.

Government. By definition, state and local (county, city, school district, etc.) governments serve their residents, who provide the vast bulk of funding for government operations. However, some funding does derive from tourists and other outsiders. Thus, estimates place the basic share of state and local government to be greater than zero, though less than 5 percent. Due to decisions made by state government officials regarding the location of a state university or a state prison, state government may be a more significant driver of the economy in particular towns.

Since most of the federal government's revenues derive largely from U.S. residents and companies, the federal government often is not considered to be part of the economic base. However, some regions receive more federal funding than was contributed by regional residents and companies. In these regions, a portion of the federal government can be identified as a base activity. Arizona, for example, has a disproportionate number of National Park Service sites. In addition to the federal expenditures, these sites attract tourists from outside the state. The federal government disproportionately purchases goods from the state's aerospace industry. In local areas, the federal government can be a significant, or even primary, driver of the economy. Federal spending on border security and ports of entry is a major contributor to the economies of communities located near the Mexican border. A military base is a huge contributor to the economy of the local community.

Construction and Real Estate. Construction, real estate, and other activities tied to population and economic growth typically are not considered to be basic activities; estimates place their basic portion at about 20 percent. The 20 percent derives from construction work done in Arizona by a local company for businesses that sells goods or services to outside customers and for employees of those businesses. Similarly, homes built for seasonal residents and in-migrating retirees can be considered to be part of the economic base.

Construction and real estate are larger-than-average sectors in Arizona due to the state's above-average growth rate (which is the result of the growth of basic activities). In some cycles, the construction and real estate sectors have begun to recover from a recession before most other sectors, but it is a mistake to equate this timing to their being driving economic activities.

Retail Trade. Though largely serving the local population, many retail stores sell a portion of their goods to tourists and seasonal residents. Estimates of the basic share range from about 10-to-25 percent.

Services. The economy consists of a number of other service-related sectors, such as health care and entertainment. The estimated basic share of these sectors ranges from about 10-to-40 percent, but typically is around 20 percent. The shares are this high primarily for two reasons: the impact of tourists, seasonal residents and in-migrating retirees, and the basic nature of certain service activities, such as call centers, financial processing centers, and regional headquarters that serve a geographic area larger than Arizona.

MEASURING THE ARIZONA ECONOMY

Some economic indicators, such as employment or gross domestic product, measure the aggregate size and growth of the economy. Employment generally has been the most widely used indicator due to its simplicity and to the timeliness of the release of its estimates. However, it is an inferior economic measure since hourly wages and the number of hours worked per year vary so much from one job to another. An aggregate economic measure that is expressed in dollars, such as gross product or earnings, is a better measure of aggregate economic growth. Arizona typically has been among the national leaders on measures of aggregate economic growth simply because of its rapid population growth.

On a per capita (per person) basis, economic activity is lower in Arizona than the national average, contributing to the state's low average incomes and relatively high poverty rates. For example, based on the 2012 American Community Survey (ACS) conducted by the U.S. Census Bureau, 60 percent of Arizonans age 16 or older were part of the labor force, compared to a national share of 64 percent; median household income in Arizona was 7 percent below the national average, though the cost of living was only marginally below average; and 18.7 percent of Arizona's residents were living in poverty, compared to 15.9 percent nationally.

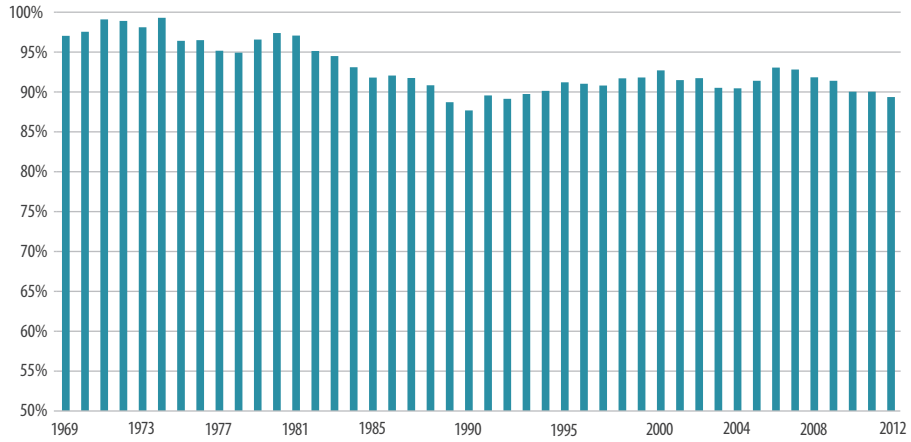
The age distribution of Arizona's residents (somewhat above average shares of children and senior citizens) contributes to the below-average per capita economic activity. However, workforce participation in Arizona is below average even among those of prime working age (73 percent in Arizona versus 76 percent nationally among those 25-to-54 years old). Cultural views related to the role of women in the workforce and low educational attainment may contribute to the low participation

rates. The low per capita activity is particularly an issue outside of the two major metropolitan areas, but even in the Phoenix area per capita activity is below the national average.

The alternative to measures of aggregate economic growth are measures of productivity and prosperity. At a regional level, productivity is indirectly measured by per employee indicators, such as per employee gross product. Gains in productivity lead to improvements in prosperity. Prosperity typically is gauged by per capita measures, such as per capita income. In the early 1990s, the Arizona Strategic Planning for Economic Development (ASPED) effort – a comprehensive statewide economic plan that was lauded across the nation – recommended that Arizonans shift their focus from aggregate economic measures to productivity and prosperity measures, but Arizonans have been slow to adopt this recommendation.

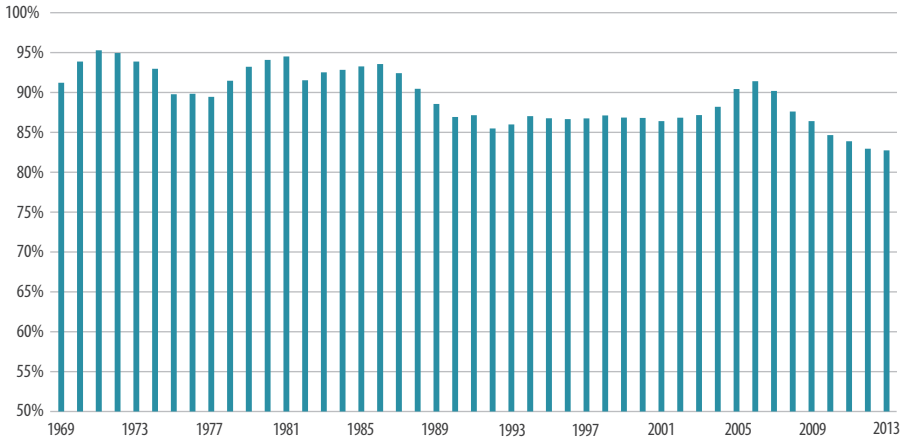
The state's performance on measures of productivity and prosperity has been below average for decades, but Arizona has compared less favorably relative to other states in recent decades than it did in the period prior to the mid-1980s. As seen in Chart 1 for per employee earnings, Arizona's figure was within 1 percent of the national average in the early 1970s but was 11 percent less than average in 2012. The differential from the nation is larger based on per capita measures, as seen in Chart 2 for per capita personal income. Arizona's figure was within 5 percent of the national average in the early 1970s but was 17 percent less than average in 2013.

Chart 1: Per Employee Earnings in Arizona as a Percentage of the National Average



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Chart 2: Per Capita Personal Income in Arizona as a Percentage of the National Average



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

THE STATE'S PERFORMANCE ON MEASURES OF PRODUCTIVITY AND PROSPERITY HAS BEEN BELOW AVERAGE FOR DECADES.

ON A PER CAPITA BASIS, ECONOMIC ACTIVITY IS LOWER IN ARIZONA THAN THE NATIONAL AVERAGE, CONTRIBUTING TO THE STATE'S LOW AVERAGE INCOMES AND RELATIVELY HIGH POVERTY RATES.

AS OF SUMMER 2014, THE STATE HAD RECOVERED LESS THAN 60 PERCENT OF THE JOBS LOST DURING THE RECESSION THAT BEGAN AT THE END OF 2007 AND LASTED INTO 2009 NATIONALLY AND INTO 2010 IN ARIZONA.

ECONOMIC CYCLES

Nationally, the economy follows a cycle in which a period of aggregate economic growth that typically lasts from a few to several years is followed by a recession (a contraction in the size of the economy) that usually lasts from several months to a little more than a year. The growth phase frequently is split into two parts: (1) a recovery from the losses experienced during a recession, which generally takes only months to complete, and (2) an expansion.

Arizona's economic growth follows a cycle that is very close in timing to the national economic cycle. Like other fast-growing states in which construction and real estate – highly cyclical activities – are a disproportionately large share of the economy, Arizona has one of the most cyclical economies in the nation. Aggregate growth is much faster in Arizona than the national average during economic expansions, but Arizona's economy may decline by as much or more than the U.S. average during recessions.

The economic cycle from the end of a recession in late 2001 through the end of the recession in 2009 was unusually extreme nationally and especially in Arizona. Following a slow start in 2002 and 2003, the economy boomed from 2004 through 2006. Arizona experienced its fastest aggregate growth in history during these years, though its gains in productivity and prosperity were typical. The boom turned into a recession that began at the end of 2007 and lasted into 2009 nationally and into 2010 in Arizona. This was the longest and deepest downturn since the Great Depression of the 1930s, as measured by both aggregate and prosperity measures.

The recovery from the last recession has been slow, especially as measured by employment and unemployment. Given the magnitude of the employment losses during the recession, a recovery back to prerecessionary levels was not completed nationally until spring 2014, five years after the end of the recession. As of summer 2014, the state had recovered less than 60 percent of the jobs lost during the recession. Typically, by shortly after the end of a recession, the aggregate growth rate in Arizona is far higher than the national average. In the current cycle, Arizona lagged behind the nation until late 2010. Since then, its growth rate has roughly matched the national average.

LOCATION FACTORS AND ECONOMIC DEVELOPMENT

A region must be economically competitive to become more prosperous. Competitiveness is determined by a long list of regional attributes (location factors), sometimes collectively referred to as the business climate. Economic competitiveness is necessary for all three forms of economic development: attracting companies to move to the region, encouraging existing companies to remain and expand in the region, and fostering new businesses.

The regional factors deemed most important vary by industry, type of facility, and company. Yet most rankings of location factors do not distinguish between the many kinds of basic activities. The most important factors considered by the average company when looking to move or to locate a new facility include

- **The quality and availability of the workforce.**
- **The quality and availability of the physical infrastructure.** Transportation – airports and surface transportation – and utilities are most often mentioned.
- **Cost factors.** Labor costs are the most important of the cost factors, but tax burdens, real estate costs, and energy costs all are common considerations. Once a region has been selected as a finalist in a company's site selection process, the availability and flexibility of incentives often makes a difference.

Other regional attributes of importance include the availability of land and buildings and the regulatory environment.

The importance of workforce and infrastructure was verified at the spring 2014 conference of the Arizona Association for Economic Development. Asked to identify the greatest economic challenge of the next 20 years, economic developers most often identified workforce or education. Infrastructure was the second-most common response.

The list of important location factors can be very different for the high-paying, high-technology industries that are expected to lead the nation's economic growth during the 21st century. Within these industries, the list of factors important in siting a headquarters or research and development (R&D) facility can be quite different from the most important factors in locating a manufacturing plant or some other type of facility.

In order to distinguish between the different industries and different types of facilities, economic development experts in the Phoenix area were polled regarding what they believed to be the most important factors (see "Site Selection Factors Vary Widely by Economic Cluster," *Arizona Business*, November 2000). They were asked to differentiate between the type of company facility and were asked to list the factors most important to each of eight basic industry clusters that either were already of particular significance in the Phoenix area or were a target for future growth. The selected clusters were aerospace, bioindustry, call centers, environmental technology, plastics, software, transportation, and "high tech" (other than the high-tech clusters mentioned specifically, and including electronics). Each of these clusters was selected either in the original Arizona Strategic Planning for Economic Development effort during the early 1990s or shortly thereafter. Several, but not all, of these clusters are high paying and are heavy users/producers of technology.

In general, the most important factors for headquarters/R&D facilities and for manufacturing/other types of company facilities were labor costs, the availability of a skilled workforce, and educational opportunities and quality. For manufacturing/other types of facilities, the cost of utilities and the airport infrastructure also were rated very highly, though neither of these even made the list of important factors for headquarters/R&D facilities.

Several other factors also were considered to be important. Those on both lists – headquarters/R&D facilities and manufacturing/other facilities – included the availability of land and leased space, the telecommunications infrastructure, and the education infrastructure. The proximity to universities and research centers also was on the list for headquarters/R&D facilities. For manufacturing/other facilities, land costs and lease rates, power and water availability, and regulations also were considered to be important.

Notably lacking from this listing are business taxes and incentives. Each was considered to be important for certain types of facilities in some clusters, but overall was not considered to be as important as the factors mentioned above for the selected clusters. Also notable is that two of the three most important factors to all types of facilities are related to education: the availability of a skilled workforce, and educational opportunities and quality (important to the company as a component of a skilled workforce and important to the company's employees as a component of their quality of life). Two additional education factors were considered to be important: the education infrastructure and proximity to universities and research centers.

Some of the location factors, such as labor costs and real estate costs, are largely beyond the purview of public policy. In contrast, the public sector is largely responsible for the transportation infrastructure and public education. To the extent that taxes are a location factor, they must be evaluated in the broad context that they are the price paid for the public infrastructure and public services that are important to businesses.

In the past, Arizona attempted to attract cost-sensitive operations – such as mature manufacturing industries and customer-service centers in which business costs are disproportionately important among the location factors. Though Arizona's costs still are competitive from the perspective of other U.S. states, much of the competition for cost-sensitive operations now comes from other nations that have substantially lower costs. Arizona, and the rest of the United States, must compete in the 21st century based on innovation and the development of new and better technologies. Because of this, education and research and development have become particularly important factors in determining the economic competitiveness of a region.

ABOUT THE AUTHOR

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ARIZONA'S ECONOMIC GEOGRAPHY

BY IAN DOWDY, AICP, MBA

INTRODUCTION

The story of Arizona is one of cooperation, foresight, and an indefatigable spirit. For millennia humans have called the region home – in fact, the longest continuously inhabited area in the western hemisphere is believed to be near the modern-day city of Tucson. This was achieved in spite of frequent droughts, withering heat, and a complex, 2000 year political history that has witnessed governance by Spain, Mexico, the United States, and various Native American nations.[1] Add to that range wars between cattle and sheep interests, battles over water, and the colorful story of the western frontier and the result is a vibrant economy and cultural tapestry that is an artifact of wars, treaties, and its geography.

noun: GEOGRAPHY: the study of the physical features of the earth and its atmosphere, and of human activity as it affects and is affected by these, including the distribution of populations and resources, land use, and industries.[2]

Like most places, geography has shaped Arizona more than any other factor. Water supply and climate are most often credited for the success of human civilization in this region. Other influences, including trade, agriculture, transportation, and air conditioning, have also contributed significantly toward making Arizona the fifteenth most populous state in the nation.[3]

By looking at economic trends in the state, it is possible to see how Arizona has responded to opportunities and shifts in society and industry. Arizona's economy has moved over the past 50 years from a balance of industries where no sector contributed more than 15 percent of the total, to a situation where two categories, financial and services, supply nearly half of all economic productivity.[4] Though Arizona's reliance on the success of the housing industry has been widely reported, clearly there has been an increased reliance on the service sector as well. This same trend has occurred throughout the United States as manufacturing has moved overseas and natural resource production has declined relative to other economic industries.

A critical question to the future of the state is: how can Arizona leverage its unique geography and assets to increase the resiliency of the economy while improving its overall strength? This chapter examines the geographical influences on our state's economy and will reveal factors that can lead to a more prosperous state.

KEY FINDINGS

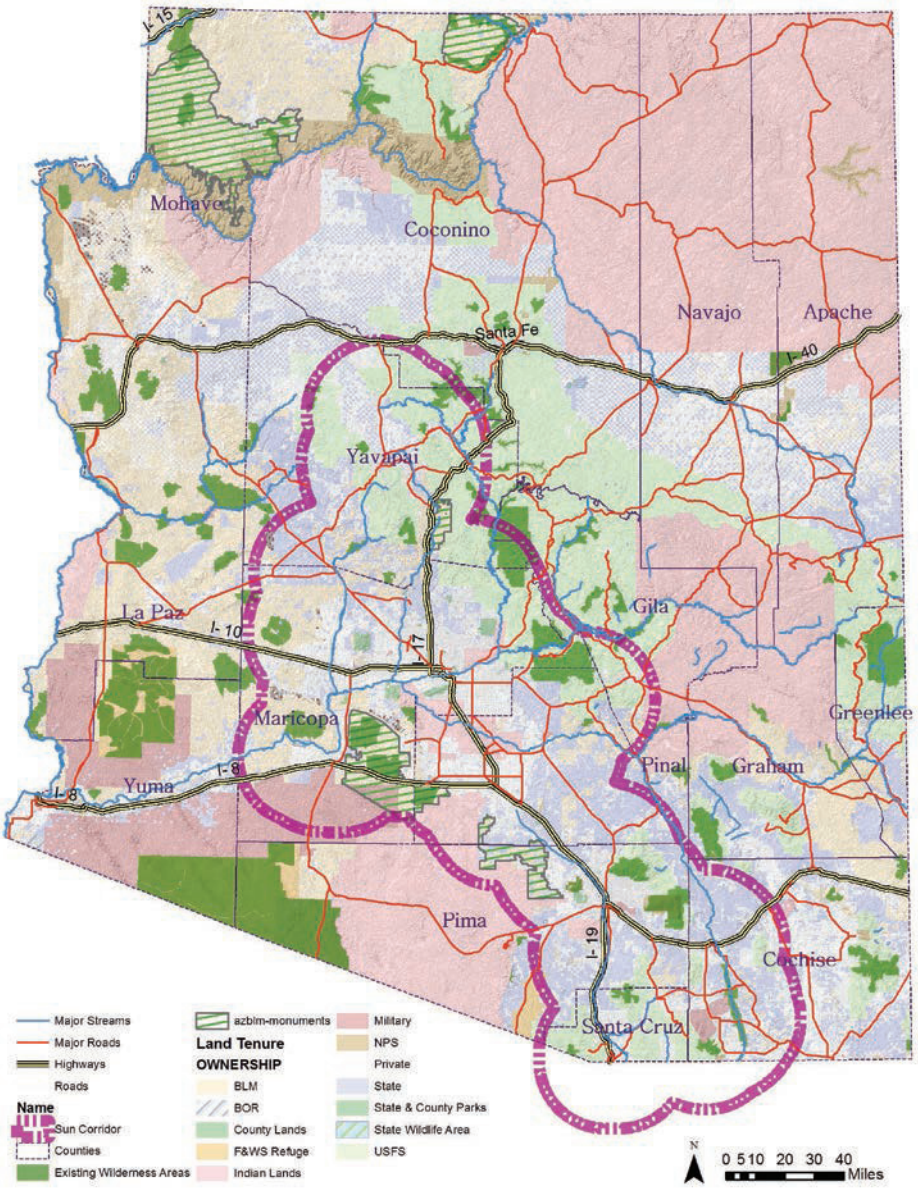
- The "5Cs" copper, cattle, cotton, citrus, and climate still have a presence in Arizona's economy, especially the rural areas of the State.
- Climate is an important factor to Arizona's past and future economic prosperity.
- Natural resources including the natural areas and water are important aspects of Arizona's future viability. Conservation and wise use need to be carefully considered.
- Arizona is positioned to take advantage of trade opportunities between California, the World's eighth largest economy, and Mexico.
- The proposed International Trade Corridor and Interstate 11 could be important elements of Arizona's economic future.
- Solar energy has emerged as a new industry for Arizona. Smart planning and investments could allow the State to capitalize on this opportunity.

URBAN AND RURAL COMMUNITIES

THE SUN CORRIDOR

While not defined by hard and fast boundaries, the Sun Corridor has the largest population and most robust economy in the Intermountain West.[5] Additionally, the Sun Corridor remains one of the fastest growing areas in the nation due, in large part, to Arizona's sunny and comparatively affordable cities. Figure 2 on the following page shows the growth of select Arizona cities and towns from 1990 to 2010.

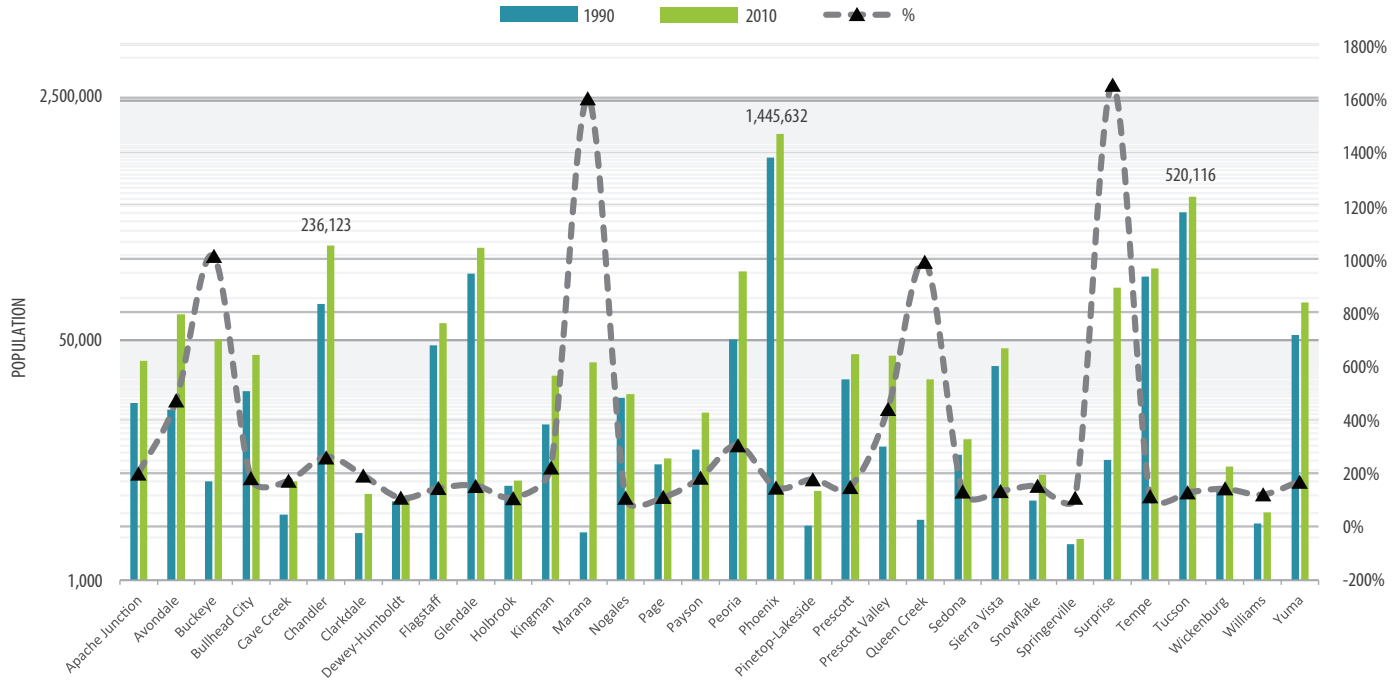
Figure 1: Arizona's Sun Corridor



THE SUN CORRIDOR REFERS TO THE REGION STRETCHING FROM NOGALES IN THE SOUTH, THROUGH TUCSON AND PHOENIX, AND UP TO PRESCOTT.

Source: The Sonoran Institute.

Figure 2: Growth Trends in Selected Arizona Places, Population Change from 1990 to 2010



Source: US Census Bureau, 2014.

Figure 3: The Top 20 Most Populous Places in Arizona, 2012

Place	Population
Phoenix city	1,488,750
Tucson city	524,295
Mesa city	452,084
Chandler city	245,628
Glendale city	232,143
Scottsdale city	223,514
Gilbert town	221,140
Tempe city	166,842
Peoria city	159,789
Surprise city	121,287
Yuma city	95,429
Avondale city	78,256
Goodyear city	69,648
Flagstaff city	67,468
Buckeye town	54,542
Lake Havasu City	52,819
Casa Grande city	49,974
Sierra Vista city	46,351
Maricopa city	44,803
Oro Valley town	41,388

Source: US Census Bureau, 2014.

Economically, the Sun Corridor has advantages over some other megapolitan regions in the U.S. It boasts a more diverse industrial portfolio than Los Angeles and Houston, Tucson has a higher concentration of education and health industries, and Phoenix enjoys significantly more business and professional services than the national average.[6] Additionally, Arizona's farming industry lies predominantly within this region around Phoenix and in Pinal County. Tourism is also important in the Sun Corridor as it draws millions of visitors each year for NASCAR, Major League Baseball, NFL games, and a variety of other activities.

The top ten most populous cities in Arizona are in the Sun Corridor (see Figure 3), demonstrating the level of influence this region has on Arizona's economy and politics.

RURAL ARIZONA

Most of Arizona is rural in nature with wide open vistas and quintessential western communities scattered throughout. Arizona is marked by diverse natural settings: the arid landscape of the Sonoran Desert; the grasslands of southeastern Arizona; the biological diversity of the Sky Islands of Cochise, Graham, Pima, and Santa Cruz counties; and the incredible forests of the Mogollon Rim among others. In addition the Grand Canyon, the Painted Desert, and a wide variety of other iconic landscapes give Arizona world-wide acclaim for ecotourism and outdoor adventure.

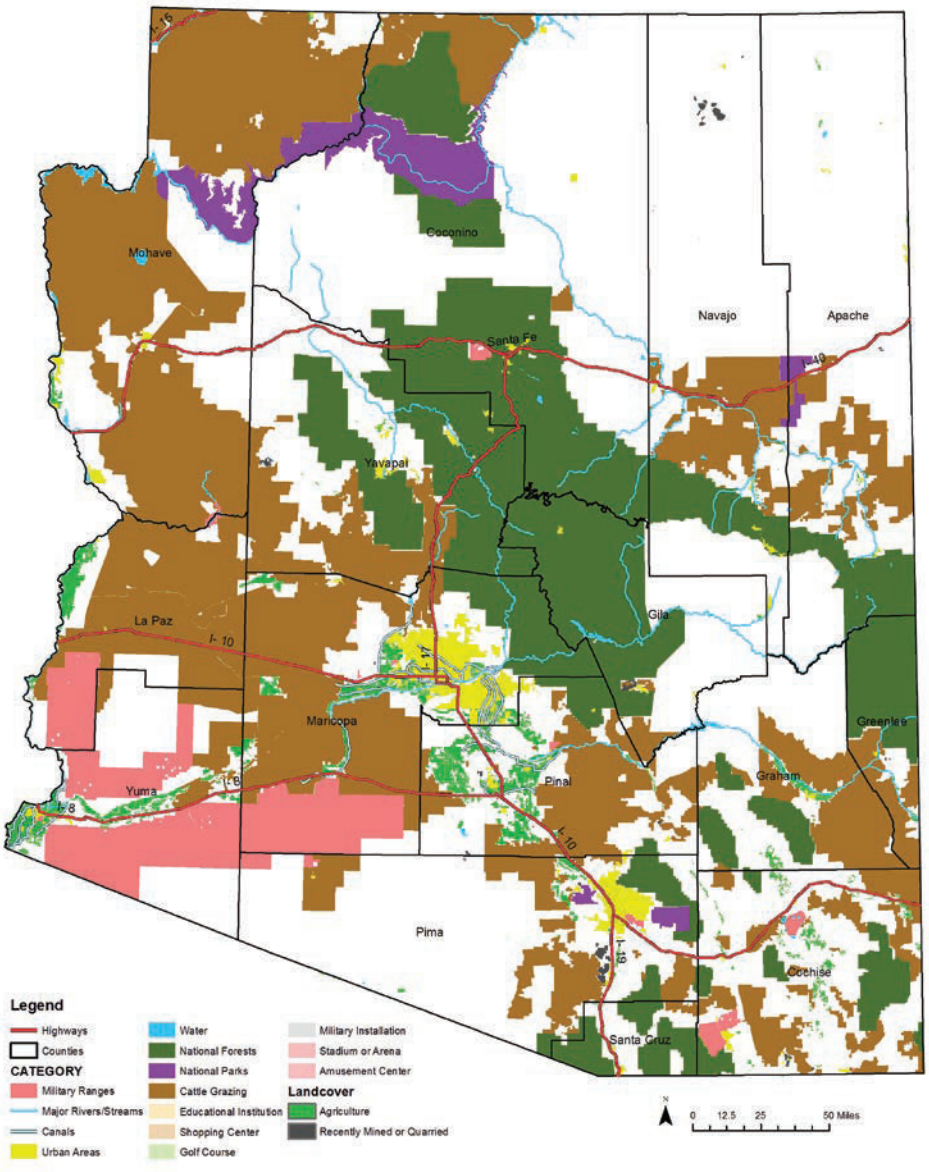
The economy of rural Arizona is comprised primarily of agriculture, ranching, mining, forestry and tourism. These industries require large amounts of land and bring life to small and medium sized communities throughout the state. In some cases, small communities that once relied on mining and forestry have adapted to industry changes by becoming centers for tourism, arts, and renewable energy production. Gila Bend is a good example of a small community that has benefited by embracing solar energy. Jerome, though once essentially a ghost town, has become a vibrant center for the arts and tourism.

THE 5 Cs

As the critical elements in Arizona's success, it is worthwhile to review these historic building blocks of Arizona's economy and evaluate how they are relevant today. Copper reflects the mining industry that includes copper, gold and even coal. Cattle covers a variety of livestock raising that occurs on public and private lands throughout Arizona. Cotton refers to the agricultural industries around Yuma, Phoenix, and Pinal County. Citrus applies to the variety of orchards around the state. Lastly, climate broadly recognizes the value of the state's warm sunny weather.

Currently, these five sectors compose a comparably small portion of our state's Gross Domestic Product (GDP) relative to other sectors than they did in 1963, for example. Looking back, it is easy to see how Arizona became known for these industries. Today the urban Sun Corridor has a significant focus on financial services and real estate, while the 5 Cs remain a big factor for the majority of Arizona's rural areas.

Figure 4: The 5 Cs Today: Cotton, Climate, Cattle, Copper and Citrus



Source: The Sonoran Institute.

HISTORICALLY, THE 5 Cs WERE THE DRIVING FORCES BEHIND ARIZONA'S ECONOMY: COPPER, CATTLE, COTTON, CITRUS, AND CLIMATE.

FIGURE 4 PROVIDES A LOOK AT HOW THESE SECTORS APPLY ACROSS THE STATE'S CURRENT LANDSCAPE.

Though the 5 Cs are a smaller part of Arizona's modern economy, climate remains a central factor in the economic success of the state. A good portion of the population growth within Arizona can be attributed to migration from the northeastern U.S. that occurred since the 1950s. Moreover, as a part of the Sunbelt, Arizona enjoyed a significant boost in construction and finance revenue as a result of the growth from this trend.[7]

Other sectors of Arizona's economy also benefit from Arizona's climate. The military presence in the state is largely due to the favorable weather that allows for operations over 300 days a year. The value of these military activities was estimated at approximately $9 billion in direct and indirect economic benefit in 2008.[8]

Over the past few decades the service industry has become increasingly dominant in our state's economy. The same can be said across the rest of the nation, however in Arizona much of service sector growth can be attributed to tourism and recreation that is afforded by warm winter weather and a wide range of activities that are possible in this state. No other place can boast of the opportunities for golf, outdoor recreation, Major League Baseball's spring training, NASCAR, bowl games, combined with an authentic western heritage and access to the second most visited national park in the U.S., the Grand Canyon.[9]

Although the 5 Cs have slowly been replaced by the modern economy in Arizona, the climate presents opportunity that few other places have. Arizona has done well to prepare for the unforeseen growth and the challenges of developing a metropolis within a harsh and water-constrained environment but the future of the economic growth of the region relies on integrating the sustainability of Arizona's natural resources and identity into the economic picture.

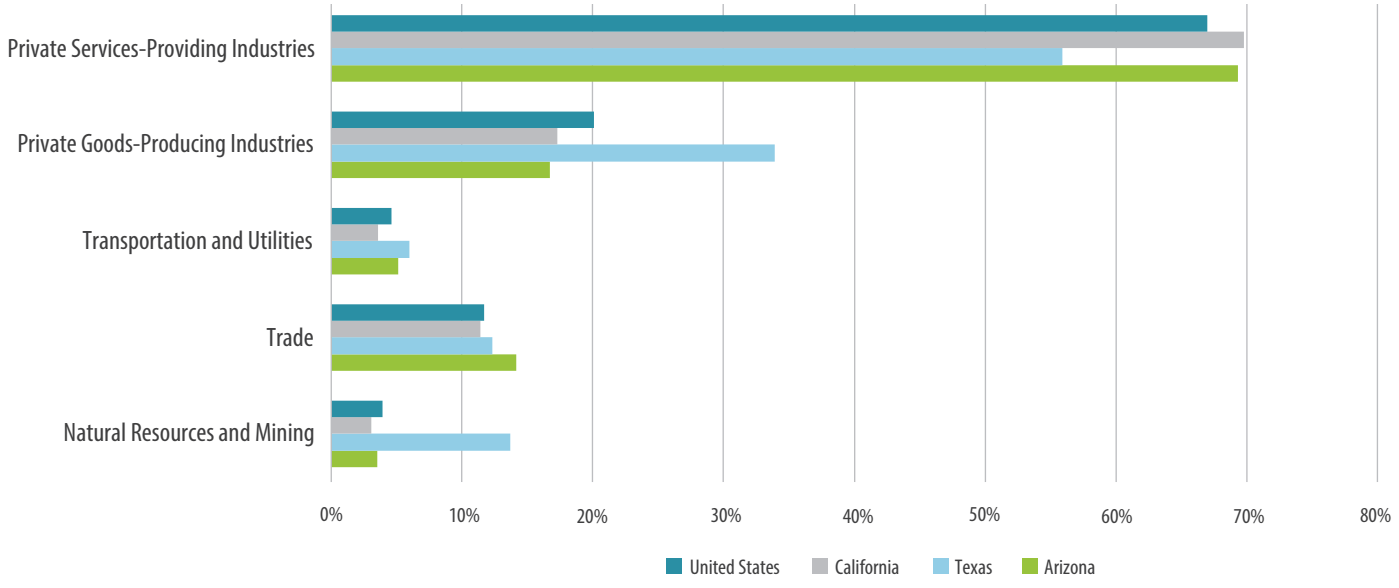
REGIONAL GEOGRAPHY

Arizona is the most populous and economically robust state in the Intermountain West – the region in the Western United States located between the Rocky Mountains on the east and the Cascade Range and Sierra Nevada on the west.[10] This unique position allows the state to capitalize on the emerging economic trend of near-shoring and the large economy of California. Other opportunities including renewable energy development, ecotourism, and healthcare may also help diversify Arizona's modern economy, which until recently has been dominated by services, real estate, and development. Figures 5 compares the economy of Arizona to that of Texas, California, and the U.S. as a whole. A closer look at the relationship between Arizona, California, and the broader Intermountain West should reveal some insights into a more diverse and prosperous economic outlook. Figure 6 shows the location of Arizona's megapolitan, the Sun Corridor, relative to other megapolitan regions in the U.S.

CALIFORNIA

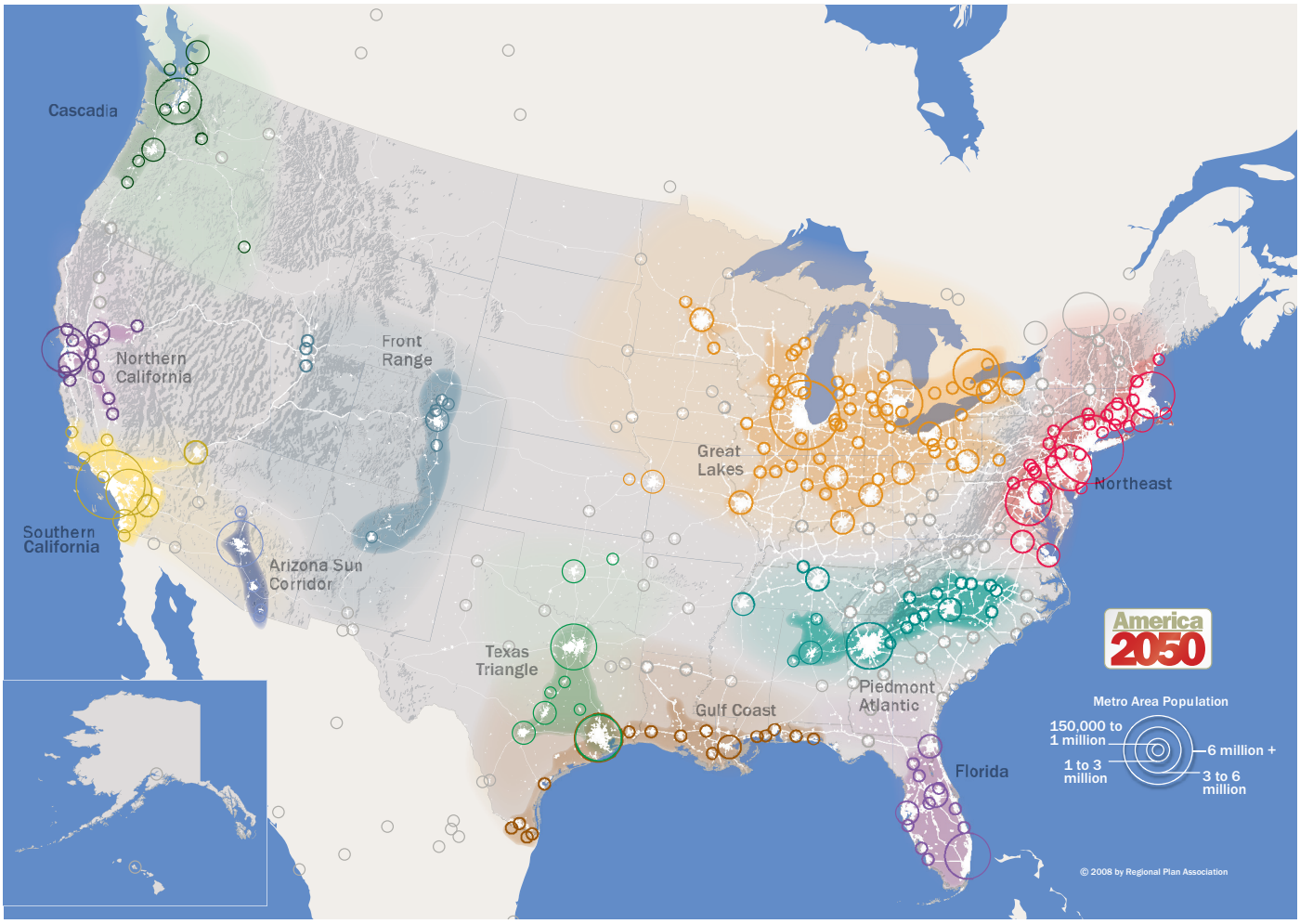
The proximity of Arizona to California, the world's 8th largest economy,[11] plays an important role in Arizona's economic success. Trade relationships between these two geographic areas have been documented as far back as the Hohokam civilization (600-1450AD) where shells from the Pacific Ocean that were valued for jewelry resulted in trade routes between the two areas.[12] Today agricultural products, electronics components, and minerals comprise some of the goods traded between the two states on a regular basis.

Figure 5: Sector by Percentage of GDP, 2012



Source: Department of Commerce, 2014. Addenda to the GDP data provides more clarity on how Arizona compares to Texas, California, and the rest of the nation. Clearly the major difference lies in service industries, natural resources, and goods manufacturing.

Figure 6: Arizona and its Sun Corridor are Positioned Between Trade Opportunities in Southern California and Mexico



Source: America2050.org, 2014.

For decades, Arizona's leaders have sought to capitalize on this proximity by developing industry connections to its western neighbor. Anecdotally, many homebuyers who spurred the housing boom of the 1990's and 2000s were from California where homes were prohibitively expensive for most middle income households. Today, Arizona strives to capture opportunity from its western neighbor by taking advantage of the comparably lower tax rates,[13] cost of living, and less government regulation as a way to increase its own economy.

Physical ties between Arizona and California are strong. Three interstate highways connect the two states in addition to shared rail and utility infrastructure. Arizona's business leaders believe that the state can realize greater benefit from the relationship if the connection to California, Las Vegas, and Mexico is strengthened with an International Trade Corridor and Interstate 11, as discussed later in the chapter.

In general, stronger economic ties with California should provide significant opportunity for Arizona's industries. With an increased connection in the supply chain for manufacturing, a role in domestic and international trade, generation and exportation of energy, ecotourism, and the continued growth and development of comparably affordable housing, Arizona stands to develop a more diverse array of industries.

MEXICO

There is an increasing opportunity for Arizona to serve as a hub for trade with Mexico.[14] In 2007, Arizona imported almost $14 billion in goods originating in Mexico, but exported just under $7 billion in goods originating in the United States. These goods travel through Arizona's ports of entry.[15] Additionally, Arizona enjoys a robust trade relationship with its southern neighbor. Nearly $5.7 billion in Arizona products were traded with Mexico in 2011,[16] the vast majority of these originated in Maricopa County. Metal, plastic and machinery make up the three highest valued trade items.[17] Furthermore, Mexican visitors are estimated to spend about $7.3 million each day in Arizona, totaling over $2.3 billion a year.[18] Arizona's leaders advocate for infrastructure improvements to better facilitate trade with Mexico and take advantage of the emerging trend

Figure 7: Transportation Routes to and from Phoenix

Arizona is well connected with the east and west with three major interstates and two significant rail corridors. To the north and south however, there are no high capacity connections.

Source: Google, 2014.

of near-shoring, manufacturing in Mexico and the rest of Latin America rather than Asia, and the recently improved port in Guaymas, Mexico, which is anticipated to receive a higher share of South American and Asian trade in the coming decades.[19]

The CANAMEX corridor, as envisioned in 1996, was intended to create a new north-south connection to Mexico through the Intermountain West. Considered by many to be necessary for Arizona to capture a larger share of the trade with Mexico, this corridor has the potential to facilitate a larger manufacturing economy. The proposed Interstate 11 and the International Trade Corridor, if implemented, would become segments of the CANAMEX highway.[20]

INTERMOUNTAIN WEST

The Sun Corridor is the largest megapolitan region in the Intermountain West, which has low population density and few large cities, and is the biggest player on the economic landscape.[21] Natural resources are abundant in the region, as are opportunities to trade goods and services with the more populous areas to the east and west. Emerging components of the economy, ecotourism and outdoor recreation are becoming increasingly valued by western communities searching for ways to benefit from conserved natural landscapes, their unique cultures, and community identities.

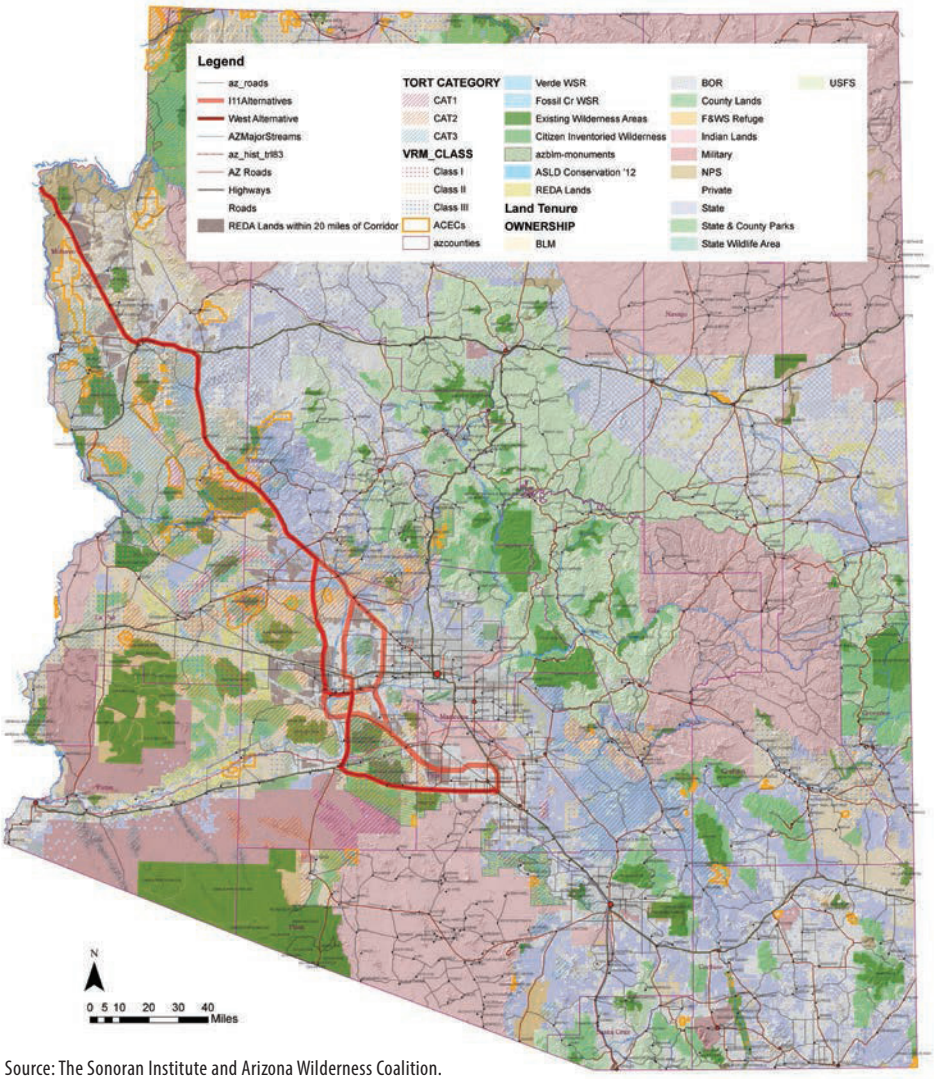
Unfortunately, the transportation system in the West was not designed to facilitate the north to south movement of goods throughout the region (Figure 7). This omission reflects the historical thinking of the sparsely populated and unimproved mountainous region as a source for raw materials to be moved to manufacturing and trade centers on the East and Pacific Coasts. No one anticipated that the Intermountain West would become a place for value-added manufacturing and industry. Leaders in the West believe that the region has long been overlooked and that communities throughout the region can play a larger role in contributing to the broader economic picture. For this to happen, additional connectivity will be necessary to supplement the inefficient, albeit scenic, highway system that connects the region.

INTERSTATE 11 AND THE INTERNATIONAL TRADE CORRIDOR

In 2012 Congress designated Interstate 11 (I-11) (see Figure 8) to connect Phoenix and Las Vegas. Subsequent related studies have shown that enhanced connectivity to California and Southern Nevada could provide significant benefit to Arizona. This strengthened trade relationship, named the "Southwest Triangle", is envisioned as a network of interrelated industries transporting goods, services, and information between cities, to get finished products to markets in the rest of the U.S. while capitalizing on comparatively inexpensive labor in Mexico and the rest of Latin America. Appropriate improvements such as enhanced freight corridors, passenger connectivity, and utility integration lead advocates to believe that I-11 could become a building block for a stronger Arizona economy.[22]

Figure 8: Environmental Conditions

The priority corridor for Interstate 11 extends from Casa Grande to Las Vegas. The proposed International Trade Corridor looks to expand that view to reach from Mexico north to Canada. The darker line on the map shows the alternative that the Sonoran Institute believes will enhance renewable energy development and lower environmental impacts, pending more research.



Source: The Sonoran Institute and Arizona Wilderness Coalition.

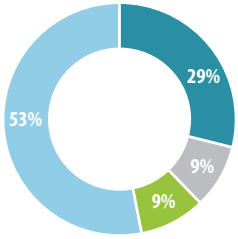
APPROPRIATE IMPROVEMENTS SUCH AS ENHANCED FREIGHT CORRIDORS, PASSENGER CONNECTIVITY, AND UTILITY INTEGRATION LEAD ADVOCATES TO BELIEVE THAT I-11 COULD BECOME A BUILDING BLOCK FOR A STRONGER ARIZONA ECONOMY.

While I-11 and the broader International Trade Corridor (ITC) should provide new economic opportunities by increasing the connection between Mexico, Arizona, and the rest of the Intermountain West, it also poses challenges. Some of the possible corridor routes intersect valuable environmental resources and concerns about how the corridor could contribute to poorly managed growth have emerged. Additionally, smaller communities, like Kingman and Wickenburg, would need to devote resources into integrating the corridor into their long-range plans in order to protect their unique identity and ensure that they aren't adversely impacted by the changes that the infrastructure might bring.[23]

On the other hand, many people and organizations believe that the possible negative impacts of the corridor could be limited through advance planning and careful design, and unavoidable conflicts could be addressed through mitigation. Sonoran Institute performed a preliminary analysis of the proposed corridor from Casa Grande to Nevada and determined that the known impacts on at least one alternative seem to be relatively minor.[24]

To maximize the benefit to the region, organizations are advocating for a new approach to infrastructure development that will ensure the highest value by accommodating the widest array of possible uses including transmission of energy, pipelines, railroads and other linear infrastructure.[25]

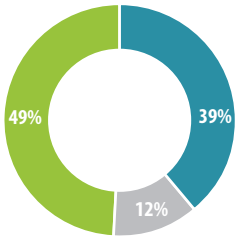
Figure 9: Average Annual Water Deliveries to the Sun Corridor Region



- Colorado River – 1,500,000 acre/feet
- Salt/Verde Rivers – 800,000 acre/feet
- Natural Groundwater Recharge – 260,000 acre/feet
- Other Surface Water – 250,000 acre/feet

Source: Morrison Institute for Public Policy, 2011.

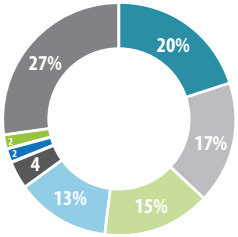
Figure 10: Annual Water Use in the Sun Corridor, 2006 and 2008 in Acre/Feet



- Non-Indian Agriculture – 1,638,000 acre/feet
- Urban Uses – 1,295,000 acre/feet
- Indian Agriculture – 390,000 acre/feet

Source: Morrison Institute for Public Policy, 2011.

Figure 11: Arizona's Land is Owned and Managed by a Wide Variety of Entities



- Tribal Lands – 27%
- BLM – 20%
- Private – 17%
- USFS – 15%
- Owned by State – 13%
- NPS – 4%
- NWR – 2%
- Military Installations
- Army Corps of Engineers – 0%

Source: Morrison Institute for Public Policy, 2011.

Advocates for the ITC that would connect the I-11 to Mexico and eventually to Canada are working to determine the broad benefits from the enhanced infrastructure connectivity. As proposed, the current I-11 designation between Phoenix and Las Vegas will not provide the benefits of international trade and connectivity that a completed ICT would bring. Advocates are working with members of Congress to see the designated corridor extended to Mexico. The Arizona and Nevada Departments of Transportation have evaluated the possible economic benefits that could come from the proposed I-11 and the broader ITC. According to their study, the completed infrastructure will be necessary to help relieve congested transportation corridors if the economy grows as expected under a variety of scenarios.[26]

Ultimately, it will be up to the people of Arizona and Nevada to decide the fate of the proposed I-11 and broader ITC. There are outstanding questions around the costs of the infrastructure, the environmental impacts it may have, and the features that should be accommodated in the planning process. The robust conversation that has occurred throughout the initial analysis of the I-11 has demonstrated that Arizona is ready for new tools to diversify its economy and that the I-11 and ITC could be a part of the solution.

NATURAL RESOURCES

WATER

Until the 19th century advent of the steam pump to draw groundwater and the 20th century development of the Salt River Project and the Central Arizona Project canal, residents of the area known today as Arizona were entirely dependent on surface water flows along the Santa Cruz, Verde, Salt, Gila and other rivers and streams. Occasional droughts and floods resulted in unreliable flows and subsequent population declines. Today a complex system of canals, reservoirs, and water agreements allow the region to prosper in spite of a harsh climate and lack of local water sources.[27] Historically, communities of Native Americans including the Hohokam were masters of irrigation which enabled agriculturally-based human settlements to thrive as far back as 2000 BC. [28]

Arizona obtains water from a number of sources: groundwater aquifers, rivers and streams, and engineered infrastructure that transports the resource from reservoirs that could be hundreds of miles away. Due to geography and water demands, the Sun Corridor relies heavily on a complex network of water systems to provide up to three million acre-feet of water each year (Figure 9). An acre-foot is enough water to cover an entire acre one foot deep. It would take the average Phoenix household 6.5 years to use the 326,000 gallons of water in an acre-foot at the average use of 136 gallons each day.[29]

Water is used in a variety of ways such as residential uses, factories, recreation, and farming among others. In Arizona, agriculture accounts for the largest user of water by a large margin (Figure 10).

In recent years water has become a key discussion point among leaders of Arizona. Scientists believe that the decades-long drought affecting the state is a result of long-term climate change. As reported in the Morrison Institute report "Watering the Sun Corridor," climate change may impact the water yield of the Colorado River system between nine percent and 30 percent, depending on the study.[30] Though the severity of impact is unknown, the water levels in Lake Mead have continued to decline to unprecedented levels. If the trend continues, programmed cutbacks will be put into effect resulting in significant changes to some water users, primarily agriculture.[31]

Users of the water in the Colorado River system have reached agreements to address possible shortages in the system. According to the Record of Decision for the Interim

Guidelines for the Operation of Lake Powell and Lake Mead (Settlement), water levels have been steadily declining in the lower Colorado River system since 1999 when it was at 94 percent capacity (55.8 million acre/feet (maf))[32] to today where it sits at just 39 percent full.[33] Arizona is one of several states that share 7.5 maf each year. Arizona's portion is 2.8 maf. If the reservoirs cannot release the allocated amount, a shortage must be declared and some users' amounts will be cut.

The Colorado River system provides water to much of Arizona, especially the Sun Corridor, Yuma, and smaller communities along the river. Other areas rely on water supplies that are much closer to home. Prescott, Sierra Vista, Nogales, Sahuarita, and Kingman rely on groundwater. Flagstaff captures surface water in Lake Mary and pumps groundwater to supplement supply. Generally, Arizona is reliant on diverse sources and recognizes the need to plan for sustained security and responsible use of water. Ongoing questions about reliability of the water sources in the face of long-term drought, climate uncertainty, and the adjudication of water rights remain.

Arizona's waterways and wetlands are often the last beneficiary of water supplies. Historically flowing rivers and streams have been impacted in-part by groundwater pumping as well as drought. The Santa Cruz, Gila, Salt, and Verde rivers have seen dramatic changes in flows and wetland conditions over the past 50 years, in at least some portion of their watercourse. As Arizona looks forward, many advocates for ecotourism and conservation are calling for wetland viability to be considered when ideas for water sustainability are discussed. Most certainly, water remains the largest single factor in the future of Arizona and in its geography.

NATURAL AREAS

That Arizona may be the most beautiful state in the Union is in large part due to the beauty of the geography and the care that has been taken to preserve its natural heritage. Most everyone across the nation knows of the famed Grand Canyon National Park that can take your breath away with the almost unfathomable scale and grandeur of the sight. Other places, are also well worth experiencing, including the large park system of Maricopa County, the state parks system, the national forest lands, and the 90 Wilderness areas on federal lands around Arizona.

The diverse places and variety of activities that can be enjoyed on public lands are what make our state so special. Arizona's public lands encompass:

- wilderness areas that are kept natural and pristine by restricting users to minimal types of equipment and by preventing certain damaging activities;
- national forests that allow for nearly boundless recreation opportunities including hunting and camping;
- wildlife refuges that provide places for our state's amazing creatures;
- BLM lands that provide recreation and valuable natural resources; and
- State Parks that feature some really special outdoor destinations.

Arizona provides boundless opportunity for outdoor recreation and its climate affords winter recreation while the rest of the country digs out of the snow. In spite of the summer heat, the mountains and forests around the Mogollon Rim and the Arizona Strip north of the Grand Canyon are great places to cool off.

Ongoing efforts to ensure that Arizona protects enough of its natural heritage continue. Anticipated future growth in the state could cause degradation of natural areas and loss of their appeal for recreation and ability to provide environmental services unless proactive measures are taken to ensure their sustainability. Recent legislation including the Arizona Sonoran Desert Heritage Act of 2013 seeks to achieve a balance between conservation and the durability of Arizona's economic assets.


Photo Credit: Ian Dowdy

THE SUN

The past few years have witnessed the onset of a significant economic force in Arizona: solar power. Although long discussed as an option in the sunniest state of the Union, solar energy has finally emerged as a viable economic power, evidenced by the number of new installations that have been approved and constructed over the past few years. While not yet competitive with traditional fossil fuel generation, state and federal policy have been facilitating the development of renewable energy in Arizona. California adopted a Renewable Portfolio Standard (RPS) of 20 percent of retail sales as far back as 2002, and currently has a goal of 33 percent by 2020. Other states, like Arizona, have followed suit, providing a market for utility-scale solar energy generation that can serve as an economic driver for the region.[34] Arizona's current RPS is 15 percent retail sales by 2020.

In response to the demand for locations where land-intensive utility-scale renewable energy could be generated, the Bureau of Land Management (BLM), which administers the majority of federal lands in the West, had to scramble to develop a program that would ensure the sustainable and fair implementation of renewable energy development. In 2012 the agency approved a new program in the six southwestern states identifying 285,000 acres of land in 17 new Solar Energy Zones (SEZs) – two of which were in Arizona. The plan anticipates up to 27,000 megawatts of energy could be developed in these areas which would power up to eight million homes.[35]

In January 2013, Arizona took an additional step forward by screening all of the state's lands (except tribal lands) to determine where additional wind and solar generation could be located. This pilot resulted in an additional 192,000 acres of BLM lands and over 1.6 million acres in private and state lands that emerged as good candidates for development by having minimal conflict with environmental resources.[36] These Renewable Energy Development Areas (REDAs) are located predominantly in the Sonoran Desert region of the state; much of which is within 20 miles of highway US-93, a prime candidate for the proposed Interstate 11 corridor. Some renewable energy advocates, in response to this anticipated renewable energy opportunity, have advocated that the new corridor provide much-needed electrical transmission capacity to get Arizona's renewable energy to markets in California and Nevada.

In the future, Arizona will benefit economically if it can fully realize the potential of a robust solar energy industry. With its solar resources, proximity to major demand markets in California and Nevada, and a diverse land portfolio, the state is positioned to capitalize on this opportunity. A more streamlined permitting process, an increased RPS, and smartly-crafted incentives may help launch this burgeoning industry and sustainably boost the state's prosperity.

CONCLUSION

Arizona's geography defines its success. A century ago even the most ambitious visionary would have been hard-pressed to predict that the arid and unforgiving Sonoran Desert would be home to the nation's fifth largest city and the sixth largest megapolitan region.[37] Arizona was born on the storied 5 Cs: copper, cattle, cotton, citrus, and climate. However, only climate remains as a predominant driver of our economy today, affording the distinct advantages of mild winters and the sun.

While it is easy to overgeneralize the economy in any place, and crediting the amazing success to any one factor would be impossible, there is no question that the sustained economic growth in Arizona has been significantly enhanced by migration due to the climate. The remaining four historic Cs still have their place and are significant portions of our state's rural communities which occupy the vast majority of the physical landscape.

The outdoors and western heritage remain significant to the unique identity of Arizona and contribute to quality of life and the economy through tourism and the service industry. The large amounts of public lands in the state provide unique opportunities for outdoor recreation and serve to ensure that some portions of our nation's western heritage will remain for posterity.

Some challenges remain to the continued prosperity of Arizona, not the least of which is the limited availability of water which is provided in large part from the Colorado River basin. Ongoing drought and climate variability have raised serious questions about the sustainability of the dense and growing Sun Corridor region of the state. Though optimists remain convinced of the durability of Arizona's impressive water reserves, a possible water shortage in the Colorado River system may precipitate a rethinking of priorities for this precious resource.

One hundred years of progress has brought new opportunity to Arizona. Today the urban centers of the state have begun to think broadly about the value that global trade could bring to the region. Tucson and Phoenix are cooperating with Las Vegas to uncover the possibilities that could come with a new International Trade Corridor (ITC) that would connect Mexico, the Sun Corridor, and southern Nevada. Portions of this route have been designated as Interstate 11, which has already been evaluated for the benefits it could bring to the region.

As Arizona evaluates its post "great recession" economy, there are many questions that need to be answered and important decisions that must be made. Even so, the greatest gift of our state remain the beautiful landscape, natural heritage, and the climate. Decisions today about Arizona's future prosperity should be mindful of the need to balance the state's limited resources with the opportunities that best suit its culture, climate, and other aspects of its geography.

In the same way that we reflect on the foresight that was taken to enable the modern Arizona, future generations will appreciate our thoughtfulness and care if we are able to forge a prosperous state without imperiling resources. A century from now, Arizonans will appreciate the decisions we have made to contribute to the sustainability of the state and the success of a pragmatic and reasoned economy.

ENDNOTES

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2 Oxford English Dictionary
3 US Census Bureau
4 Department of Commerce
5 Hunting
6 Hunting
7 Briney
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9 National Parks Conservation Organization
10 Wikipedia.org
11 Center for Continuing Study of the California Economy
12 Reinhard
13 Pringle
14 Costanzo
15 Federal Highways Administration
16 League of Arizona Cities and Towns
17 Federal Highways Administration
18 League of Arizona Cities and Towns
19 CH2MHill and AECOM
20 CH2MHill and AECOM
21 Hunting
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23 A. Ian Dowdy
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25 A. Ian Dowdy
26 CH2MHill and AECOM
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Since 1990 the Sonoran Institute has served the people and communities of the West, fostering collaboration and empowering long-term thinking. We believe that Arizona's prosperity lies in capitalizing on its geographical position, adapting to constraints on natural resources, and developing a sustainable model for growth and achievement.

ARIZONA'S INFRASTRUCTURE

BY TOM REX, MBA

INTRODUCTION

Some definitions of "infrastructure" refer only to the physical infrastructure – such as airports, roads, and pipelines. The American Heritage Dictionary provides a broader definition: "the basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, power plants, and schools." Thus, "infrastructure" includes such services as the educational system, public safety, and health services. Infrastructure may be provided by the public sector, by the private sector, or by a combined effort of the two.

In May 2008, in a report for the Arizona Investment Council (*Infrastructure Needs and Funding Alternatives for Arizona: 2008-2032*, L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University, http://www.arizonaic.org/images/stories/pdf/AIC_FINAL_report.pdf), a detailed examination was made of four types of physical infrastructure:

- Energy
- Telecommunications
- Water and Wastewater
- Transportation

A more comprehensive, but less detailed, look at the various components of the state's infrastructure was produced later in 2008 (*Preparing for an Arizona of 10 Million People: Meeting the Infrastructure Challenges of Growth*, L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University, available from http://economist.asu.edu/p3/competitiveness; two versions of this report are available: a background report from October 2008 and a shorter version released at a conference in November 2008). In addition to summarizing the four types of physical infrastructure addressed in the May 2008 report, the *Preparing for an Arizona of 10 Million People* report examined other types of infrastructure:

- Education
- Health Care
- Public Safety
- Other Services (such as public welfare, parks and recreation, and solid waste disposal)

Three broad conclusions were cited in the summary of the short version of the *Preparing for an Arizona of 10 Million People* report:

- "Arizona's public infrastructure – particularly the transportation system – has not kept pace with the state's growth over the last 15 years, resulting in a need to 'catch up'."
- "Arizona's existing public-sector physical infrastructure – especially the water infrastructure – is aging, leading to an increasing need for renovation."
- "Arizona continues to grow rapidly, creating a substantial demand from new residents and new businesses for public-sector and private-sector infrastructure."

KEY FINDINGS

- The quality and availability of the infrastructure is a key location factor to companies that are contemplating an expansion or move of facilities.
- Arizona's infrastructure – particularly the transportation system – has not kept pace with the state's growth over the last 25 years.
- Arizona's existing physical infrastructure – especially the water infrastructure – is aging, leading to an increasing need for renovation.
- Arizona is expected to soon resume rapid growth, creating a substantial demand from new residents and new businesses for infrastructure.
- Typically, the physical infrastructure is costly to construct. However, since physical infrastructure generally has a long useful life, payments can be spread out over a number of years, financed by long-term debt.

Though this report is now six years old, the first two of these conclusions remain timely, as Arizona has done little during these six years to address its infrastructure needs. The severe recession that lasted from 2008 into 2010 and the subsequent subpar economic recovery have limited the funding needed to improve the infrastructure. Some critics add that the infrastructure is not a high priority of elected officials.

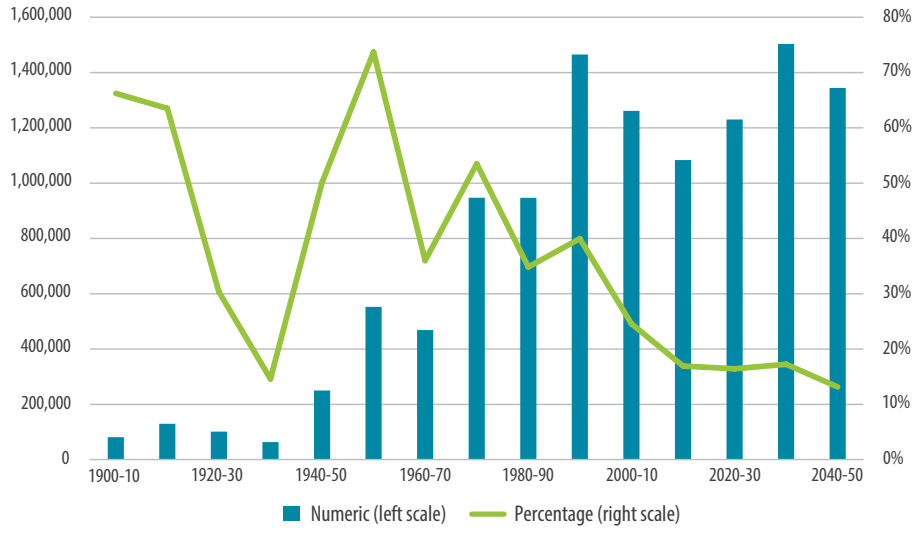
In the case of the third conclusion, Arizona's population and business growth rates slowed sharply due to the recession. While population gains have accelerated in the last few years, they remain low relative to historical norms, largely due to modest job growth. Thus, the pressure to provide new infrastructure that results from growth has been substantially less over the last several years than in prior years. However, the general expectation is that the state's growth rate will accelerate in the coming years (see the "official" population projections produced by the Office of Employment and Population Statistics at the Arizona Department of Administration, shown in Chart 1), again resulting in a substantial demand for new infrastructure.

THE PROVISION OF INFRASTRUCTURE

Infrastructure may be provided by the public sector, the private sector, or by a joint effort of the public and private sectors. The mix varies by the type of infrastructure and by policy decisions made at a federal, state, or local level. Given the impact of infrastructure on economic development, productivity, and the quality of life of residents, even infrastructure provided by the private sector is of public interest.

Typically, the physical infrastructure is costly to construct. However, since physical infrastructure generally has a long useful life, payments can be spread out over a number of years, financed by long-term debt. The use of long-term debt is appropriate for physical infrastructure that will last for decades, helping to ease the burden on current taxpayers and matching the long-run benefits and costs of physical infrastructure investments.

Chart 1: Population Change in Arizona



Sources: United States Department of Commerce, Census Bureau (decennial censuses through 2010) and Arizona Department of Administration, Office of Employment and Population Statistics (projections).

"ARIZONA'S EXISTING PUBLIC-SECTOR PHYSICAL INFRASTRUCTURE – ESPECIALLY THE WATER INFRASTRUCTURE – IS AGING, LEADING TO AN INCREASING NEED FOR RENOVATION."

Historically, especially during World War II, the federal government played a significant role in the provision of Arizona's physical infrastructure. More recently, however, the federal government has been spending less on physical infrastructure (with the exception of the American Recovery and Reinvestment Act of 2009, which boosted expenditures temporarily). Most of the nation's physical infrastructure that is provided by the public sector is now planned and funded by state and local governments. Overall, the public sector – federal, state, and local governments – provides a little more than half of the capital spending for physical infrastructure.

A capital outlay to build physical infrastructure is not by itself adequate to ensure the value and usefulness of the infrastructure. Ongoing operational funding also is necessary. The opening of new, completed public buildings has sometimes been delayed by a shortage of operational funding. Inadequate operational funding caused various state parks and highway rest stops to close during the last recession.

INFRASTRUCTURE NEEDS AND POPULATION GROWTH

Growth places a heavy strain on existing public-sector and private-sector infrastructure, requiring constant additions to facilities and services. Indeed, rapid population and business growth in Arizona is the primary driver of the state's infrastructure needs. As seen in Chart 1, the numeric population gain in Arizona jumped in the 1970s and again in the 1990s, reaching levels far above those of the period prior to 1970. Gains are expected to remain strong through 2050. Thus, the burden of providing an adequate infrastructure for new as well as existing residents and businesses will continue to be enormous.

As well as the magnitude of the population change, the nature of the growth impacts infrastructure needs. If population growth were to be disproportionately among children, then the educational demands would be greater than suggested by the overall population growth. If the growth were disproportionately among working-age adults, the demand on the transportation system would be relatively greater. Disproportionate growth among senior citizens would place extra demands on the health care system.

OTHER FACTORS AFFECTING INFRASTRUCTURE NEEDS

With increasing global competition from low-cost countries such as India, Arizona (and the rest of the United States) is no longer able to compete economically on cost factors. Like the nation, the state's economic competitiveness now must be heavily focused on innovation and technical advances. Education and telecommunications are more important aspects of the infrastructure than they were historically.

As the growth center of the state continues to shift from Maricopa County to Pinal County, the infrastructure challenges increase. Pinal County, which until the early 2000s was largely rural, does not have Maricopa County's infrastructure, which was built gradually over decades. Moreover, Pinal County does not have the population and business base necessary to pay for the infrastructure that is needed. As a result, the road system in particular is inadequate to handle the traffic generated by those living in Pinal County but working in Maricopa County.

In older, less rapidly growing regions of the country, maintaining, repairing, and replacing aging physical infrastructure makes up a disproportionate share of total infrastructure expenditures. In younger areas with a rapidly growing population, such as Arizona, the construction of new infrastructure has been the main requirement. While growth places a strain on the ability to provide an adequate infrastructure, historically the burden in Arizona was relatively manageable since the need to refurbish existing infrastructure was minimal. Going forward, this situation will shift. Since growth is expected to remain substantial, the demand for new infrastructure will continue at the same time that the state's increasingly older existing infrastructure will need to be repaired and replaced.

INFRASTRUCTURE AND ECONOMIC DEVELOPMENT

The quality and availability of the physical infrastructure is a key location factor to companies that are contemplating an expansion or move of facilities. For the typical business, the transportation infrastructure is the most important, but each of the other types of physical infrastructure is of particular importance to certain types of operations.

In addition to the physical infrastructure, companies consider other aspects of the infrastructure. The educational system typically is the most important of the nonphysical infrastructure, given its relationship to the quality and availability of the labor force, the most significant location factor. For some types of business operations, such as a headquarters office or a research and development facility, various aspects of education, including proximity to a university, are cited as being of considerable importance.

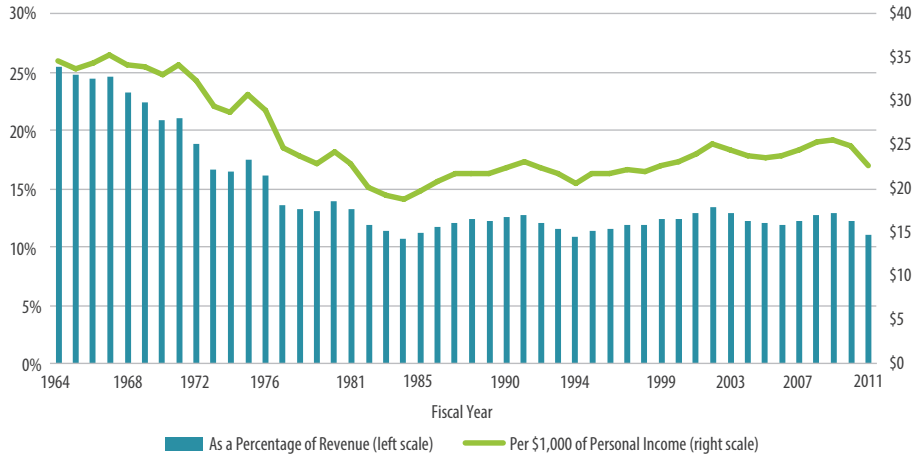
Arizona is hardly alone in its need to renovate, expand, and improve its physical infrastructure. The nation as a whole receives poor grades for the condition and capacity of the physical infrastructure. The American Society of Civil Engineers (ASCE) produces a national report card every four years (*2013 Report Card for America's Infrastructure*, http://www.infrastructurereportcard.org/). In 2013, they assigned a grade of "D" to 11 of 16 categories of physical infrastructure; four received a "C" and one (solid waste) was assigned a "B." In 2008, the Congressional Budget Office (*Investing in Infrastructure*,

July 10, 2008, http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/95xx/doc9534/7-10-infrastructure.pdf) estimated that total infrastructure spending (including the private sector and each level of government) was 20 percent less than it needed to be just to maintain the existing infrastructure in its current condition. Other organizations, such as the Brookings Institution and the Urban Land Institute, have expressed considerable concern regarding the state of the nation's infrastructure.

Investments in physical infrastructure by state and local governments declined nationally during the 1960s and 1970s relative to available revenue and to the aggregate income of taxpayers. Investments have held at this lower level since then (see Chart 2). The decline in infrastructure expenditures was particularly large for highways (see Chart 3). Capital outlays for education also fell considerably but have largely recovered.

Since Arizona's physical infrastructure is relatively new, some contend that it is in better shape than the national average. Indeed, in 2004, when the ASCE last provided a grade for the physical infrastructure in Arizona, the state received better grades than the nation did in 2005 in each of the four categories of

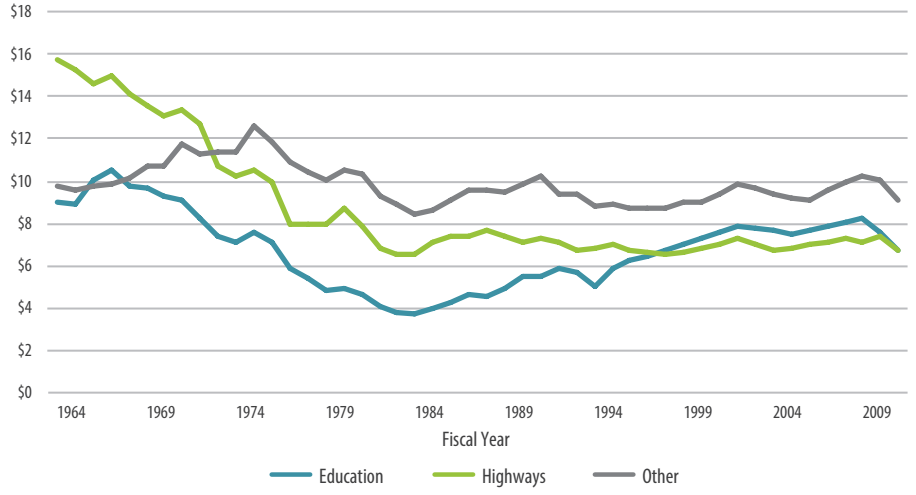
Chart 2: Infrastructure Expenditures in the United States



Note: Expenditures consist of general capital outlays of state and local governments.

Sources: U.S. Department of Commerce, Census Bureau, State and Local Government Finances (infrastructure expenditures and revenue) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

Chart 3: Infrastructure Expenditures by Type in the United States per $1,000 of Personal Income



Note: Expenditures consist of general capital outlays of state and local governments.

Sources: U.S. Department of Commerce, Census Bureau, State and Local Government Finances (infrastructure expenditures and revenue) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

INVESTMENTS IN PHYSICAL INFRASTRUCTURE BY STATE AND LOCAL GOVERNMENTS DECLINED NATIONALLY DURING THE 1960S AND 1970S RELATIVE TO AVAILABLE REVENUE AND TO THE AGGREGATE INCOME OF TAXPAYERS.

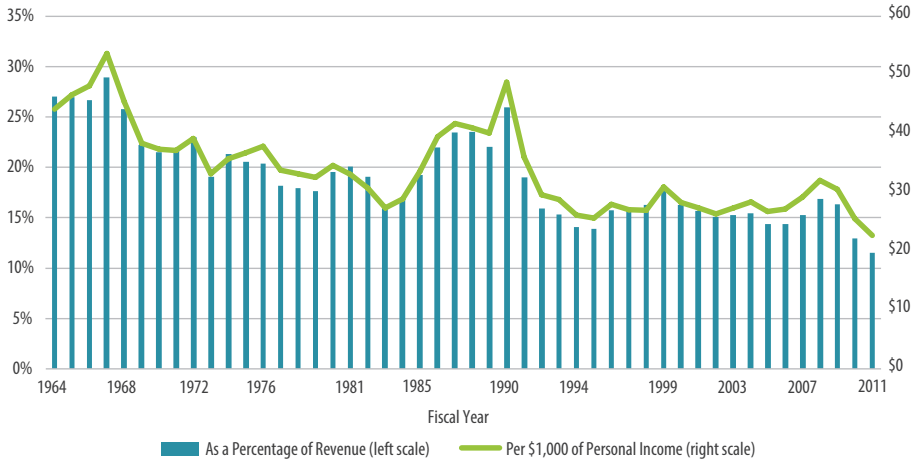
THE DECLINE IN INFRASTRUCTURE EXPENDITURES WAS PARTICULARLY LARGE FOR HIGHWAYS.

the transportation infrastructure that were evaluated (*2004 Arizona Infrastructure Report Card*, http://www.azsce.org/downloads/AZSCE_2004_Infrastructure_Report_Card_f3.pdf. These were the only types of infrastructure evaluated; a new state report card is scheduled for 2014.) Based on a survey of Arizona's ASCE members in 2008, the top three infrastructure concerns were roads, drinking water, and mass transit.

Following the national pattern, infrastructure spending fell in Arizona in the 1960s and 1970s relative to revenue and personal income (see Chart 4). This was followed by a large increase in expenditures between 1983 and 1990. After that, spending again dropped to a lower level than in the early 1980s. Capital outlays in Arizona relative to the national average are shown in Chart 5. Infrastructure spending in Arizona generally has been higher than the national average relative to revenue and income, corresponding to the state's faster population growth. Relative to the national average, infrastructure spending in Arizona jumped during the 1970s and 1980s in response to a significant increase in population gains (population growth had been relatively slow in Arizona during the 1960s). After

INFRASTRUCTURE SPENDING IN ARIZONA GENERALLY HAS BEEN HIGHER THAN THE NATIONAL AVERAGE RELATIVE TO REVENUE AND INCOME, CORRESPONDING TO THE STATE'S FASTER POPULATION GROWTH.

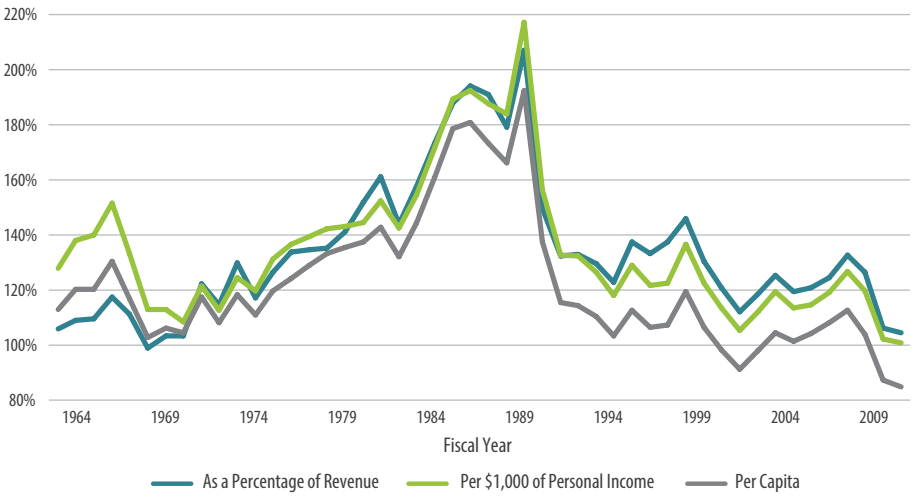
Chart 4: Infrastructure Expenditures in Arizona



Notes: Expenditures consist of general capital outlays of state and local governments. Capital outlays andrevenues for some years are estimated.

Sources: U.S. Department of Commerce, Census Bureau, State and Local Government Finances (infrastructure expenditures and revenue) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

Chart 5: Infrastructure Expenditures in Arizona as a Ratio to the United States



Notes: Expenditures consist of general capital outlays of state and local governments. Capital outlays andrevenues for some years are estimated.

Sources: U.S. Department of Commerce, Census Bureau, State and Local Government Finances (infrastructure expenditures and revenue) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

1990, spending relative to the nation fell back to the level of the 1960s. This decline relative to the nation after 1990 is particularly notable since population growth in Arizona accelerated during the 1990s and remained strong through 2007.

The importance of infrastructure extends beyond economic development. According to the November 2008 *Preparing for an Arizona of 10 Million People* report:

"An unwillingness to invest in infrastructure and to confront the challenges posed by Arizona's projected growth will lower the quality of life of Arizonans, negatively impact the state's economy, limit the state's opportunity to become one of the region's leading economic centers, and eventually stifle growth itself."

SUMMARY OF ARIZONA'S INFRASTRUCTURE BY TYPE

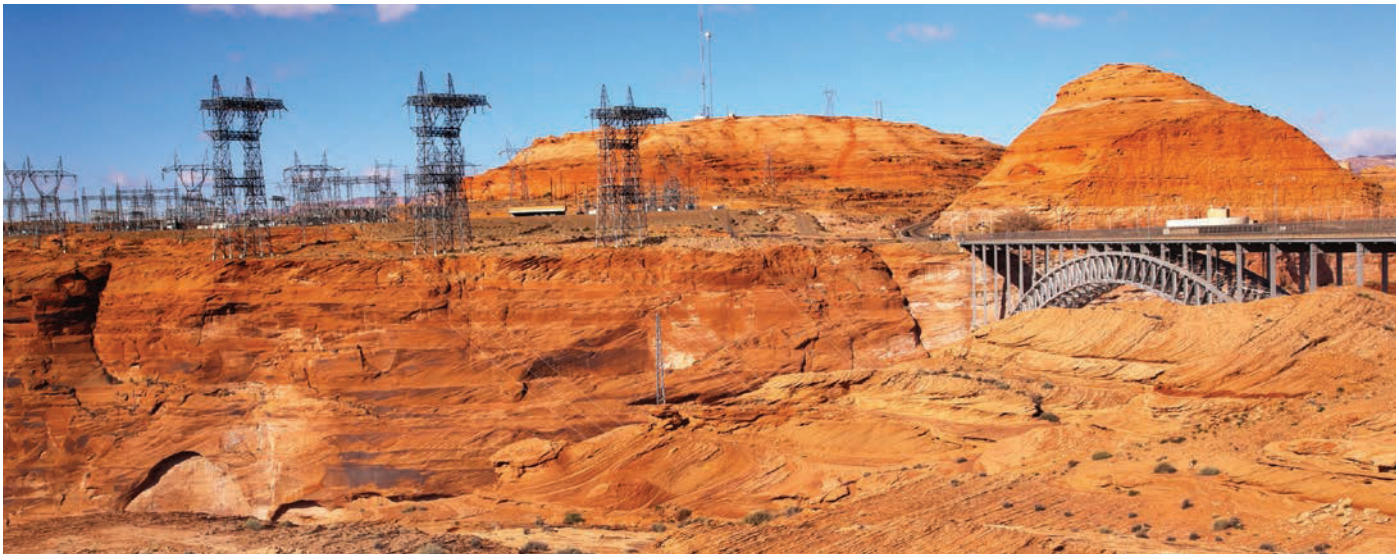
The costs of rehabilitating existing physical infrastructure and providing new infrastructure to meet the demands of a growing population are significant. In the years before the last recession, infrastructure costs increased faster nationally than the overall inflation rate, making the provision of physical infrastructure relatively more expensive. These cost increases in conjunction with the need to catch up for the low spending since the early 1990s, the increasing need to repair or replace existing physical infrastructure, and the likelihood of the state's population growth rate accelerating, suggest that infrastructure spending in Arizona will have to be greater than in the past.

While a precise projection of the cost of infrastructure needs in Arizona cannot be made, each of several alternative methods of projecting the gap between needs and existing revenue streams resulted in a figure of billions of dollars per year above existing spending. This figure includes the necessary operations costs as well as the capital costs and includes the responsibilities of the private sector, the federal government, and state and local governments.

ENERGY

Electrical generation, transmission and distribution is part of the energy infrastructure, as is natural gas, petroleum and other fuels – including refineries, transmission, distribution, storage, and pipelines. Electrical power generation in particular generally is perceived as a positive in Arizona.

Based on a survey of Arizona's ASCE members in 2008, the top three infrastructure concerns were roads, drinking water, and mass transit.



THE ARIZONA DEPARTMENT OF TRANSPORTATION EXPECTS THAT ARIZONA WILL SOON BE IN A "PRESERVATION ONLY" MODE – INCOMING REVENUES WILL BE SUFFICIENT ONLY TO SUPPORT OPERATIONS AND MAINTENANCE COSTS.

The private sector accounts for nearly 90 percent of the spending on energy infrastructure nationally; state and local government funds most of the balance. While the provision of energy largely is a private-sector function, it generally is subject to public regulation. In Arizona, for regulated utilities to increase rates to pay for infrastructure, they must receive approval from the Arizona Corporation Commission.

The costs of providing energy in the future are expected to be higher than in the past due to disproportionate increases in construction costs, higher natural gas prices, and the Arizona Corporation Commission's mandate that 15 percent of the state's retail sales of energy are to come from renewable resources by 2025.

TELECOMMUNICATIONS

The private sector accounts for about 95 percent of the funding for the telecommunications infrastructure nationally. The public sector may have a regulatory responsibility and may have a role in expanding service to remote areas where it is not cost effective for private companies to provide service. The demand for ever-faster connectivity requires substantial investments in infrastructure.

WATER AND WASTEWATER

The water infrastructure includes three components:

- Water supply: dams, reservoirs, canals, and wells
- Drinking water treatment and distribution: treatment plants and pipelines
- Wastewater treatment and conveyance: treatment plants and sewer lines

State and local governments are the source of 90 percent of the funding of the water and wastewater infrastructure. Private companies sometimes provide these services, particularly in unincorporated areas.

In some parts of Arizona, the current water supply needs to be supplemented to allow for further growth. In other places, aging water delivery and treatment systems will need to be renovated or replaced.

TRANSPORTATION

The public sector accounts for 90 percent of the funding for the transportation infrastructure nationally, with more than half by state and local governments. Roads and transit are predominantly public endeavors, while air, rail, water and other modes are provided by a mix of the private and public sectors.

The limited capital outlays for roads and highways over the last 20+ years have resulted in traffic congestion in Arizona. Traffic congestion on surface roads and highways will worsen when the state's growth rate picks up. Moreover, the Arizona Department of Transportation expects that Arizona will soon be in a "preservation only" mode – incoming revenues will be sufficient only to support operations and maintenance costs. In contrast to the negative perception of roads and highways, Phoenix Sky Harbor International Airport is rated favorably.

The needed investment in the transportation infrastructure is huge. Yet the November 2008 report noted that "without significant infrastructure investment, declines in performance will affect adversely the quality of life of Arizona residents, economic efficiency, and the state's population and business growth rates."

Public education is a significant expense for state and local governments in Arizona. Capital outlays, used to build and renovate schools, represent 10-to-15 percent of total education spending.

EDUCATION

The public sector – mostly state and local governments – provides more than 75 percent of the funding of the education infrastructure nationally. The public-sector role is greatest in libraries and in primary and secondary schools, though private-sector options exist for schools. Higher education is more of a mix of public and private institutions, while prekindergarten is largely a private function, often with public regulation.

Public education is a significant expense for state and local governments in Arizona. Capital outlays, used to build and renovate schools, represent 10-to-15 percent of total education spending. Since the early 1990s, Arizona has fallen further below the national norm for both operational spending and capital outlays. Per pupil operational spending for kindergarten through 12th grade is near the bottom of the states and expenditures for higher education also are relatively low. Moreover, enrollment, especially for higher education, is expected to rise a little faster than population growth in coming years.

The assessment of Arizona's education infrastructure is mixed. The universities and community colleges are highly regarded and the numerous community college campuses are a plus. The K-12 infrastructure is assessed less positively, with low per-pupil spending associated with large class sizes, uncompetitive salaries for teachers, and a relatively inexperienced teacher pool. Educational achievement measures are subpar and the educational attainment of Arizona's working-age populace compares unfavorably. In terms of education's physical infrastructure, some of the facilities are deemed to be inadequate to prepare students for a life in the increasingly technological 21st century.

OTHER SERVICES

Other forms of infrastructure are alternately provided by the public and private sectors. Relatively little of the expenditures for other public services are for physical infrastructure.

Public safety – police, corrections, and fire protection – primarily are publicly provided, though the private sector provides some fire protection and some of the correctional needs are met by contracts with private prisons. The provision of parks and recreation largely is a public endeavor. Solid waste disposal is undertaken by both private and public entities. In contrast, health care is primarily provided by the private sector, though the public sector provides health insurance and some services for low-income residents and generally monitors the public health.

ABOUT THE AUTHOR

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HUMAN CAPITAL

BY JOE GARCIA

INTRODUCTION

Business-minded individuals, whether entrepreneurs or elected officials, often talk about ROI – return on investment. The multi-million-dollar budget item that is "education" is no exception. Without question, there is no greater pipeline for workforce development than education. The question instead is whether Arizona is losing too much human capital to holes in that pipeline because of low investment or low return on investment.

One thing's for sure: As more businesses are becoming automated, data-driven and digitally connected to a global marketplace, a GED or high school diploma won't be enough to land most of the better-paying jobs. In fact, the Georgetown University Center on Education and the Workforce estimates that 61 percent of all jobs in Arizona will require some training beyond high school by 2018. Accordingly, Arizona needs to do its best to provide its future workforce with the intellectual tools and skills necessary in the New Economy.

Despite some encouraging gains and laudable efforts by educators, parents and various leaders, too many Arizona teens are still dropping out. According to the U.S. Department of Education, Arizona had a 78 percent four-year high school graduation rate for the 2010-11 school year – below the national average of 80 percent.[1] For economically disadvantaged children, the Arizona graduation rate was 73 percent, and for children with disabilities the graduation rate declines to 67 percent. Those with limited English proficiency fared much worse, with just a 25 percent graduation rate for Arizona – last in the nation.

LATINO EDUCATION

That last stat about students with limited English proficiency is especially noteworthy because of Arizona's proximity to Mexico, which is the state's No. 1 trading partner. Spanish is a great asset in commerce, but English Language Learners (ELLs) largely do not receive an Arizona high school diploma or the quality education necessary to complement their language skills; most are deficient in math and other essential studies and skills required in business.

As with many of Arizona's education troubles, the ELL issue is largely related to funding. ELL has been the subject of lawsuits over the last 20 years, as chronicled in a 2013 report by Morrison Institute Latino Public Policy Center. Despite court rulings in ELL's favor, the state has been resistant to fully funding the program. *English Language Learners: What's at Stake for Arizona?*[2] noted:

"Ultimately, it is not only the responsibility of the educational system to adequately educate all students including ELLs but is in the best interest of the State of Arizona. It's a wise policy investment to do this in general, but specifically, English language learners, of whom 80 percent are U.S. born, represent a growing population in the state. The number of ELLs in K-12 schools is unlikely to diminish in the long term."

KEY FINDINGS

- Funding for education in Arizona is consistently near the bottom on most national metrics and rankings.
- Multiple analyses and studies in recent years conclude that Arizona should substantially increase funding for education, from preK-12 to CTE and college.
- Due to changing demographics, addressing the Latino educational attainment gap is imperative to the state's future economic success.
- Education is the No. 1 economic driver for the state in terms of growing existing commerce and attracting and retaining new businesses and industry.
- Building better partnerships between business and education is important for developing a strong workforce for the New Economy.

ARIZONA'S FUTURE WORKFORCE

Arizona's workforce increasingly will be made up of Latinos, with virtually all Latinos 7 years old or younger born here as U.S. citizens; young Latino teens have similar citizenship rates. For the first time, there are more Latinos in Arizona's K-12 schools than non-Latino Whites. That change, which occurred last fall, represents a more profound change in demographics coming to Arizona, as the state moves toward becoming a "majority-minority" state, perhaps as early as 2030.

As noted in an often-referenced Morrison Institute for Public Policy 2012 report, *Dropped? Latino Education and Arizona's Economic Future*,[3] Arizona has grown by leaps and bounds since 1980 – from 2.7 million to 6.4 million – with all ethnic groups growing. "(But) in 1980, Latinos made up 16 percent of Arizona's total population: today, that number is 30 percent; Whites, meanwhile, have declined from 75 percent of the state's population to 58 percent."

Arizona cannot succeed without addressing the deficiencies of the bulk of its future workforce, yet the Latino educational achievement gap hasn't improved much in 15 years. "Our future depends on how we treat and educate this growing population," Susan Carlson, executive director of the Arizona Business and Education Coalition, noted in the report.

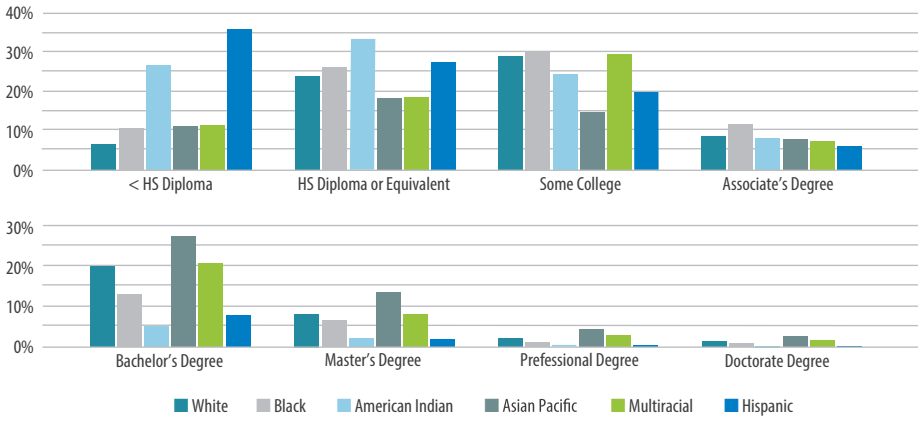
Without a game changer – not mere incremental improvements – Arizona stands to have a large undereducated, underskilled and low-wage workforce due to the growing number of Latinos in and coming out of the state's K-12 pipeline without a high school or college degree or technical certificate. The result will be more people taking from the system than paying into it, with little to no disposable income for goods and services, and Arizona's average income (using 2010 dollars) on the whole dropping nearly $3,000 – to $32,423 by 2030. All residents will be affected, not just Latinos.

The *Dropped?* report warns: "(I)f nothing is done to close the educational achievement gap, the number of Arizona adults with less than a high school education could rise from around 524,000 in 2010 to nearly 858,000 in 2030. The vast majority of these, perhaps 670,000 or 78 percent, will be Latino. Many or most will likely suffer the financial consequences, as will the rest of the state."

It's important to note that the common denominator in academic underachievement is not ethnicity; it's poverty. Latinos are a large demographic and are disproportionately impoverished, which can be attributed in part to limited education and thereby limited income opportunity. The highest grade level achieved for most Latino heads of household is the 11th grade. But it's important to note that a poor White child living in a poor neighborhood has the same obstacles and low chances for a college education as a poor Latino child.

Arizona doesn't fare well in providing an environment conducive to academic achievement, according to the 2014 Arizona KIDS COUNT Data Book:[4] Nearly half of Arizona children live in low-income families (with 12 Arizona counties having

2010 Educational Attainment for Persons Over 25 in Arizona



Source: U.S. Census Bureau (2010).

more than half of their children living in low-income families); 67 percent of Arizona 3- and 4-year-olds are not attending preschool (ranging from 54 percent in Coconino County to 82 percent in Santa Cruz County); Arizona ranks 49th in the nation in the percentage of children participating in preschool. Educators and studies concur that when children start the K-12 pipeline behind their peers, it's difficult for them to catch up and most do not.

Many American Indians in Arizona face even tougher challenges. Statewide, the official poverty rate was 18.7 percent but nearly twice that rate (35.8 percent) for American Indians in Arizona, according to State of K-12 Indian Education in Arizona Preliminary Report 2014. *Rigor and Relevance in Indian Education: A Pathway to Strengthening Communities*[4] notes that the statewide unemployment rate in 2012 was 5.9 percent, but 12.2 percent among American Indians in Arizona and as high as 24 percent on tribal lands.

The report notes: "According to recent studies, two-thirds of the jobs of the future will require a college degree. And a majority of the jobs of the future will require some level of college education. A high school diploma alone will not move a person out of poverty. This should be of particular concern to the Tribal Nations that struggle with limited job opportunities and high levels of poverty and unemployment."[5]

The problem, of course, is that too many American Indians in Arizona leave high school without a degree. The American Indian student dropout rate in Arizona fell from a high of 8.2 percent in 2008 to 6.7 percent in 2009, but it has gradually increased every year since, the report notes. The dropout rate for American Indian students in Arizona was 7.5 percent in 2013 for a graduation rate of 65 percent. But there are some public schools on tribal lands with graduation rates as low as 50 percent. Additional information on Native Nations and Arizona's human capital and economy can be found in Chapter 13 of the 96th Arizona Town Hall report, *Building Arizona's Future: Jobs, Innovation & Competitiveness*.

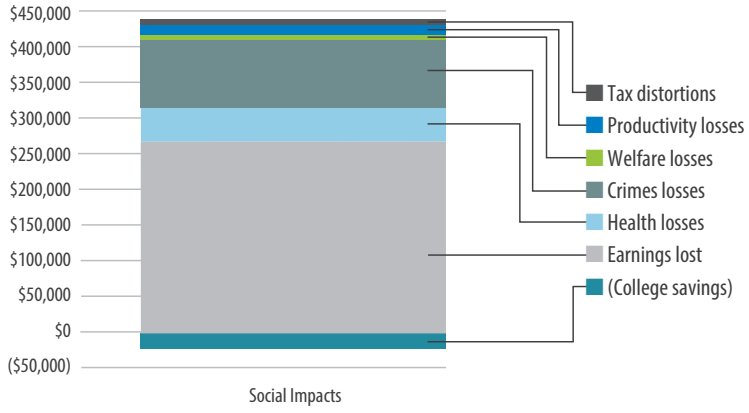
"FOR EACH HIGH SCHOOL DROPOUT, THE LIFETIME SOCIAL LOSS FOR THE STATE OF ARIZONA IS $421,280. ACROSS THE 18,100 STUDENTS IN ARIZONA WHO DROP OUT OF HIGH SCHOOL ANNUALLY, THIS SOCIAL LOSS AMOUNTS TO $7.6 BILLION."

Arizona Mayors Education Roundtable 2014 report

THE 'SOCIAL COST' OF DROPOUTS IN DOLLARS

The cost of Arizona dropouts as a whole extends well beyond the individual – and even beyond potential or unfulfilled economic development. Because of dropouts and disaffected youth, Arizona taxpayers and communities are hamstrung for years to come due to "social losses," (earnings, crime, health and other livability factors), as noted by an Arizona Mayors Education Roundtable 2014 report:

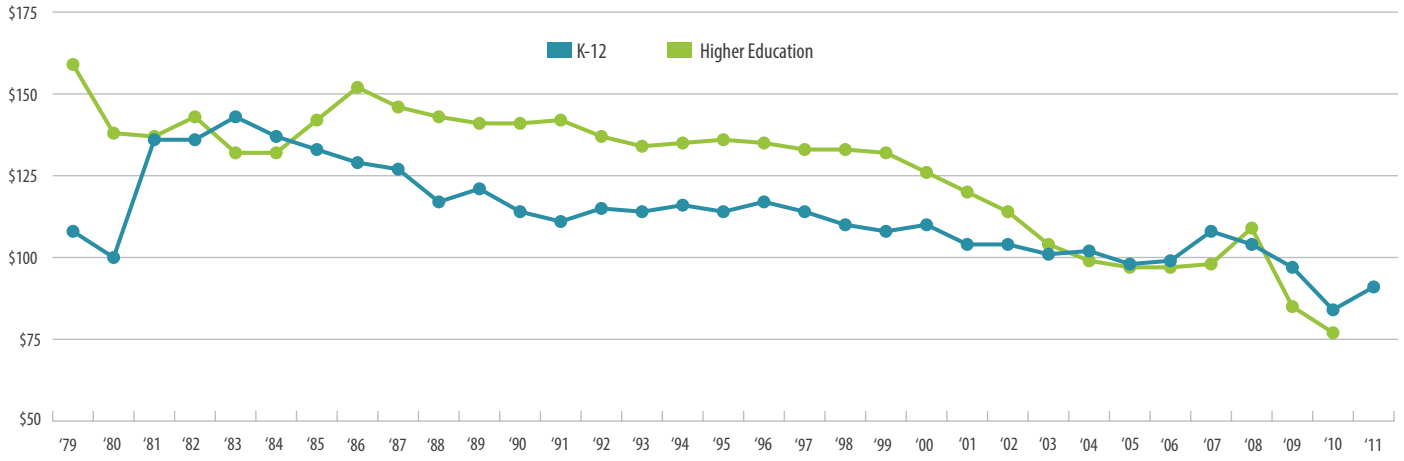
Social Losses for Arizona per High School Dropout



Social Loss per High School Dropout over Lifetime $421,280	x	High School Dropouts in Each Year Group 18,100	=	Aggregate Social Loss for Arizona Annually $7.6 billion

Source: Arizona Mayors Education Roundtable.

Education Appropriations per Student per $1,000 of per Capita Personal Income, Arizona State Government General Fund



Source: Arizona Joint Legislative Budget Committee, U.S. Department of Education, National Center for Education Statistics and the U.S. Department of Commerce, Bureau of Economic Analysis.

"For each high school dropout, the lifetime social loss for the state of Arizona is $421,280. Across the 18,100 students in Arizona who drop out of high school annually, this social loss amounts to $7.6 billion."

The report, *How Arizona's Dropout Crisis Affects Communities, Creates Economic Losses for the State of Arizona*,[6] tallies how rural communities are hit especially hard by the costly consequences of dropouts and underachieving youth as related to "social loss."

The report notes: "Local communities face substantial challenges: they face the social loss over the long-term (as dropouts and disconnected youth often 'inherit' the economic conditions of past generations). With few job prospects and weak skills, these youth often remain in their local communities (e.g. incarcerated youth return to their home community on release), whereas more educated youth migrate to large cities with more flexible labor markets. A community with high proportions of disconnected youth will have to support those youth through adulthood. Compounding this situation, local communities lack a sufficient tax base from which to make investments to support these youth. Finally, local communities with high numbers of dropouts or disconnected youth face many 'intangibles' – depressed local property prices; poor investment climate; neighborhood insecurity and blight."

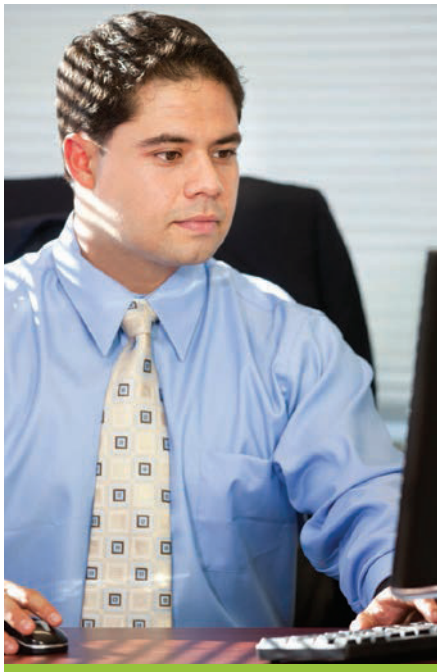
ARIZONA'S DECLINING INVESTMENT

There has been continual debate over Arizona's level of commitment to funding education to prevent dropouts and the state's efforts to prepare for a highly skilled, highly educated workforce. But in virtually all reputable studies, no matter how data are sliced and diced to paint a particular political or partisan picture, Arizona ranks near the bottom of states on most key measurements for funding. This fact was emphasized in a Morrison Institute for Public Policy recent briefing, *Arizona's Education Financing: Elementary and Secondary Education 2002-2011*.[7] Senior Policy Analyst Dan Hunting explained:

"In 2011, the national average amount spent was $12,411 per K-12 pupil. When including all federal, state, and local monies, Arizona spent $8,806 per K-12 pupil, 29 percent less than the national average, ranking 47th of the 50 states. It is also instructive to consider Arizona's education funding in comparison to the size of its overall economy. Arizona spends $38.49 on K-12 education for every $1,000 of personal income. The national average is $48.68, ranking Arizona 49th in the nation. A third way to gauge the state's financial education support is calculating the ratio of per-pupil expenditure to per-capita personal income. This measure accounts for both the size of the economy and the size of the state's population. Arizona ranks 45th nationally on this measure."

Rather than growing its investment in education, Arizona has spent the last decade shrinking state and local per-pupil funding for education at a greater percentage than all but two states. "Between FY 2002 and FY 2011 combined state and local revenue decreased by $573 per pupil, a 7 percent drop. Only Georgia and Idaho showed larger decreases in per-pupil state and local revenue over the period, while 37 states showed increases," Hunting noted.

Presently there is legal wrangling surrounding a summer 2014 ruling by the Arizona Supreme Court that the state has failed to adequately fund education according to Proposition 301, which was approved by voters in 2000. School districts and charter schools are demanding back payments that could total nearly $1.7 billion, which could greatly affect Arizona's per-pupil spending. State legislative leaders are balking at the expense.



"WHILE EDUCATIONAL ATTAINMENT IS DEPENDENT ON ALL LEVELS OF EDUCATION, HIGHER EDUCATION PLAYS AN INCREASINGLY IMPORTANT ROLE AS A GATEKEEPER OF ARIZONA'S ECONOMIC FUTURE."

AMEPAC

In the meanwhile, Arizona students continue to struggle in academic achievement, with National Assessment of Educational Progress 2013 scores showing 4th-grade math students in Arizona statistically equal to the national average, but scores on 4th-grade reading, 8th-grade math and 8th-grade reading tests below the national average. And no sub-group of Arizona students in any grade or testing area exceeded the national average on the 2013 NAEP.

2013 NAEP Tests (50 States)

Test	States with Scores Higher than Arizona	States with Scores Not Significantly Different from Arizona	States with Scores Lower than Arizona	Arizona Score Compared to National Average
4th Grade Math	20	21	8	Same
4th Grade Reading	40	6	3	Below
8th Grade Math	29	13	7	Below
8th Grade Reading	36	10	3	Below

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2013.

2013 NAEP Tests (50 States)

Arizona's Performance – Above, the Same, or Below the National Average

Group	4th Grade Math	4th Grade Reading	8th Grade Math	8th Grade Reading
All Students	Same	Below	Below	Below
Male	Same	Below	Below	Below
Female	Same	Below	Below	Below
White Students	Same	Same	Same	Same
Hispanic Students	Same	Same	Same	Same
Black Students	Same	Same	Same	Same
School Lunch Eligible	Same	Below	Same	Below
Not School Lunch Eligible	Same	Below	Same	Below
75th Percentile	Same	Below	Below	Below
25th Percentile	Same	Below	Below	Below

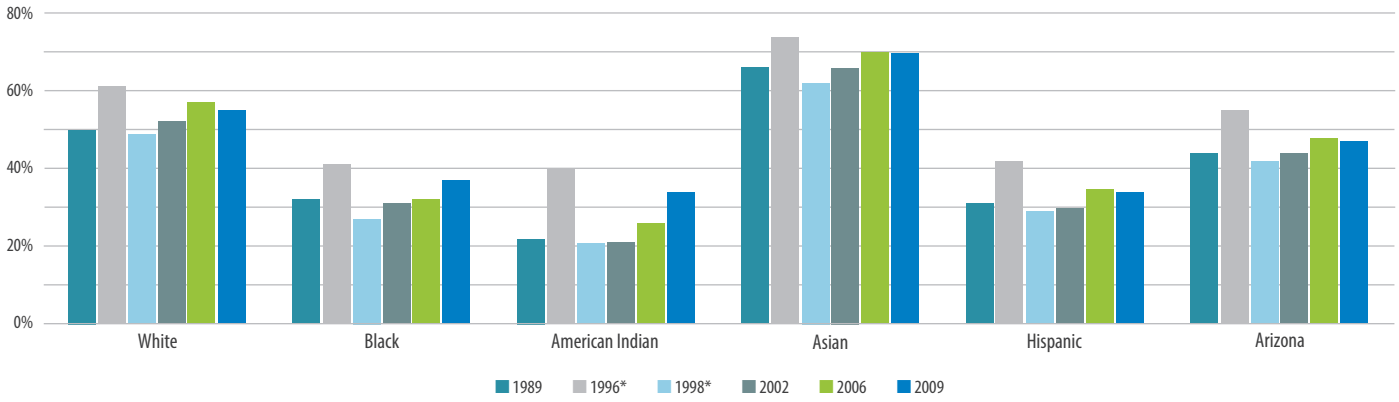
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2013.

These are not the college-ready students Arizona needs for a successful postsecondary education to help fuel the state's economic engine. As a result, Arizona is falling short of its necessity to grow, retain and attract successful businesses and industries, according to the 2013 Arizona Minority Student Progress Report: Arizona in Transformation.[8]

Citing sources including the Arizona Board of Regents, the report by the Arizona Minority Education Policy Analysis Center (AMEPAC), a state board under the auspices of the Arizona Commission for Postsecondary Education, found:

"While educational attainment is dependent on all levels of education, higher education plays an increasingly important role as a gatekeeper of Arizona's economic

Arizona University Eligibility within Race/Ethnicity by Year



* ABOR eligibility requirements increased from 11 high school units to 16 and likely account for the drop in eligibility for all racial/ethnic groups between 1996 and 1998.

Source: Arizona Board of Regents (2009).

future. There is some evidence that Arizona recognizes the economic value of higher education with its stated goal of increasing the number of bachelor's degrees awarded annually to at least 30,000 by 2020. However, the six-year graduation rate from 2009-2011 at ABOR institutions has remained relatively flat. So, while such a goal is a response to the assertion that 'if past trends continue, Arizona will fall short of the national average by about 220,000 college graduates (according to ABOR estimates), challenges remain."

NOT JUST BACHELOR'S, MASTER'S AND DOCTORATES

Of course not everyone needs, wants or necessarily should pursue a college degree in order to succeed. In addition to doctors, lawyers, biotech researchers and MBAs, the state is going to need auto mechanics, medical technicians, real estate agents, welders and so forth. Such jobs, however, require a skill or certificate beyond a high school diploma, which is becoming less valuable as the marketplace is becoming more demanding in specific skill sets. The days of viewing high school graduation as the major accomplishment in a young life are over – although a high school diploma should be celebrated as a big step in the ongoing education journey toward a better life.

According to *On the Rise: The Role of Career and Technical Education in Arizona's Future* report[9]: "The numbers are clear. The average annual earnings for high school graduates in 2011 were $19,400, below the Federal Poverty Level for a family of four. At these wage levels, a family with one working adult and young children would be unable to provide for its basic needs without relying on public assistance. In addition to the personal distress there is the dilemma of lost state income tax revenue aggravated by higher demands on revenue-funded social services."

The 2013 report by Morrison Institute for Public Policy notes that career and technical education (CTE) programs in both high schools and community colleges allow for practical and timely collaboration between employers and educators, although such collaborative partnerships vary by locale and region. Postsecondary internship and apprenticeship programs can go a long way in helping fill looming skills gaps, especially when businesses step up to provide training equipment for students for a greater hands-on education.

> "Community colleges in the state of Arizona are uniquely positioned to serve the needs of employers for well-trained, capable workers by offering courses and programs that are flexible, adaptable and current. …The Maricopa colleges, for example, offer 967 CTE programs that are supported by employer/industry advisory committees."
>
> Maria Harper-Marinick, Executive Vice Chancellor and Provost for Maricopa County Community College District, said in the *On the Rise* report.

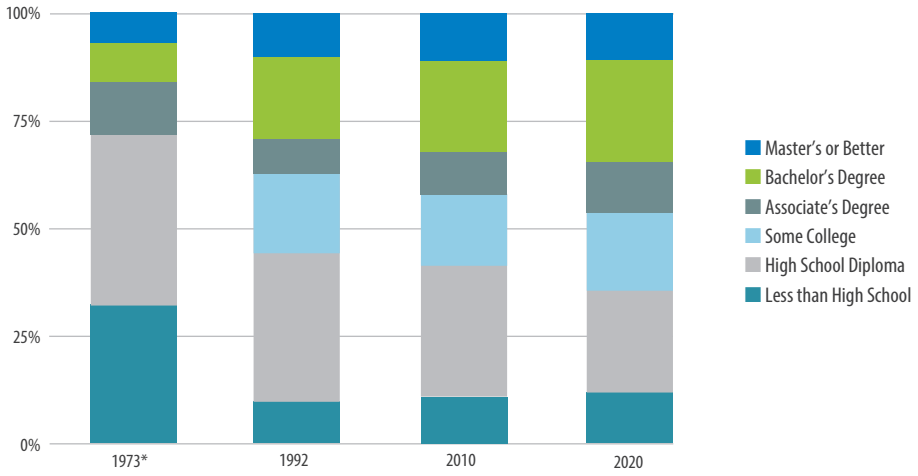
SOME 2013 RECOMMENDATIONS FROM 102nd ARIZONA TOWN HALL: "IS HIGHER EDUCATION READY FOR ARIZONA'S FUTURE?"

- Arizona's education systems at all levels must continue to refine and improve the preK-12 pipeline so that incoming higher education students have successfully completed their Common Core Curriculum and are prepared for higher education. High school graduation requirements must be aligned with higher education entrance requirements.
- Critically, higher education requires dedicated and sustainable funding sources. Arizona's government leaders, specifically the Governor and the Legislature, must make this a top priority and respond to the strong desires of the people of Arizona to provide long-term, balanced solutions to funding education at competitive levels. This should include, at a minimum, increasing financial aid for students, expanding tax credits so they apply to higher education institutions, increasing funding for public higher education, and targeting programs for underrepresented, minority, and first generation students.
- Government at all levels should develop public-private partnership alternatives that promote investment in higher education.
- ABOR should be given state appropriations and, to the extent necessary, bonding authority to finance statewide research infrastructure. There are structural barriers to increasing funding for higher education that we should consider removing, including the repeal of Proposition 108, which requires the consent of a supermajority of the Legislature to develop new revenue resources.
- On the state level, we should urge the Legislature to consider a return of over $400 million to the university and community college systems. The restored funding would be focused on making higher education more accessible and affordable for Arizona students.
- Implement a grant and scholarship program focused on low- and middle-income students.
- Restore the required state match funding for the system-wide adult basic education program that provides pathways to postsecondary education to 800,000 individuals in Arizona who currently do not have a GED.
- ABOR (Arizona Board of Regents), universities, the tribal colleges, and the community colleges must identify and support alternative approaches to increase funding, including expanding partnerships between higher education institutions and local and state community foundations to raise funds for loans and gifts. They also should support the enhancement of current endowment models.
- Advocate for restoration and continued funding of programs such as the federal TRIO programs that include Upward Bound, Talent Search, Student Support Services, and Gear Up, which prepare middle school and high school students to be college ready. Local business leaders, charitable organizations, tribes, and communities must contribute time and resources to higher education.
- Authorize DREAMERs to qualify for "in-state" tuition. DREAMERs are individuals who came to Arizona at a young age and who graduated from Arizona high schools.
- Experimental learning should play an expanded role in higher education to provide context and job skills training. Students should be able to participate in internships and have other workforce opportunities. This will require active partnerships between higher education institutions and businesses, local governments, and other organizations.
- Higher education institutions and state and local economic development agencies must work to better align and coordinate strategic plans and initiatives in order to achieve a more diversified and sustainable economy for Arizona.

Source: www.aztownhall.org/Resources/Documents/102nd_Final_Report.pdf

Jobs Will Increasingly Require Education Beyond a High School Diploma

According to Georgetown University Center on Education and the Workforce, the proportion of American jobs requiring postsecondary education has more than doubled, growing from 28 percent in 1973 to 59 percent in 2010. The proportion is projected to increase to 65 percent in 2020.



* The "Some College" category was not measured in 1973.

Source: *Five Ways That Pay Along the Way to the B.A.*, Georgetown University Center on Education and the Workforce, 2012.

PORTRAIT OF AN ECONOMICALLY HEALTHY STATE

So, what does an economically healthy state look like? The AMEPAC Student Progress Report asked that very question. Here's the answer, using ABOR, Morrison Institute and AMEPAC language from previous reports for further iteration:

"There are several indicators of a state's economic health, all of which are affected by educational attainment. Common indicators include industry growth and unemployment levels, which assume that strong economies have strong businesses dependent upon a skilled workforce. In the knowledge economy of today and tomorrow, a skilled workforce is synonymous with an educated workforce. Universities play a role here by disseminating practical knowledge to help advance Arizona industry, spinning off and attracting new companies, and producing graduates with the engaged and relevant experience which allows them to have a more immediate impact in those companies and in our communities. As the level of educational attainment increases, so do individual and collective economic and social benefits, such as higher median and lifetime earnings and higher quality of life.

"In a knowledge economy, higher levels of educational attainment fetch higher wages and benefits, which translate into higher median incomes, a stronger tax base, improved consumer spending ability, and lower poverty levels. It also affects other societal welfare outputs, namely improved public services (like education) and decreased reliance on public benefits (like government assistance programs).

"Consequently, states concerned with gaining, maintaining, and expanding a competitive economic advantage by developing a healthy economy understand the importance of acting now to maximize future educational attainment levels for all residents of the state. Although maximizing educational attainment is complex, at its base, it requires an understanding of the context in which such an objective is framed so that public policy may align accordingly."

"HIGHER LEVELS OF EDUCATIONAL ATTAINMENT FETCH HIGHER WAGES AND BENEFITS, WHICH TRANSLATE INTO HIGHER MEDIAN INCOMES, A STRONGER TAX BASE, IMPROVED CONSUMER SPENDING ABILITY, AND LOWER POVERTY LEVELS."

AMEPAC Student Progress Report

There are certainly ways to discuss education without discussing funding. Nonetheless, dollars do make a difference. Dollars affect the size of a classroom, and the size of a classroom affects a teacher's effectiveness; dollars affect the ability to hire and keep top teachers and innovative administrators; dollars affect school operations for everything from art and shop class to science labs, computers and other course technologies; dollars affect the number of counselors who can help connect students with an internship or scholarship or career path.

Arizona's continued focus on viewing education funding mainly as "spending" instead of as "investment," may hurt Arizona's future economic development. Without a major change in its current funding model, Arizona likely will continue to hover near the bottom in both educational attainment measurements and per-pupil spending.

ENDNOTES

1 Governing Data, *High School Graduation Rates by State*
http://www.governing.com/gov-data/high-school-graduation-rates-by-state.html

2 Morrison Institute Latino Public Policy Center, 2013, *English Language Learners: What's at Stake for Arizona?*
http://MorrisonInstitute.asu.edu/Latinos

3 Morrison Institute for Public Policy, 2012, *Dropped? Latino Education and Arizona's Economic Future*
http://morrisoninstitute.asu.edu/sites/default/files/content/products/Dropped_2012.pdf

4 Arizona Children's Action Alliance, 2014, Arizona *KIDS COUNT Data Book*
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5 THINGS
EVERY ARIZONAN OUGHT TO KNOW ABOUT ECONOMIC DEVELOPMENT

BY DR. IOANNA MORFESSIS

ECONOMIC DEVELOPMENT COMPETITION IS GLOBAL.

All states and regions are confronted with changing dynamics in the competition for business retention, business attraction and entrepreneurship. Competition for new jobs, private capital investment and entrepreneurial enterprises has never been more pronounced as U.S. multinationals, foreign firms and developed and emerging economy nations have become more globally integrated through technology and telecommunications. Emerging economy nations will capture much of the new private sector economic development activity across the world in the coming years. Much like the BRIC nations dominated global economic growth in the 2000s, Goldman Sachs' "Next Eleven" economies – which include Mexico – will be beneficiaries of U.S. and foreign direct investment and job creation in the next decade and beyond.

ECONOMIC DEVELOPMENT IS A PROCESS, NOT A PANACEA.

For many American communities and states, economic development is regarded as THE panacea for economic and community challenges. Many public policies and programs often are invoked in the name of economic development. In reality, economic development is a process through which the quality of life and standard of living for a community's residents are improved. How? By providing the foundation essential to new business formations, new job creation and the investment of private capital. Among the most important factors for business locations: the availability of skilled human capital, access to markets, information technology and communications infrastructure, a favorable and competitive business environment, and the availability of shovel-ready sites. Perhaps the most important building block to achieve sustained economic development is an unwavering commitment to providing the highest quality K-20 education systems that prepare students for college and career success.

THE ECONOMIC DEVELOPMENT PROFESSION IS RELATIVELY NEW AND STILL EVOLVING.

The practice of economic development is relatively young. With its initial roots in "smoke stack chasing" during the 1950s – when Southern states raided the wood-working and textile industry from the Northeastern U.S. – the profession expanded to include an urban focus in the late 1960s/early 1970s when the nation's cities were in havoc. Today, economic development is highly inter-disciplinary, reflecting the breadth of functions that are fundamental to success. Through the International Economic Development Council (IEDC), economic development professionals are able to obtain a Certified Economic Developer certification. Increasingly, more and more communities require this credential of their economic development staff. The IEDC is exploring the potential of working with the U.S. Department of Labor to add "economic developer" as an occupation listed in the Standard Occupational Classification (SOC) list to be able to quantify the number of professionals working in this field.

ECONOMIC DEVELOPMENT ORGANIZATIONS ARE PROLIFIC.

While there is no national database available, a recent IEDC survey approximates that there are 15,466 local, regional and state economic development organizations in the U.S. They come in all forms – public sector agencies, quasi-public, nonprofit and private-public partnerships – and at all levels – state, county, city, regional, neighborhood. Combined, U.S. public and private sector economic development budgets are estimated between $500 million to $1 billion – not including dollars available for incentives or other business assistance programs. Conservative estimates indicate that 20,000 to 25,000 professionals work full-time in economic development. In Arizona, economic development budgets range from $5,000 to $10 million, and staffing ranges from a half-time position to more than 50 FTEs.

BEST PRACTICES ARE THE NORM FOR HIGH PERFORMING ECONOMIC DEVELOPMENT ORGANIZATIONS.

Economic development professionals and programs are expected to deliver the highest value and return on investment – much like a business. Communities and companies are paying far more attention to the performance of economic development organizations, and IEDC research shows that the highest-performing groups typically have the following best practices in common: consistency in economic development strategy, policies and programs; innovative approaches to growing/diversifying economy; positive business climate and image; rigorous metrics and accountability; and strong private public partnerships.

ABOUT THE AUTHOR **Dr. Morfessis** is president and chief strategist of IO.INC. She is a recipient of the International Economic Development Council's Lifetime Achievement and Excellence Award, and the founding president/CEO of several economic development organizations, including the Greater Phoenix Economic Council.

ECONOMIC DEVELOPMENT

BY KEN WESTERN

A SNAPSHOT OF ECONOMIC DEVELOPMENT IN ARIZONA

Economic development is a highly competitive endeavor in Arizona. Small, rural communities vie with their neighbors to attract businesses, to retain existing businesses and to encourage the growth of those existing businesses. The state's big metro areas, notably Phoenix and Tucson, vigorously compete with metropolitan areas around the country for major employers with high-paying jobs. The 15 counties battle each other for companies and the coveted jobs they bring. At the state level, Arizona engages in high-stakes battles with other states for high-tech and other industries that often seek millions of dollars in subsidies and tax breaks. Finally, today's globalized economy means that Arizona competes not only with such states as North Carolina, Texas and Colorado for lucrative jobs, but with Brazil, Japan, Austria, China and other countries around the world.

Still, for all their economic competitiveness, many cities and organizations also recognize the value of collaboration and working together to attract new jobs. The Greater Phoenix Economic Council, which represents 23 Valley communities, Maricopa County and various businesses, grew out of the recognition that rival cities benefit when major employers locate in the Valley. Similar partnerships operate in other parts of the state, including in southern Arizona with Tucson Regional Economic Opportunities and in the Flagstaff area with the Economic Collaborative of Northern Arizona. As part of the Arizona Sun Corridor partnership, GPEC has teamed with Tucson, Yuma, Flagstaff and Pinal County to build relationships with businesses in Orange County, California. as well as the Los Angeles and the San Francisco Bay areas. Not long after he took office in 2012, Phoenix Mayor Greg Stanton joined then-Mesa Mayor Scott Smith in pledging that the two cities would work together as regional partners in such areas as aviation (http://morrisoninstitute.asu.edu/sites/default/files/content/projects/EDP%20Summary%2024.pdf), bioscience (http://morrisoninstitute.asu.edu/sites/default/files/content/projects/EDP%20Summary%2023.pdf) and transit (http://morrisoninstitute.asu.edu/sites/default/files/content/projects/EDP%20Summary%2030.pdf), saying both cities benefited when the other landed a major business.

In many respects, as Greater Phoenix's economy goes, so goes Arizona. Greater Phoenix accounts for about 72 percent of the state's jobs, and its share has been growing for 25 years.

Unfortunately, there simply are not enough industries and jobs to go around. Economic development creates winners and losers, with those communities, states and nations that come up short facing the prospect of slow economic growth or even stagnation. A strong economic base is the springboard to the rising revenues that fund enhanced public safety, housing, education, health care and other ingredients of an enhanced quality of life that citizens have come to expect. Economic development, in short, is vital.

Arizona has long been an early adopter of new ways of approaching strategic planning in economic development. In the early 1990s, Arizona embraced Harvard professor Michael Porter's series of cluster-based economic development, which led to the Arizona Strategic Plan for Economic Development and realigned how the state approached

Visit http://morrisoninstitute.asu.edu/sites/default/files/content/projects/EDP%20Summary%203.pdf to read the Governor's Commerce Advisory Council Report.

the job of growing clusters of industry. Many positive outcomes resulted from this approach, including the growth of the optics, aerospace and defense industries as well as a greater collaboration among technology companies.

Additional work was done to advance economic development in Arizona from 2003 to 2007 under the Governor's Council on Innovation and Technology. The council helped launch the Innovation Indicators Dashboard to assess various factors affecting Arizona's climate of innovation, supported the expansion of university research and provided the impetus for revamping Arizona's strategy for innovation and technology. When the Arizona Commerce Authority (ACA) was created in 2011, the council's insights on innovation and competitiveness led to the eventual formation of such key features of the ACA as the Arizona Innovative Challenge and the Arizona Competes Fund.

While the expertise and resources that Arizona's towns and cities bring to economic development vary widely, just about every community wants to keep the jobs it already has and create and attract more, with the goal of creating a prosperous community.

But economic development is hardly limited to the 91 incorporated towns and cities in Arizona, and their non-incorporated neighbors.

Many of the state's 15 counties do some kind of economic development. The state's six Councils of Government, comprised of one to four counties each, are involved, to varying degrees, in encouraging economic development.

Chambers of commerce around the state work to retain businesses and may offer a hand in helping to attract a business, especially in those smaller communities without a full-time economic development official.

Across the state, towns and cities work together to market themselves nationally and even internationally, sharing leads with members and providing business and community leadership to encourage and spur economic growth.

Working with these various government bodies and organizations is the Arizona Commerce Authority.

The Arizona Association for Economic Development is particularly attuned to the needs of rural practitioners, coordinating roundtables, publishing a newsletter and providing networking for members.

The state's various utilities also have an interest in promoting economic development. For years, utilities have helped communities, particularly rural ones, advance their economic development planning efforts by creating community and economic development plans.

USDA Rural Development also plays a big role in economic development, funding housing, community facility, business, water and waste, and utility projects throughout eligible rural communities.

The three state universities are active in economic development through research and analysis, research parks, incubators and offices that handle technology transfer functions, points out Erik Glenn, a University of Arizona researcher. Many community colleges also provide economic development services.

As Arizona reshapes its economy with the development of such cutting-edge sectors as bioscience, renewable energy and advanced electronics to become more diversified and globally competitive, a new identity is emerging for the state. As the following map of major projects envisioned or underway in Arizona shows, it is an economic identity based on entrepreneurialism, innovation, opportunity and collaboration.

ABOUT THE AUTHOR

Ken Western spent more than 35 years in journalism, much of that time at The Arizona Republic as a business reporter and editorial page editor. Since then, he has worked on economic development projects for the Morrison Institute and IO.INC.

ARIZONA ECONOMIC DEVELOPMENT PROJECTS AT A GLANCE

With Arizona's economy still deep in recovery in 2012, the Morrison Institute identified more than two dozen big-ticket projects with the potential to create thousands of jobs across the state ("Arizona's Economic Development Landscape: Charting a Unified Course") This chart updates the status of the projects, some of which have been completed or are under construction, while others continue to face a combination of political, financial, regulatory or environmental hurdles. This list of projects suggests that Arizona's targeting of such key sectors as aerospace, biomedical and renewable energy is paying dividends, with much more to be done. The "Potential Impact" accompanying each item is based on interviews, published reports and proponents' proposals.

Fab 42

In response to slumping personal computer sales, Intel Corp. has put on hold for the foreseeable future the opening of a $5.2 billion fabrication plant in Chandler to produce advanced semiconductor chips. **Potential Impact:** Scheduled to open in 2013, the vacant facility will be targeted at future technologies. The plant was to employ 1,000, but Intel says it has added 1,000 employees at related plants in Chandler since 2011, when work began on Fab 42.

Interstate 11

The proposed route, under study by the states of Arizona and Nevada, potentially costing billions, would link Southern Arizona and Las Vegas, cutting through Pinal County and swinging around the west side of greater Phoenix. **Potential Impact:** Speed the passage of commercial trucks, tourists and others between Las Vegas and Southern Arizona as well as Phoenix. Catalyst for jobs, trade and growth along the route.

Innovation Mesa Accelerator

Flagstaff's business incubator – owned by the city of Flagstaff and operated by Northern Arizona Center for Entrepreneurship and Technology on the McMillan Mesa – has done so well that the city is planning a second facility as a business accelerator for Tier 2 companies and graduates of NACET. **Potential Impact:** Creation of 300 jobs, will provide more space for expanding firms and feature wet and dry laboratories.

Quartzsite Solar Energy Project

SolarReserve's proposed $600 million project would be about 10 miles north of Quartzsite. **Potential Impact:** Renewable energy, generating 100-megawatts of electricity. Creation of about 450 construction jobs and up to 50 permanent operating jobs.

Yuma Rail

Yuma organizations intent on becoming an inland port to capitalize on proximity to Mexico studied various options to expand rail, including hauling fresh and frozen produce from Mexico to Chicago and New York. **Potential Impact:** Yuma study concludes that unless Port of Punta Colonet is built someday, building a rail line into Mexico does not make economic sense. Focus turns to building industrial park to serve Yuma area.

Resolution Copper

A $2 billion mine proposed near Superior targets one of the largest copper ore bodies ever found – more than a mile below the surface. Congressional approval of a land exchange is needed for the project by Rio Tinto and BHP to move ahead. **Potential Impact:** 1,400 jobs, plus 3,000 workers on average over nine-year construction period.

Holbrook Potash

Several companies are hoping to mine potash hundreds of feet below the surface in the Holbrook Basin. Potash is used primarily as a raw material for fertilizer. **Potential Impact:** Each project could generate hundreds of jobs and establish Holbrook as the leading potash-producing region in the U.S.

Unmanned Aircraft Systems

Arizona is aggressively supporting the research and development of unmanned aircraft systems (UAS) at Fort Huachuca near Sierra Vista and the Yuma Proving Ground as well as at various laboratories and universities, including in Prescott. **Potential Impact:** Arizona as a UAS center with expanded R&D, and relocation of aerospace companies and suppliers to the state, employing thousands.

Mariposa Land Port of Entry

The five-year, $213 million expansion of the Nogales complex is nearing completion in August, 2014. **Potential Impact:** Improved trade between the U.S. and Mexico, and business savings with faster inspections at the nation's third busiest border crossing. Among the additions: eight commercial inspection lanes.

Phoenix Mart

Ground was broken in late 2013 on a 1.75-million-square-foot "sourcing center" in Casa Grande, which will serve as a display place for a half-million products. **Potential Impact:** Major business center with 2,000 vendors, creating 7,000 direct and indirect jobs.

The Chan Soon-Shiong Institute for Advanced Health

Billionaire physician Patrick Soon-Shiong plans to build a headquarters in Phoenix for research information in cancer, representing an initial investment of at least $50 million. **Potential Impact:** Creation of numerous jobs and positions Phoenix to be a center for genomic and protonomic cancer research.

Mayo Medical School – Scottsdale

The Mayo Clinic plans a $151 million medical-school campus in Scottsdale, with Arizona State University, that will offer an innovative approach to training physicians. The school is scheduled to open in the next several years. **Potential Impact:** About 200 students will be enrolled when the four-year program is fully operating. More doctors for Arizona and heightening of Valley's profile in health care and medical education.

Mayo Clinic Cancer Center

Mayo is consolidating its Arizona cancer operations with construction of a $130 million structure on its Phoenix campus. The 217,200-square-foot facility will be built atop Mayo's $182 million proton-beam therapy center now under construction. **Potential Impact:** Strengthens the Valley as a destination for innovative cancer treatment in the Southwest. Expected to add nearly 1,000 employees over the next decade.

Odysea in the Desert

The $170-million entertainment complex is taking shape east of Scottsdale on the Salt River Pima-Maricopa Indian Community. The rainforest butterfly pavilion is open and will be joined by a 16-acre aquarium in late 2015, and later by a Ripley's Believe It or Not museum, IMAX theater and retail stores. **Potential Impact:** Major tourism attraction to unfold over five years, spinning off other developments and employing thousands.

Mohave County Wind Farm

BP's proposed $1 billion project would include up to 243 wind turbines on 49,000 acres of public land, about 40 miles northwest of Kingman. **Potential Impact:** Renewable energy, generating up to 500 megawatts of electricity. Some 200 to 300 construction workers will be required. Permanent employment: 10 to 20 jobs for operations and maintenance.

Southwest Direct

An initiative proposed in 2012 by business leaders to establish greater Phoenix as the international commercial and business hub of the Southwest. Emphasizes greater utilization of airports for shipment of cargo, spinning off other industries. **Potential Impact:** Billions in economic activity with greater Phoenix becoming the hub of the Southwest, not only for commercial cargo, but in such areas as manufacturing, health-care/medical research, and renewable energy.

Boyer Co. Laboratory

A $50 million research laboratory, including wet labs, is planned by the Salt Lake City-based Boyer Co. on the Phoenix Biomedical Campus. Construction is underway nearby on the University of Arizona's $100 million cancer treatment center. **Potential Impact:** As many as 400 bio-medical jobs, and 500 construction jobs on Boyer project.

AZ Sun Program

The Gila Bend-area is adding its fourth solar facility with the 12 megawatt Arizona Public Service solar photovoltaic facility. **Potential Impact:** An estimated 400 to 600 construction jobs with completion scheduled for 2014. Will provide electricity to 8,000 homes and strengthen Gila Bend's image as the "Solar Heart of Arizona."

Rosemont Copper

In 2014, HudBay Minerals acquired Augusta Resources, which is seeking to mine copper in the Santa Rita Mountains southeast of Tucson. Mining could start in 2018. **Potential Impact:** 500 permanent jobs, with 1,000 employed during construction and in support roles while the mine is in operation.

Accelerate Diagnostics, Inc.

Accelerate Diagnostics, Inc., formerly Accelr8 Technology Corp., moved its headquarters from Denver to Tucson in 2012, and is part of Tucson's burgeoning bioscience sector. **Potential Impact:** Adding scores of high-paying jobs to city and strengthening city as a biotech hub.

University of Arizona Cancer Center Project

Construction of the $135 million University of Arizona Cancer Center is expected to start in 2014 on the downtown Phoenix Biomedical Campus. UA and St. Joseph's Hospital and Medical Center are partnering on the center. **Potential Impact:** Staffing of nearly 100 physicians and hundreds more health-care and administrative workers. Within 10 years, expected to treat about 60,000 patients a year.

Intel Corp. Research Facility

The world's leading chip maker built a $300 million research-and-development facility in Chandler in 2013 that focuses on the packaging of microchips. **Potential Impact:** Diversification of Intel's presence in Chandler. Expected to employ 300 highly-skilled workers, about half with doctorate-level degrees.

Florence Copper Project

Curis Resource's proposes to build an underground copper mine near Florence. **Potential Impact:** Create and support an average of 681 jobs per year over nearly three decades.

Morenci Mine

Freeport McMoRan completed a $1.6 billion project to expand mining and milling capacity at its mine in Morenci in 2014, and is currently ramping up to full production. **Potential Impact:** Add about 600 jobs to the more than 2,500 now at the mine. Boost total direct and indirect economic impact of the mine which, combined with the Safford mine, was estimated at $379 million on Graham and Greenlee counties in 2011.

Douglas Port of Entry

A $60 million expansion is envisioned for Douglas, the second largest commercial port in Arizona. The port of entry has been described as "wholly inadequate" by the General Services Administration. **Potential Impact:** A savings in time and cost and improved trade between the United States and Mexico with expedited inspection of commercial trucks and movement of private vehicles and pedestrians.

Red Rock Project

Union Pacific envisions creating one of the largest logistics centers in the western U.S. with construction of a 250-acre classification center near Picacho Peak in Pinal County. **Potential Impact:** Hundreds of jobs with the sorting of cargo containers and rail cars for their next destination. Expected to spur industrial development along the nearby I-10 corridor.

Luke Air Force Base

The Glendale base is undergoing a $100 million renovation to carry out its new F-35 pilot-training mission. **Potential Impact:** 1,000 direct and indirect jobs around the base with mission, and 2,290 construction jobs. Ensures base's long-term future.

Tucson Logistics Center

With the Port of Guaymas in Sonora, about 260 miles south of the Arizona border, now handling container cargo, Tucson is positioning itself to handle increased rail traffic from the deep-water port destined for other parts of the U.S. **Potential Impact:** Strengthens Tucson's position as a logistics center; speeds movement of products.

PUBLIC POLICY AND THE ECONOMY

BY TOM REX, MBA

INTRODUCTION

The media and the public are quick to blame politicians during periods of economic malaise. For example, the re-election bids of Jimmy Carter in 1980 and George H.W. Bush in 1992 were derailed in large part by poor economic conditions. Similarly, politicians frequently take credit during periods of economic growth. In reality, politicians – and public policy in general – have little effect on economic conditions in the *short term*. State and local governments in particular have few tools with which to influence near-term economic conditions. Basic economic forces, particularly as manifested in the economic cycle, are far more powerful than public policies.

During the last, severe recession and in the slow recovery that followed, considerable attention was given to government actions to stimulate the economy. The Federal Reserve Board has a variety of tools that can be employed to battle a recession. It aggressively used the tools at its disposal during the recession and recovery. The executive and legislative branches of the federal government also have an ability to stimulate the economy during a recession by increasing public spending without increasing taxes or other revenues (by increasing the deficit). The American Recovery and Reinvestment Act (ARRA) passed in 2009 was the latest example of such an increase in federal spending intended to stimulate the economy.

Other than the actions of the Federal Reserve Board, the most effective way the public sector can have a fast impact on the economy is to increase public spending for the purpose of building physical infrastructure. ARRA included monies for infrastructure projects. As money was released to construction companies and related businesses deeply impacted by the recession, people were put to work and in turn increased their spending, benefiting other sectors of the economy. Stimulating the economy by spending on infrastructure is particularly desirable because of the poor evaluations of the nation's existing physical infrastructure, as discussed in the chapter on infrastructure.

State and local governments also can engage in infrastructure building. Indeed, it is the only way in which a state or local government can have a meaningful impact on the economy in the short term. However, since state and local governments cannot run a deficit, long-term debt financing must first be arranged before the funding for such a stimulus program can be released. This tool was little used in Arizona to combat the last recession and weak recovery, despite a backlog of infrastructure projects previously identified as needed.

A larger number of public policies can influence economic performance in the longer term. The public policies that most affect economic performance are those that directly affect the location factors most important to businesses. As discussed in the Overview of Arizona's Economy, the three most important categories of location factors are the quality of the labor force, the quality of the physical infrastructure, and labor and other business costs.

Though some location factors are beyond the influence of the public sector, others can be affected by public decisions or are largely controlled by the public sector. The public sector can influence the quality and availability of the labor force through the provision of education and job training programs, as discussed in the chapter on human capital. Much of the physical infrastructure is the responsibility of the

KEY FINDINGS

- State and local governments have few tools with which to influence near-term economic conditions.
- A larger number of public policies can influence economic performance in the longer term. The public policies that most affect economic performance are those that directly affect the location factors most important to businesses.
- Expenditures by state government have fallen sharply over the last 25 years, particularly for education. Yet, education is a key component of labor force quality and availability, the most important business location factor.
- Taxes, one of many factors affecting business costs, have been reduced significantly over the last 25 years, but the reductions to individual taxes have been much more significant than the reductions to business taxes.

public sector, as discussed in the chapter on infrastructure. In contrast, the public sector has little influence on business cost factors, the most important of which is labor costs; the primary exceptions are the taxes and user fees paid by businesses. Among other location factors, the regulatory environment largely is determined by public policy, and the quality of life is partially determined by public policies.

BUSINESS COST FACTORS

In terms of economic development, cost factors have declined in importance over time in the United States. The economic base is shifting to higher-value activities, for which other location factors – particularly labor force quality – are of relatively more importance. Costs generally are of more significance to mature industries that are less technologically dependent. Such industries typically pay lower wages and have limited prospects for growth. For many of these cost-sensitive operations, the United States can no longer compete, given the much lower wages in countries such as India.

Public policy cannot have much influence on labor costs, the most important cost factor, though setting a state or local minimum wage higher than the federal standard has an obvious impact at the lower end of the wage scale. Similarly, most other business costs, such as for real estate and energy, are predominantly set by the private sector. The one cost that is determined by the public sector is taxes/user fees, as modified by tax credits, tax exemptions, and other incentives.

Taxes and user fees cannot be viewed in isolation, since much of the revenue collected is expended for public services used by businesses. The public programs that consume most of the state and local government revenue – education, public safety, transportation, and the provision of infrastructure – clearly are of interest to businesses. Thus, in terms of economic development, the issue in not simply the amount of taxes and public fees paid by businesses. Instead, the amount paid relative to the quantity and quality of public services and infrastructure used by businesses is the real issue.

TAXES

State and local government taxes receive considerable attention in Arizona despite their small impact on the economy – combined, they account for less than 2 percent of operating income for the average business, according to the *Almanac of Business and Industrial Financial Ratios*. (In contrast, federal tax payments are considerably higher.) The small magnitude of state and local taxes is consistent with their low ranking among the business location factors.

In order to calculate changes in taxes over time, or to compare taxes across geographic areas, the amount of taxes paid is divided by a measure such as population or personal income. Taxes paid relative to personal income is preferred to the per capita tax measure since the former considers the "ability to pay." For example, since the average income in Arizona is considerably below average, the average Arizonan cannot afford to pay as much in taxes as the average American.

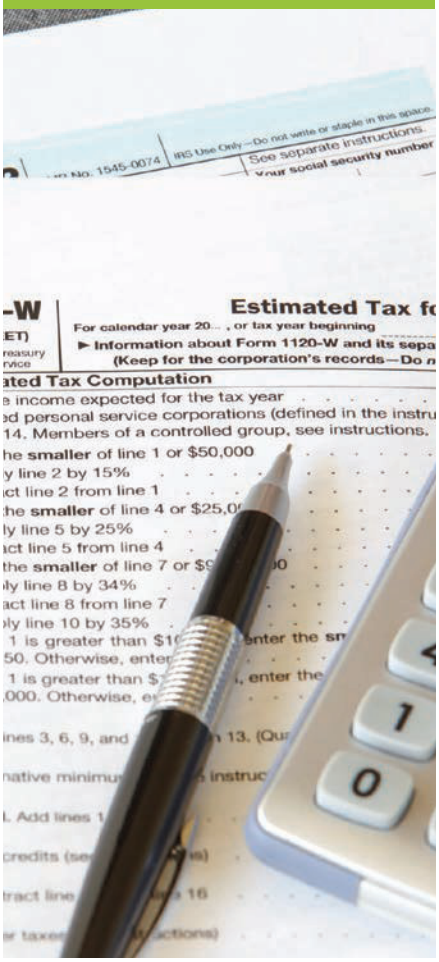
Total Taxes. Relative to the ability to pay, the amount of state and local government taxes paid by individuals and businesses combined in Arizona is below the average of the states, the result of very low individual taxes and of business taxes that range from low to high, depending on the nature of the business.

The latest data from the U.S. Census Bureau, which are for fiscal year 2011 (July 2010 through June 2011), indicate that state and local government taxes collected per $1,000 of personal income in Arizona ranked 38th among the 50 states and District of Columbia (where a rank of 1 indicates the highest taxes), at 8 percent less than the U.S. average. With the exception of the general sales tax, collections in each of the major tax categories were below average in Arizona in 2011 relative to the state's personal income. Differentials from the national average included -43 percent for the individual income tax, -34 percent for the corporate income tax, -44 percent for motor vehicle license taxes, -26 percent for selective sales taxes (such as motor fuel and tobacco), and -9 percent for property taxes. In contrast, the general sales tax figure was 55 percent higher than the U.S. average.

The Tax Foundation provides a comparison of total state and local government taxes by state from 1977 through 2011 using a methodology different from that of the Census Bureau. In 2011, the total amount of taxes collected in Arizona was 8.9 percent of per capita income, less than the national average of 9.8 percent. Arizona ranked 34th among the states (where a rank of 1 indicates the highest taxes).

Individual Taxes. An annual study of taxes paid by individuals is produced by the government of the District of Columbia. Its methodology differs from that of the other studies. For a hypothetical family at each of five income levels living in the largest city in each state and the District of Columbia, the amounts of state and local government taxes paid are calculated based on the applicable tax laws for four types of taxes. Among households earning $50,000 and $75,000 in Phoenix, the amount paid in taxes was greatest for the sales tax, followed by the property tax. At the $100,000 and $150,000 income levels, the tax payment was greatest for the property tax, followed by

LARGE INDUSTRIAL COMPANIES THAT OWN CONSIDERABLE PROPERTY PAY A HIGH AMOUNT IN STATE AND LOCAL TAXES RELATIVE TO COUNTERPARTS IN OTHER STATES.



the sales tax. At each income level, the income tax payment was considerably lower, with the amount paid in automotive taxes even lower.

Compared to the other cities, total tax payments in Phoenix ranged from substantially below average at higher household income levels to about average for households with less income (see Table 1). Relative to the median of the cities, individual income tax payments were very low in Phoenix (except at the lowest income level) and property tax payments were considerably below average, but the amount of sales tax paid was very high in Phoenix.

Business Taxes. An annual study of state and local government taxes paid by businesses, produced by Ernst & Young for the Council on State Taxation, indicates that in fiscal year 2012, the total business tax payment relative to the state's private-sector gross domestic product (GDP) was higher in Arizona than the national average. Business taxes amounted to 5.3 percent of private GDP, a figure 12 percent higher than the national average, ranking 15th highest among the 50 states and the District of

TABLE 1: TAXES PAID BY INDIVIDUALS IN PHOENIX, 2012

Household Income	Tax Payment as a Percentage of the Median of 51 Cities (Rank*)				
	Income Tax	Property Tax	Sales Tax	Automotive Taxes	Total
$25,000	80.4% (18)	**	182.1% (1)	92.6% (30)	**
$50,000	40.3 (39)	81.6% (37)	190.4 (1)	97.0 (28)	100.0% (25)
$75,000	40.7 (40)	80.0 (37)	190.8 (1)	92.4 (32)	92.6 (31)
$100,000	40.0 (40)	78.5 (38)	189.2 (1)	92.5 (32)	85.9 (35)
$150,000	41.3 (40)	73.8 (39)	185.0 (1)	139.2 (18)	82.4 (37)

* Rank among 51 cities, where a rank of 1 indicates the highest tax payments.

** The property tax is indirectly measured at this income level and the tax payment is believed to be unreliable.

Source: Government of the District of Columbia, *Tax Rates and Tax Burdens in the District of Columbia – A Nationwide Comparison*, 2012, http://cfo.dc.gov/node/215912.

TABLE 2: TAXES PAID BY BUSINESSES IN ARIZONA, FISCAL YEAR 2012

Tax	Business Taxes as a Share of Private-Sector Gross Domestic Product		
	Share of Business Taxes	Ratio To U.S. Average	Rank*
TOTAL	100.0%	112%	15
Property	39.6	124	13
Sales	35.4	185	5
Excise	9.0	83	34
Corporate Income	5.4	74	33
License/Other	4.4	42	47
Unemployment Insurance	3.4	50	49
Individual Income	2.8	53	42

* Rank among 50 states and District of Columbia, where a rank of 1 indicates the highest tax payments.

Source: Ernst & Young, *Total State and Local Business Taxes: State-by-State Estimates for Fiscal Year 2012*, http://www.cost.org/StateTaxLibrary.aspx?id=17768.

Columbia. Businesses pay a disproportionate share of the state and local government taxes collected in Arizona. The business share ranked 14th highest among the states in Arizona, including a rank of 18th on state government taxes and 11th on local taxes.

The Ernst & Young study looks at seven categories of business taxes, as seen in Table 2. Across five of the categories, including the corporate income tax, the amount of taxes collected in Arizona ranged from 17-to-58 percent less than the national average in 2012, with ranks ranging from 33rd to 49th. However, the amount paid in Arizona was above average in the two largest categories: property tax and sales tax.

In general, very small unincorporated businesses in Arizona pay relatively little in taxes relative to counterparts in other states, in part because they pay income taxes based on the individual rather than corporate rates, and in part since they typically own limited amounts of property. This low burden has little positive effect on the economy since few small unincorporated businesses are part of the economic base (discussed in the Overview of Arizona's Economy chapter). Similarly, the very low amount of taxes paid by individuals has little positive effect on the economy. There is little difference in the local economic impact between dollars collected from taxes that are spent by government and dollars spent by individuals.

In contrast, large industrial companies that own considerable property – which make up a large share of Arizona's base economy – pay a high amount in state and local taxes relative to counterparts in other states. These businesses pay a relatively high price for their consumption of public services and physical infrastructure, while the smallest businesses and individuals pay relatively little for their consumption of public services and physical infrastructure.

The Ernst & Young study also provides estimates of business taxes per dollar of government expenditures that benefit businesses. Using the middle of three alternative assumptions regarding expenditures that benefit businesses, business taxes in Arizona are higher than average, ranking 19th, relative to the services businesses receive. Thus, despite low overall taxes, Arizona did not compare favorably in 2012 on the location factor of the amount of business taxes paid relative to the public services and infrastructure used by businesses; this factor was particularly negative for large companies.

Changes in Tax Payments. Relative to the ability to pay, the total amount of state and local government tax payments in Arizona has fallen considerably since the early 1990s. Based on the Census Bureau's data, tax collections per $1,000 of personal income relative to the nation fell from 7 percent above average in 1992 to 8 percent below average in 2011. Between 1992 and 2011, tax collections fell substantially for the motor vehicle license tax, the individual income tax, and the corporate income tax. Selective sales and property taxes also declined relative to the national average.

Based on the Tax Foundation's data, the tax burden in Arizona was the same or marginally higher than the national average from 1977 through 1979 and again from 1989 through 1991, with the state ranking between 16th and 22nd during these years. In contrast, the tax burden in 2011 was 9 percent below average and ranked 34th. Arizona's rank was between 32nd and 40th in all but one year between 1996 and 2011.

The decline in Arizona in the overall tax payment relative to the ability to pay primarily results from a series of individual tax reductions put in place since the early 1990s by state government that predominantly affect the state's general fund. The tax cuts that have been implemented in Arizona have had no measurable impact on economic growth. That is, the loss of revenue resulting from the tax cuts has not begun to be offset by greater economic growth, even years after the reductions were implemented. These conclusions come from an in-depth study done by the author of this Town Hall chapter, reported in *The Effects of Tax Reductions in Arizona: Significantly Reduced Government Revenue and No Apparent Impact on Economic Growth*, February 2013, Grand Canyon Institute, http://grandcanyoninstitute.org/sites/grandcanyoninstitute.org/files/GCI_Policy_Tax_Reductions_Feb_2013.pdf.

Looking specifically at changes in the state tax code passed by the Arizona Legislature and implemented between 1993 and 2013, state government revenues have been reduced by $1.7 billion in nominal terms, according to the Arizona Joint Legislative Budget Committee (JLBC). (See Appendix D of the *2013 Tax Handbook*, http://www.azleg.gov/jlbc/13taxbook/13taxbk.pdf.) Adjusted for inflation and the state's population growth, the cumulative effect of these state government individual and business tax reductions now totals approximately $3.3 billion per year.

Additional tax reductions were passed by the Arizona Legislature in 2011 and 2012, but did not begin to phase in until fiscal year 2014. According to the fiscal notes prepared by the JLBC, once the reductions are fully implemented in fiscal year 2019, the result will be to lower revenue to the general fund by an additional $645 million per year (in nominal terms). Corporations are the major beneficiary, with more than $400 million in tax reductions, primarily to the corporate income tax, with lesser property tax reductions. Individual income and property taxes also are being lowered.

NONTAX REVENUE AND INCENTIVES

Based on the Census Bureau's data, Arizona also is considerably below average on nontax sources of income relative to the ability to pay, ranking 42nd at 15 percent below average in 2011. User fees ("current charges" in the Census Bureau's report) ranked 41st at 18 percent below average.

The legislation in 2011 also transformed the Arizona Department of Commerce into the Arizona Commerce Authority, with a focus on economic development. The availability of

incentives intended to help companies decide to move to or expand operations in Arizona was broadened, including a "deal-closing" fund and a credit for job creation. Unlike the tax reductions, these changes went into effect in fiscal year 2012.

Incentives can be important in location decisions, but typically do not make a difference unless a region is a finalist based on the other location factors, according to the economic literature.

QUALITY AND QUANTITY OF PUBLIC SERVICES

On most measures of elementary and secondary student performance, Arizona ranks among the bottom tier of states. The available measures can be grouped into several categories: student achievement (as measured by test scores), high school completion rates, assessments of resources, and academic standards and accountability.

Since state and local governments are not allowed to run a budget deficit, the substantial reductions in tax revenues in Arizona since the early 1990s have necessarily required similar decreases in public spending. Since the tax cuts have largely affected revenue to the state government's general fund, expenditures from the general fund have dropped substantially, from a historical average of about $49 per $1,000 of personal income to around $35 – a decrease of nearly 30 percent. Since expenditures from other state government funds and by local governments have not dropped nearly as much, total state and local government noncapital expenditures per $1,000 of personal income relative to the national average have not declined as much. Based on the Census Bureau's data, Arizona's figure was marginally higher than the U.S. average in 1993 and ranked 24th. In 2011, Arizona's figure was 7 percent below average and ranked 33rd.

The reduction in available public funds has necessarily resulted in curtailments of public services. Particularly during the last recession, some programs were terminated and others experienced substantial reductions in funding. Even today, when faced by requests to restore funding that was cut in recent years, officials respond that public revenue is inadequate. Revenue is not adequate due to decisions to reduce taxes to below historical levels. General fund revenue per $1,000 of personal income could be increased by 40 percent (from about $35 to about $49) simply by returning to the historical norm. This calculation takes into account the ability to pay of Arizona taxpayers.

So, the quantity of public programs has been reduced, either through the elimination of a program or through limits placed on a program, such as restricted eligibility. It is much more difficult to establish the extent to which the quality of public programs has been negatively affected by the spending reductions, since spending is not the only factor affecting quality. However, one can say that the quality has dropped to zero for those barred from a public service that was previously available.

The impact of public spending reductions has been highly uneven across the categories of public expenditures. Certain programs largely funded from the state's general fund have been affected the most. For example, expenditures per $1,000 of personal income have fallen considerably for elementary and secondary (K-12) education. In contrast, spending on social services – primarily public welfare programs, of which AHCCCS (Arizona Health Care Cost Containment System) is the largest – has increased over time (to a level near the national average). Reductions in spending for public safety have been minimal; Arizona consistently ranks among the highest in the nation (seventh in 2011) in public safety spending per $1,000 of personal income.

ELEMENTARY AND SECONDARY EDUCATION

While the decrease in public expenditures for K-12 education may be of concern for various reasons, economically it is of special importance due to the relationship between educational attainment and achievement and the quality of the labor force.

Using Census Bureau data, in 2011, K-12 expenditures per $1,000 of personal income in Arizona were 25 percent lower than in 1993. Arizona's 2011 figure was 19 percent less than the national average; it had been 9 percent higher than average in 1993. The state's rank dropped from 20th to 49th.

Spending relative to personal income is not an ideal measure since it does not consider the demand for the public service. When caseload data, such as the number of students enrolled in public school, are available, the ideal measure considers both the overall ability to pay and the size of the caseload. Based on JLBC data (http://www.azleg.gov/jlbc/mofunding.pdf) that includes all sources of funding for K-12 education, maintenance and operations funding (which excludes capital expenditures) per student relative to per capita personal income dropped 11 percent between fiscal years 2008 (at the beginning of the recession) and 2013. Most of the decline occurred in the portion originating in the state government's general fund.

Using data from the *State and Local Government Finances* report (http://www.census.gov/govs/) produced by the U.S. Census Bureau, noncapital expenditures for elementary and secondary education – per student per $1,000 of per capita personal income – ranked 50th in the country in Arizona in 2011 (only Utah spent less); the figure was 22 percent less than the national average. Compared to the rest of the nation, spending on this basis has fallen considerably since the early 1990s, when Arizona ranked 37th with a figure 8 percent less than the U.S. average.

The Census Bureau provides more detail on noncapital expenditures for K-12 education in its *Public Elementary-Secondary Education Finances* report (http://www.census.gov/govs/). Expenditures per pupil per $1,000 of per capita personal income were below the national average in the 2012 school year, usually by a wide margin, in most of the expenditure categories. Overall, Arizona ranked 49th at 25 percent below the national average. Instructional expenditures (for teachers, aides, supplies, and materials) were the lowest in the nation at 32 percent below average. Support expenditures ranked 38th at 13 percent below average and other expenditures were 28 percent below average, ranking 46th. Of the seven support subcategories, Arizona ranked 39th or lower in six, including school district administration (47th, 55 percent below average) and school administration (last, 41 percent below average). The exception is pupil support – which includes counseling, health care, social work, and student appraisal – in which expenditures were far above average.

On most measures of elementary and secondary student performance, Arizona ranks among the bottom tier of states. The available measures can be grouped into several categories: student achievement (as measured by test scores), high school completion rates, assessments of resources, and academic standards and accountability. (See Arizona Constitution: Specified Duties of State Government, November 2010, http://wpcarey.asu.edu/sites/default/files/uploads/center-competitiveness-and-prosperity-research/azconstitutioncolor.pdf.) The state has compared unfavorably on student achievement over the two decades for which comparable test scores are available.

If Arizona's K-12 educational system were performing well, the low and declining funding for public education would be of lesser significance. While funding is not the only input into the educational system and therefore not the only factor affecting the performance of Arizona's educational system, funding is of obvious significance. To expect Arizona's elementary and secondary schools to perform well despite the very low funding levels, the quality of the other inputs would need to be very high.

However, there is no evidence that funding deficiencies in Arizona are offset by inherently more intelligent or harder-working students, by better-quality teachers, etc., relative to the national average. In fact, Arizona's teachers have less experience on average than their counterparts nationally and Arizona has a disproportionate share of disadvantaged students – a circumstance requiring above-average rather than below-average funding to overcome.

A BROADER LOOK AT EDUCATION

An alternative to student achievement to assess Arizona's educational system is to compare the educational attainment (number of years of schooling) of adults living in Arizona to their national counterparts; attainment in Arizona is below average. In particular, the educational attainment of those born in Arizona and still living in the state is considerably less than the attainment of those born in another state who have moved to Arizona. Nationally, among those living in the same state in which they were born, the educational attainment was considerably higher than the attainment in Arizona.

In contrast to the low level of attainment among Arizona natives relative to natives in other states, the educational attainment of Arizonans who had been born in another state generally ranked at or only a little below the national median of interstate migrants. That is, the educational attainment of those who migrated to Arizona was close to the national average of interstate migrants. Arizona's differential in attainment between natives and those migrating from other U.S. states is among the highest in the country.

Arizona's noncapital expenditures for higher education – expressed per full-time-equivalent student per $1,000 of per capita personal income – also are below average, ranking 32nd in 2011 at 4 percent less than the national average. In the early 1990s, Arizona's figure had been marginally higher than the U.S. average.

The decline in public education spending – from kindergarten through universities – since the early 1990s continues a trend of falling expenditures relative to the rest of the nation that began in the late 1960s. Through the first five decades of Arizona statehood, the state's education spending was above-average. Educational attainment also was above average historically in Arizona.

OTHER LOCATION FACTORS

While various other factors may be considered in business location decisions, their significance usually is much less than the major factors of labor force quality/availability, infrastructure quality/availability, and labor costs.

The availability of land generally is not an issue in Arizona. Though private land represents a small share of the total, state trust lands that can be converted to private land are extensive. The regulatory environment is important to some economic activities, particularly manufacturing. Generally, the state compares favorably in this regard.

The quality of life is of importance in attracting and retaining workers. Companies employing highly educated and well-paid individuals are particularly concerned with the quality of life. Arizona has long been attractive to workers because of its perceived high quality of life. This perception has been heavily tied to the state's climate and physical environment. However, more highly educated individuals generally are more discerning regarding the quality of life, taking into consideration educational quality, crime, transportation services, environmental quality, and a variety of other factors. On such measures, the quality of life is at best average in Arizona. In some aspects of the quality of life, such as the educational system, conditions are deteriorating. Thus, Arizona cannot expect that its natural amenities of climate and landscapes will continue to be enough to attract companies and workers in the 21st century.

OUTLOOK

The tax reductions implemented over the last two decades were overwhelmingly to individual taxes and had little if any effect on the Arizona economy. The tax cuts currently being phased in and the incentives that have been made available, however, primarily affect corporations. As such, they improve one aspect of Arizona's competitiveness. The legislation passed in 2011 and 2012 should help the state attract and grow cost-conscious, lower-wage economic activities.

However, additional public revenue collected from enhanced business activity will offset at best only a few percent of the hundreds of millions of dollars of lost revenue. Moreover, any enhancement in economic activity will lead to an increase in demand for public services from the new/enlarged companies and the employees of these companies. The decrease in public revenue resulting from the tax cuts will force further reductions in public spending that almost certainly will negatively affect public services used by businesses. This upcoming revenue loss is particularly significant since it follows $3.3 billion of revenue reductions implemented over the prior two decades.

The JLBC is projecting deficits in the state's general fund in the next few years despite expecting economic growth to continue (http://www.azleg.gov/jlbc/may2014budgetupdatechildsafety.pdf). Typically during a period of economic growth, the general fund experiences large budget surpluses. After the next few years, as the economy begins the next cyclical slowdown and as the tax packages of 2011 and 2012 are fully implemented, the inadequacies of the general fund's revenue system will become even more obvious. Another public finance crisis is likely in the next economic downturn. This will mean further reductions in public spending and curtailments of public programs – unless taxes and/or user fees are increased.

Thus, for higher-paying, higher-technology businesses expected to lead future growth – which highly value public infrastructure and education – the tax reductions could have a net negative effect.

Without further actions to improve the state's economic competitiveness on the labor force and infrastructure issues, the economic future of Arizona likely will be no better than its past: a highly cyclical path that causes dislocations during every down cycle, marked by below-average job quality, inferior wages, low workforce participation rates, below-average incomes, and above-average poverty rates.

WITHOUT FURTHER ACTIONS TO IMPROVE THE STATE'S ECONOMIC COMPETITIVENESS ON THE LABOR FORCE AND INFRASTRUCTURE ISSUES, THE ECONOMIC FUTURE OF ARIZONA LIKELY WILL BE NO BETTER THAN ITS PAST.

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PERSPECTIVES FROM THE LEGISLATIVE FRONT

BY GLENN HAMER

As noted in earlier chapters of this report, many factors impact Arizona's economy. Policy decisions by the state legislature are often the subject of discussions about maximizing Arizona's economy. The Arizona Chamber of Commerce is a statewide organization that strives to be the collective voice for Arizona business at the Arizona State Legislature. Following are perspectives on Arizona's State Legislature from its President and CEO Glenn Hamer.

Q: What are the most important issues for strengthening Arizona's economy that have yet to be effectively addressed by the legislature?

A: The most important issues that have yet to be effectively addressed are, in this order of importance: 1. Pre-K-12 Education; 2. Tax reform; 3. Water; and, 4. Addressing issues in a manner that includes all of Arizona (especially areas outside of Maricopa County).

Q: Which important legislative issue is the hardest to resolve?

A: PreK-12 education.

Q: What is the biggest challenge Arizona faces in attracting high wage manufacturing jobs?

A: Having the right workforce in place (which is related to our education system).

Q: What legislative actions, if any, have a negative impact on our economy?

A: Divisive legislation that tarnishes our state image while having little actual impact on business such as SB1062.

Q: Which legislative actions have had a positive impact on Arizona's Economy?

A: **Tax Reform**

1. Exempting manufacturers from sales tax on electricity and natural gas use (2014)
2. Reducing the corporate income tax from 7 percent to 5 percent (2011) and simplifying the Transaction Privilege Tax from 90 different sales tax systems to one point of administration and collection and audit (2013)
3. Allowing companies who do business in multiple states to choose their corporate income tax formulas (2011, 2012) and reducing the capital gains tax (2012)
4. Carryover losses can now be claimed for 20 years (2012) and there are allowances for instant depreciation to encourage investment in machinery and equipment (2013)

Competitiveness Package

A combination of broad based tax reforms and more targeted incentives to be phased in over several years, including: reducing corporate income tax by 30% (2011); reducing business property tax by 10% (2011); the Quality Jobs Tax Credits (2011); creation of the Arizona Commerce Authority (2011); Bonus Depreciation (2011); reducing capital gains tax by 25% (2012); extending Net Operating Loss Carryforward from 5 years to 20 years (2012); 100% sales factor for service providers (2012); removing per company cap for Quality Jobs Tax Credits (2012); and, doubling business personal property exemption (2012)

Regulatory Reform

1. Reducing licensing timeframes.
2. Promoting electronic licensing and electronic permitting systems at ADEQ to improve efficiency (2013).
3. Allowing the government to share in the financing of necessary infrastructure (2012).

Tort Reform

Various tort reform measures including restrictions on attorney's fees, limiting punitive damages when the manufacturer follows standards (2012) and a monetary cap on appeal bonds (2011)

Labor and Employment

Ensuring a solvent Unemployment Insurance trust fund, clarifying that severance payments count as "income" to receive unemployment insurance benefits and strengthening penalties for stolen proprietary information (2014).

CONCLUDING THOUGHTS

BY BILL HART

The numbers are there. Arizona in 2014 is powered by a large, growing and increasingly diverse economy that has earned it a prominent position in the Intermountain West and an increasing economic presence in the entire region. Its leaders, entrepreneurs and workers have blended the old with the new – the traditional appeal of Arizona's natural beauty with recent advances in such critical high-tech fields as bioscience, renewable energy and advanced electronics.

The opportunities are there. Arizona's geographic location affords it valuable access to expanding markets from California to China. The state is committed to strengthening its regional economic networks, possibly via the proposed Interstate 11 linking the Phoenix and Las Vegas areas. Equally important, Arizona is perfectly positioned by geography, culture and history to expand its trade with Mexico and to emerge as a dominant hub for trade between Mexico and other states, such as envisioned in proposals for a more formalized International Trade Corridor.

Inevitably, however, the challenges are also there. For decades, Arizona's rapid growth in population and jobs has been fueled primarily by construction and real estate – themselves arising from the appeal of sunshine and scenic vistas. But when the Great Recession in 2008 caused population growth to stall, jobs to disappear and tourists to stay home, the risks of dependence on growth were harshly revealed.

Arizona, among the states hit hardest by the downturn, is still emerging from the Great Recession. But its leaders are already working on ways to revive the devastated economic landscape and thereby seize a rare opportunity to forge an economic identity that will thrive in the 21st century. Organizations such as the Arizona Commerce Authority, the Greater Phoenix Economic Council, Tucson Regional Economic Opportunities and others on the state and local level are stepping up efforts to create a statewide vision of economic development that embraces international and interstate economic development.

This is no mere posturing. It's a vision focused on public/private partnerships and other efforts that enhance business creation, and the growth of existing local businesses, promote entrepreneurship, diversify the economy, and attract and leverage private investment. In doing so, it will draw upon Arizona's young, vibrant population that is being steadily enriched by its growing Hispanic population. Its priorities include increasing Arizona's competitiveness for R&D funding; achieving critical mass in industry by intensifying commercialization efforts; and developing tomorrow's workforce by strengthening and expanding the educational system, especially in STEM areas.

The opportunities and challenges are many. This report has sought to provide a fact-based description of Arizona's economy – past and present – as a basis for Town Hall participants to address these issues, perhaps through a SWOT analysis (strengths, weaknesses, opportunities, threats) or some other approach.

In any case, their task is not a new one. A century ago, Arizona's first governor, George W.P. Hunt, said that the new state could only prosper through "such ideals and realities as Arizona's citizens endow it with," adding that "it remains for us as Arizona's champions and sponsors to make this [48th] star represent the best things in statehood…."

Today's Arizonans – and future ones – aim to settle for nothing less.

> "The 48th star, which so proudly represents the youngest State in our Union, is symbolic of nothing except such ideas and realities as Arizona's citizens endow it with. It remains for us as Arizona's champions and sponsors to make this star represent the best things in statehood, and to typify the highest ideals in human brotherhood."
>
> George W.P. Hunt, Arizona's first governor

ARIZONA TOWN HALL PUBLICATIONS

**Indicates publications no longer in print*

Town Hall	Date	Subject
1.*	Oct. 1962	Arizona's Tax Structure
2.	Apr. 1963	Welfare Policies & Administration
3.*	Oct. 1963	Elementary & High School Education
4.	Apr. 1964	Arizona's Water Supply
5.*	Oct. 1964	Revision of Arizona's Constitution
6.*	Apr. 1965	Gearing Arizona's Communities to Orderly Growth
7.	Oct. 1965	Public Land Use, Transfer & Ownership
8.*	Apr. 1966	Crime, Juvenile Delinquency & Corrective Measures
9.*	Oct. 1966	Higher Education in Arizona
10.	Apr. 1967	Do Agricultural Problems Threaten Arizona's Total Economy
11.*	Oct. 1967	Arizona's Tax Structure & Its Administration
12.*	Apr. 1968	Mental Health & Emotional Stability
13.	Oct. 1968	Traffic & Highways
14.*	Apr. 1969	Civil Disorders, Lawlessness & Their Roots
15.	Oct. 1969	Economic Planning & Development
16.	Apr. 1970	The Future of Health & Welfare in Arizona
17.*	Oct. 1970	Preserving & Enhancing Arizona's Total Environment
18.*	Apr. 1971	The Arizona Indian People & Their Relationship to the State's Total Structure
19.	Oct. 1971	Alcohol & Drugs—Quo Vadis?
20.	Apr. 1972	Arizona's Correctional & Rehabilitation Systems
21.*	Oct. 1972	Arizona's Heritage—Today & Tomorrow
22.*	Apr. 1973	Adequacy of Arizona's Court System
23.*	Oct. 1973	Cost & Delivery of Health Care in Arizona
24.*	Apr. 1974	Land Use Planning for Arizona
25.	Oct. 1974	The Problems of Transportation: People & Products
26.*	Apr. 1975	Responsive & Responsible Government
27.	Oct. 1975	The Problem of Crime in Arizona—How Do We Solve It?
28.	Apr. 1976	Arizona Energy—A Framework for Decision
29.	Oct. 1976	Arizona's Economy—Yesterday, Today & Tomorrow
30.*	Apr. 1977	Of, By & For the People—How Well Is It Working?
31.	Oct. 1977	Arizona Water: The Management of Scarcity
32.*	Apr. 1978	Cost & Quality of Elementary & Secondary Education
33.*	Oct. 1978	Corrections in Arizona: Crisis & Challenge
34.*	Apr. 1979	Indians & Arizona's Future—Opportunities, Issues & Options
35.	Sept. 1979	Toward Tax Reform
36.	Apr. 1980	Arizona's Transportation Dimension
37.	Oct. 1980	Toward the Year 2000: Arizona's Future
38.	May 1981	Arizona's Hispanic Perspective
39.	Oct. 1981	Arizona's Energy Future: Making the Transition to a New Mix
40.*	Apr. 1982	Crime & Justice in Arizona
41.*	Oct. 1982	Impact of the New Federalism on Arizona
42.	Apr. 1983	Postsecondary Education in Arizona
43.	Oct. 1983	The Role & Responsibilities of the News Media of Arizona
44.	May 1984	Health Care Costs
45.	Oct. 1984	County Government in Arizona: Challenges of the 1980s
46.	Apr. 1985	Growth Management and Land Use Planning in Arizona
47.	Oct. 1985	Managing Water Quality in a Water Scarce State
48.	May 1986	Social Services in Arizona: Increasing Needs—Changing Resources
49.	Oct. 1986	Arizona's Changing Economy
50.	May 1987	Culture & Values in Arizona Life
51.	Oct. 1987	Arizona's Relations with Northern Mexico
52.	May 1988	Air Quality in Arizona
53.	Oct. 1988	Civil Justice in Arizona/How Much? For Whom?
54.	May 1989	SOS: Save Our Schools . . . Save Our State
55.	Oct. 1989	Of Dreams, Deeds & Dollars . . . Achieving Better Mental Health Care in Arizona
56.	May 1990	New Directions for Arizona: The Leadership Challenge
57.	Oct. 1990	The Many Faces of Economic Development in Arizona
58.	Apr. 1991	Arizona's Taxing Choices: State Revenues, Expenditures & Public Policies
59.	Oct. 1991	Preserving Arizona's Environmental Heritage
60.	Apr. 1992	Harmonizing Arizona's Ethnic & Cultural Diversity
61.	Oct. 1992	Free Trade: Arizona at the Crossroads
62.	Apr. 1993	Hard Choices in Health Care
63.*	Oct. 1993	Confronting Violent Crime in Arizona
64.*	May 1994	Youth At Risk: Preparing Arizona's Children For Success In The 21st Century
65.	Oct. 1994	American Indian Relationships in a Modern Arizona Economy
66.	May 1995	Making the Grade: Arizona's K-12 Education
67.	Oct. 1995	Public Spending Priorities in Arizona: Allocating Limited Resources
68.	May 1996	Arizona's Growth and the Environment – A World of Difficult Choices
69.	Oct. 1996	Building a Community of Citizens for Arizona
70.	May 1997	Forging an Appropriate Transportation System for Arizona
71.	Oct. 1997	Ensuring Arizona's Water Quantity and Quality into the 21st Century
72.	May 1998	Meeting the Challenges and Opportunities of a Growing Senior Population
73.	Oct. 1998	Who Is Responsible for Arizona's Children?
74.	May 1999	Future Directions in Arizona Health Care
75.	Oct. 1999	Uniting a Diverse Arizona
76.	May 2000	Higher Education in Arizona for the 21st Century
77.	Oct. 2000	Values, Ethics and Personal Responsibility
78.	May 2001	Moving All of Arizona into the 21st Century Economy
79.	Oct. 2001	Pieces of Power – Governance in Arizona
80.	May 2002	Building Leadership in Arizona
81.	Oct. 2002	Arizona Hispanics: The Evolution of Influence
82.	May 2003	Health Care Options: Healthy Aging—Later Life Decisions
83.	Oct. 2003	The Realities of Arizona's Fiscal Planning Processes
84.	Jun. 2004	Pre-K - 12 Education: Choices for Arizona's Future
85.	Nov. 2004	Arizona's Water Future: Challenges and Opportunities
86.	Jun. 2005	Arizona as a Border State -- Competing in the Global Economy
87.	Nov. 2005	Maximizing Arizona's Opportunities in the Biosciences and Biotechnology
88.	Apr. 2006	Arizona's Rapid Growth and Development: Natural Resources and Infrastructure
89.	Nov. 2006	Arizona's Rapid Growth and Development: People and the Demand for Services
90.	Apr. 2007	Health Care in Arizona: Accessibility, Affordability and Accountability
91.	Oct. 2007	Land Use: Challenges and Choices for the 21st Century
92.	Apr. 2008	Who Will Teach Our Children?
93.	Nov. 2008	Housing Arizona
94.	Apr. 2009	From Here to There: Transportation Opportunities for Arizona
95.	Nov. 2009	Riding the Fiscal Roller Coaster: Government Revenue in Arizona
96.	Apr. 2010	Building Arizona's Future: Jobs, Innovation & Competitiveness
97.	Nov. 2010	Arizona's Government: The Next 100 Years
98.	May 2011	Capitalizing on Arizona's Arts and Culture
99.*	Nov. 2011	Arizona's Energy Future
100.	May 2012	Civic Engagement
101.	Nov. 2012	Civic Leadership for Arizona's Future
102.	May 2013	Is Higher Education Ready for Arizona's Future?
103.	Nov. 2013	Strong Start. Early Education in Arizona
104.	April 2014	Arizona's Vulnerable Populations
105.	Nov. 2014	Arizona's Economy

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