



# Tucson Economic Blueprint Strategic Analysis Report

## Section 1: Highlights

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Prepared for TREO

*By the KMK Consulting Team*

KMK Consulting Company, Donald T. Iannone & Associates, IO.  
INC, KPMG, Moody's Economy.com and Ady International  
Company

## Section 2: Economic Overview Highlights

The regional and state economies are expected to continue to grow favorably in the future. Quantity is not the issue, quality is!

By 2036, Arizona is expected to have a population of 14.6 million people, which will represent 3.6% of the nation's total population in 2036 versus 2.0% today.

The Tucson region, which just reached the 1 million population mark, is expected to have a population base of 1.75 million by 2036. Phoenix, according to the latest University of Arizona (UA) economic forecast, will see its population top 10 million in 30 years.

The most recent UA economic forecast sees Arizona adding 3.7 million new jobs over the next thirty years (2006-2036), raising its total to 6.3 million jobs. Growth leaders, or industry sectors growing more rapidly than the overall state economic growth rate, are expected to include professional & business services; health care & social services; transportation & warehousing; leisure & hospitality; and trade. Industry sectors growing more slowly than average are expected to include government, utilities, mining, manufacturing, construction, other services, information, and financial activities.

While people and jobs will grow favorably in both Tucson and Arizona in the future, current per capita personal income and poverty rates indicate that wealth creation is not keeping pace with the region's and state's economic growth. This trend points squarely to a needed shift in Arizona's and Tucson's future economic strategy to support the growth of more high-skilled and high-wage jobs. State and regional economic leaders are aware of this need, but a plan is needed to make this happen. Within the Tucson region, this is exactly what the Economic Blueprint is expected to do.

This analysis suggests that labor market issues will be of growing importance as Tucson readies for the high-skill/high-wage economy in the future. Without a highly trained and much better educated workforce, the region will not attain this strategic goal.

In the short term, accelerated workforce training will be essential to getting workers ready for existing high quality jobs in the region. While training will remain an ongoing priority for the Tucson region, raising educational attainment rates will be the long-term answer in positioning the region as a leading knowledge job center.

Special attention will need to be given to improving graduation rates from both the high school and post-secondary education levels. Regional leaders will also need to ensure that advanced education in the right fields is available within the region. This will be important to the region's future success in growing established clusters like aerospace and defense, as well as its promising emerging clusters, such as the biosciences.

## Section 3: SWOT Analysis Highlights

Overall, the Tucson region is seen as a relatively competitive location for economic development.

The region's leading strengths are seen as its higher education resources, its cultural diversity, quality of life, leisure and recreational assets, its defense-related facilities and its geographic proximity to Phoenix and Mexico.

Tucson's leading weaknesses are seen as public K-12 education, private sector leadership, downtown Tucson, infrastructure and real estate capacity and retaining and attracting a talented workforce.

Tucson's leading opportunities are technology/innovation based business development, integration of UA into Tucson's economic development strategy and entrepreneurial development.

Finally, the region's leading threats are seen as failure to sustain the commitment to a new strategic vision, and the availability water resources.

The attitudes expressed time and again at a variety of leadership levels throughout the community have been extremely encouraging. Tucson is committed to a sustained campaign to transition the Tucson market into a business environment more focused on higher value jobs, high technology

and intellectual capital without sacrificing the great diversity, culture and natural environment of this wonderful community. Combining the region's commitment with the assurances from Dr. Robert Shelton, UA president, to build the seamless partnership between the University and the community make Tucson well-positioned to make great strides to improve its economic future.

KMK Consulting is extremely encouraged by the give and take between strengths, admissions of painful reality, great success stories, frank criticism, challenges of companies large and small, and most importantly, candid discussion by Tucsonans at all levels of society. Collectively, this has produced an attitude of great hope and irrefutable recognition that collaboration, energy and investment is the linchpin to producing a great blueprint and excellent positioning for successful implementation.

KMK Consulting greatly appreciates the tremendous level of participation from across Pima County that contributed to this SWOT analysis and inclusion process.

## **Section 4: Strategic Market Comparisons Analysis**

For more than a generation, many economic development organizations have largely operated on auto-pilot, relentlessly pursuing the goal of growing and adding more jobs — whenever, wherever, whatever. In many cases, the unemployment rate was not a worry if some parts of the region were booming (leading to high housing prices and transportation congestion). It was of no concern if the companies receiving incentives provided low-paying, poor-quality jobs and were likely to leave for even greener pastures in a decade. The goal was simple: the more jobs, the better. But in many regions, an approach focused almost exclusively on getting more jobs did little to help residents earn higher incomes and enjoy a better quality of life.

In the global economy, the central focus of economic development is shifting from adding new jobs to boosting incomes and creating better jobs for all. Increasingly, economic development organizations are replacing or

supplementing the standard metric of success - job creation - with a new one - income growth. Shifting the goal from getting big to getting prosperous requires shifting the focus from being low-cost to a focus of higher quality.

The World Economic Forum's 2006 Global Competitiveness Index drives this point home. In its 2006-2007 Global Competitiveness Ranking released on September 26, the U.S. slipped from the top spot to number six in the list of competitive nations. Switzerland, Finland, Sweden, Denmark and Singapore ranked in the top five, respectively, because of their good institutions, competitive macroeconomic management, world class educational attainment and emphasis on technology and innovation.

The lesson to be gleaned from this report is that competitive economies require judicious governance, cooperation and collaboration between businesses, government and education at all levels and advanced technology and talent. No longer can the U.S. or any of its economic regions take for granted that their technological and human capital is superior and will outperform other nations and economies regardless of planning or forward thinking.

For TREO, the opportunities and challenges that lie ahead are both exciting and daunting: exciting in the sense that the many assets and attributes that both the greater Tucson marketplace and TREO offer to the people and businesses that are intended to improve residents' livelihoods; and daunting from the standpoint that global competition is intensifying with the passage of each day, and success will require swift and purposeful action.

Moving forward, the consulting team offers the following observations:

1. Greater Tucson needs to benchmark its excellence against the foremost strategic and successful competitor markets, and not against Phoenix.
2. Austin, Orlando and San Diego provide an outstanding basis for comparison as Greater Tucson and TREO move forward with the development of its new blueprint for growth.

3. As an organization, TREO's private sector commitments in terms of leadership and financial investments need to be significantly strengthened to be on par with the three competitor organizations.
4. Significant additional dollars are needed for a best-of-class external marketing and sales program.
5. TREO's genuine "one-stop" structure is perhaps the best-of-the-best in terms of economic development organizations in the strategic competitor markets.
6. The University of Arizona needs to align its economic development initiatives with those of TREO; it is clear that the university-EDC relationship is not as strong in greater Tucson as in other markets.
7. TREO and greater Tucson will benefit enormously if direct links are made between job opportunities in the region and the armed forces personnel leaving/completing tours of duty at Davis Monthan Air Force Base and Fort Huachuca.
8. The development of a companion "sustainable community" initiative, in addition to TREO's economic development agenda, may galvanize more public and private leadership as well as increased financial investments.
9. TREO may consider best practice missions to both San Diego and Orlando, similar to the one that TREO led to Austin. The University of Arizona needs to be an integral part of the learning curve in these missions. Visits to the universities in these markets may be highly instructive.
10. There are many unparalleled opportunities for greater Tucson in terms of capitalizing on its proximity to Phoenix and to Mexico. Ideas regarding these two opportunities are reflected in a separate discussion paper and the blueprint strategies.

## Section 5: Cost of Doing Business Analysis

Moody's Economy.com and KPMG's cost of doing business assessments clearly demonstrate Tucson is a cost-competitive and cost-attractive market. And although both firms conducted their research separately with their own

proprietary methods, their research concluded many of the same results, including:

**Labor Costs:** Both firms concluded Tucson's labor costs are very cost competitive. KPMG's research ranked Tucson as the least expensive of the seven labor markets examined. Additionally, Tucson's salary, wages and statutory plans were the lowest of the seven markets and below the national average. Benefits expenses were higher than US average.

Moody's Economy.com also ranked Tucson as having a very cost-competitive labor market. Their research indicated that Tucson is 268 out of 361 metropolitan statistical areas for labor expense, a ranking that places the region in the bottom third nationally. It should also be noted that Moody's Economy.com adjusts wage data to the level of productivity to accurately assess a firm's cost of labor. Therefore, the labor cost index developed by Moody's Economy.com calculates labor compensation per dollar of output.

**Utility Costs:** KPMG and Moody's Economy.com ranked Tucson as having overall below average utility costs compared to the US average, but above average costs when compared to the other regions benchmarked in their assessment. Telecommunications costs are above US average and are the second most expensive in KPMG's assessment. Tucson's electricity and gas costs are mid-level compared to competitive markets, but below the US average.

**Tax Costs:** KPMG and Moody's Economy.com both indicate Tucson has above average tax costs. KPMG's ratings conclude Tucson has the highest tax burden in their seven market assessment. Property tax is the highest of the seven markets and more than twice as high as the US average. Sales and regional income taxes are also higher than national average.

**Transportation Costs:** KPMG concludes that Tucson's overall transportation costs are higher than US average and trail only Las Vegas and Salt Lake City in their seven region cost assessment. Specifically, Tucson's road and freight costs are above average and sea freight is average with national costs.

**Facility Costs:** Land costs are below US average and much lower than most competing markets except for Salt Lake City. Building costs are higher than US average but lower than four of the analyzed markets: Phoenix, Albuquerque, Riverside-San Bernardino and San Diego. KPMG and Moody’s Economy.com have different findings relative to office rent/facility lease expenses. KPMG ranked Tucson has the fifth highest cost among the seven examined markets and above US average, whereas Moody’s Economy.com identified Tucson as the sixth-lowest office rent market in their nine-region assessment. However, both firms ranked Las Vegas and San Diego as the most expensive and Albuquerque as the least expensive facility cost markets.

It can be expected that companies seeking affordable labor, attractive operative costs and inexpensive land prices will continue to consider Tucson for their business operations. This is a key strength and competitive advantage that the region must continue to leverage.

While it is known and understood that cost-factors are not the only elements of company’s decision, a region’s cost competitiveness is certainly an essential component of making the “short list.” By making the “short list,” Tucson will then have the opportunity to demonstrate its ability to compete based upon other factors, including regulatory environment, personal living costs, labor availability, access to markets, overall quality of life and financial incentives.

Many Tucsonans have a legitimate concern that their region will continue to be perceived by companies as a “cheap” market (a classification that Tucson’s external marketing efforts must change to “good cost value”). This issue does present a potential challenge for Tucson. If the community strategy is to compete on “cheap” and not on value/quality, the region will be at risk of not attracting knowledge-based companies that produce high-value, high-paying jobs.

## Section 6: Industry Cluster Analysis

The cluster-based approach to economic development is a logical tactic for the Tucson region in the future, despite the earlier relatively weak attempts to develop clusters within the region. The future key is that Tucson couples the right strategies and applies the right levels of business leadership and investment to its cluster initiatives.

Our analysis indicates that Tucson is competitive in many of the clusters it has pursued in the past, as well as some additional clusters identified by this study. These are reviewed below.

### Technology-Driven Manufacturing Clusters

All five clusters within the Technology-Driven Manufacturing Cluster group are favorable for future development in the Tucson area. Three are established clusters: Aerospace and Defense, Analytical Instruments, and Medical Devices. Two are emerging clusters for the region: Bio-Pharma and Environmental Technology. See figure 28 for details. The strategy matrix in Figure 1 below identifies business development priorities for each cluster. These strategies will be expanded upon in the Strategy Section of the Blueprint report.

**Figure 1: Strategy Priorities for Technology-Driven Manufacturing Clusters**

Cluster	Business Retention/ Expansion	New Business Recruitment	Entrepreneurial Development
<b>Established Clusters:</b>			
Aerospace and Defense	First priority	Second priority	Probably not productive
Analytical Instruments	First priority	Second priority	Third Priority
Medical Devices	First priority	Second priority	Third Priority
<b>Emerging</b>			

<b>Clusters:</b>			
Bio-Pharma	Second priority	Second priority	First Priority
Environmental Technology	Second priority	Second priority	First Priority

Existing business retention and expansion should be the first priority for the three established clusters in this strategic group. New business recruitment should be the second order priority for the region. Because of the small number of aerospace business startups, new enterprise development is not likely to be a productive business development strategy for the region. Some attention should be given to new enterprise development in the Analytical Instruments and Medical Devices area.

Nationally, from an employment growth perspective, Aerospace and Defense is considered a cluster of declining importance. This cluster is expected to reduce employment in both Arizona and the Tucson area over the next 10 years. Employment in the other four technology-driven manufacturing clusters is expected to grow nationally in Arizona and Tucson over the next decade.

The **Aerospace and Defense cluster** (NAICS 3364) comprises establishments primarily engaged in one or more of the following: (1) manufacturing complete aircraft, missiles, or space vehicles; (2) manufacturing aerospace engines, propulsion units, auxiliary equipment or parts; (3) developing and making prototypes of aerospace products; (4) aircraft conversion (i.e., major modifications to systems); and (5) complete aircraft or propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft to original design specifications).

The **Analytical Instruments cluster** (NAICS 3345) comprises establishments primarily engaged in manufacturing navigational, measuring, electromedical, and control instruments. Examples of products made by these establishments are aeronautical instruments, appliance regulators and controls (except switches), laboratory analytical instruments, navigation and guidance systems and physical properties testing equipment.

The **Medical Devices cluster** (NAICS 3391) comprises establishments primarily engaged in manufacturing medical equipment and supplies. Examples of products made by these establishments are laboratory apparatus and furniture, surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, dentures and orthodontic appliances.

The **Bio-Pharma cluster** is more difficult to define due to its emergent nature. The Pharmaceutical and Medicine Manufacturing part of the cluster (NAICS 3254) comprises establishments primarily engaged in one or more of the following: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions and suspensions.

Note: The Battelle Southern Arizona Biosciences Roadmap uses a much broader definition of the Bio-Industry, which includes hospitals, medical devices, medical labs, and other industries. While the integrated nature of these various industries is recognized, separate strategies are required for Tucson to be successful in these sectors. For this reason, it is recommended breaking these industries into separate categories for development purposes.

The **Environmental Technology cluster** consists of the following industries: Alternative Energy Production (NAICS 324199); Pollution Control Equipment (NAICS 333411); Materials Recovery Facilities (NAICS 552920); Environmental Engineering Services (NAICS 541330); Environmental Remediation Services (NAICS 562910); Environmental Test Labs (541380); and Environmental Research and Consulting Services (541620). Innovative businesses in the water, arid lands studies, irrigation technology, hydrology and other related areas would in particular be an important focal area for both the Tucson area and Arizona.

**Advanced Services Clusters**

Five advanced services clusters have been identified as promising clusters for growth in the Tucson area in the future. These include: Education and Knowledge Creation, Information Technology (IT), Business Services, Financial Services and Transportation and Logistics. Note: a part of the IT cluster includes manufacturing. All five are established clusters within the Tucson economy.

The **Education and Knowledge Creation cluster** consists of Research and Development in the Physical, Engineering, and Life Sciences (NAICS 541710); colleges, universities and professional schools (NAICS 611310); Educational consultants (NAICS 611710); and Educational testing services (NAICS 611710).

The **Information Technology cluster** consists of Computer and Electronic Product Manufacturing (NAICS 334); Software analysis and design services, custom computer (NAICS 541511); Software publishers (NAICS 511210); Communications equipment, mobile and microwave manufacturing (NAICS 334220); and Data processing computer services (NAICS 518210).

**Financial Services** includes Financial holding companies (NAICS 551112); Banks, commercial (NAICS 522110); Banks, savings (NAICS 522120); and Banking, investment (NAICS 523110).

**Business Services** includes Legal Services (NAICS 5411); Accounting Services (NAICS 5412); Architectural and Engineering Services (NAICS 5413); Specialized Design Services (NAICS 5414); Management of Companies and Enterprises (NAICS 55); and Management, Scientific and Technical Consulting Services (NAICS 5416).

**Transportation and Logistics** includes (NAICS 48-49); and Wholesale Trade (NAICS 42).

Figure 2 below identifies future business development priorities for each of these clusters.

**Figure 2: Strategy Priorities for Advanced Services Clusters**

Cluster	Business Retention/Expansion	New Business Recruitment	Entrepreneurial Development
Education and Knowledge Creation	First priority	Second priority	None
Information Technology	First priority	Second priority	Second Priority
Business Services	First priority	Second priority	Second Priority
Financial Services	First priority	Second priority	None
Transportation and Logistics	First priority	Second priority	None

**Travel and Tourism Clusters**

The Traded Sector part of **Travel and Tourism** includes Convention services (NAICS 561920); Travel Arrangement and Reservation Services (NAICS 5615); Travel tour operators (NAICS 561520); Traveler Accommodation (NAICS 7211); Resort hotels with casinos (NAICS 721120); Resort hotels without casinos (NAICS 721110); Museums, Historical Sites, and Similar Institutions (NAICS 712); Golf courses (NAICS 713910); and Natural wonder tourist attractions (NAICS 712190).

To a high degree, Tucson’s Travel and Tourism is driven by its natural resource and outdoor recreational facilities and resources. A variety of other resources have built upon this base, including resources like the Arizona Sonora Desert Museum and various artistic and cultural resources.

One emerging sub-cluster within Travel and Tourism is **Wellness Destinations**, which builds off the Integrative Medicine strengths at the UA and the many health and spiritual growth services offered at the Canyon Ranch and Miraval resorts, as well as other resorts and centers within the region.

Figure 3 below identifies future business development priorities for the Travel and Tourism cluster.

**Figure 3: Strategy Priorities for Travel and Tourism Clusters**

Cluster	Business Retention/ Expansion	New Business Recruitment	Entrepreneurial Development
Wellness Destination Attractions	First priority	Second priority	Second Priority
Business Meetings and Conventions linked to Tucson's economic strengths	First priority	Second priority	Third Priority
Scientific and technical meetings and conventions related to Tucson's economic strengths	First priority	Second priority	Third Priority
Downtown travel and Tourism	First priority	Second priority	Second Priority
Travel and tourism related to Mexico	First priority	Second Priority	Second priority