



MEMORANDUM

Date: June 8, 2011

To: Chairman and Members
Pima County Bond Advisory Committee

From: C.H. Huckelberry
County Administrator 

Re: Aerospace and Defense Corridor Cluster Development Strategy

Ongoing Activities

In March 2011, Tucson Regional Economic Opportunities, Inc. (TREO) completed the Aerospace and Defense Corridor Cluster Development Strategy. The Strategy has been presented to all local jurisdictions, including Pima County, the City of Tucson; the Towns of Sahuarita, Marana and Oro Valley; and the Arizona-Mexico Commission. The report was shared with Arizona's Congressional Delegation at a recent meeting in Washington, DC, which included representatives from Raytheon, other aerospace and defense companies and statewide business groups. TREO also presented the Strategy to a variety of local groups, including the various chambers of commerce, business groups and associations.

The Strategy provides an overview of the aerospace and defense industry and its current and potential economic impact to the region. The report identifies numerous action items that can be taken in support of the Strategy, such as Property Tax Abatement, Land Banking and Land Donations, Creation of an Industrial Park, Local Job Training Funds, Conduit Financing, Supply Chain Development and numerous other activities. The report and slide presentation are attached.

Jobs

Southern Arizona's aerospace and defense industry is a major contributor to our regional economy. The region has one of the highest concentrations of aerospace and defense workers in the country; one in five jobs in the region is tied to this sector. It is also a highly desired location for growth and retention of this industry, lending opportunity for a competitive advantage. In addition, the attributes that drove the initial private sector investment in this area continue, such as a strong military presence, specialized educational programs to supply and support a highly educated workforce and favorable weather.

Aerospace and defense-related industries in southern Arizona are considered high wage, high skill industries with higher than average ripple effects on the regional economy. For

every 100 jobs within the sector, as many as 499 indirect and induced jobs are created. The total economic output for each 100 jobs within the industry ranges from \$45.7 million to as much as \$108.1 million. With nearly 13,000 employees between Tucson International Airport and Raytheon, the economic impact to the region exceeds \$1 billion. If the indirect and induced jobs are included, the combined economic impact exceeds \$5 billion. Obviously, the aerospace and defense industry contributes greatly to the region's economic stability and long-term sustainability.

Infrastructure Update

The TREO report identified the strategic drivers used by corporate real estate executives evaluating a location decision. The availability and cost of adequate labor, land and facilities are the most important site selection factors with transportation infrastructure/facilities being number one. To that end, Pima County continues to refine the corridor study and associated infrastructure costs for the areas in and around Raytheon Missile Systems and Tucson International Airport. The study confirms the proposed improvements will address both current and future transportation needs in the area and support strategy implementation. The costs for these improvements continue to be refined. The latest estimates for the short-term and long-term solutions are \$13 million and \$17 million, respectively.

Land acquisition to support the existing operations at Raytheon continues to be a primary goal for this effort. Pima County recently completed an appraisal for the two privately-owned properties in Section 31. The two parcels were originally estimated to cost \$8.1 million. Due to the depressed real estate climate, the properties appraised for \$4.95 million.

Next Steps

To further develop these strategies, TREO studied other markets that have been highly successful in building this industry. One such market is Huntsville, Alabama. Huntsville has attracted a critical mass of aerospace and defense companies due to the concentration of the industry's customer base in one location, development of physical infrastructure and a high level of cooperation among policy makers. Several jurisdictional leaders, along with members of the Southern Arizona Leadership Council and TREO, will visit Huntsville, Alabama this summer. You may recall that Huntsville competed with southern Arizona and several other locales for a recent contract from the United States Department of Defense. The contract was awarded to Raytheon's Huntsville facility.

Aviation and aerospace technology is one of southern Arizona's most substantial economic pillars. In the competitive global landscape, it is vital to protect Arizona jobs and create an

Chairman and Members, Pima County Bond Advisory Committee
Re: Aerospace and Defense Corridor Cluster Development Strategy
June 8, 2011
Page 3

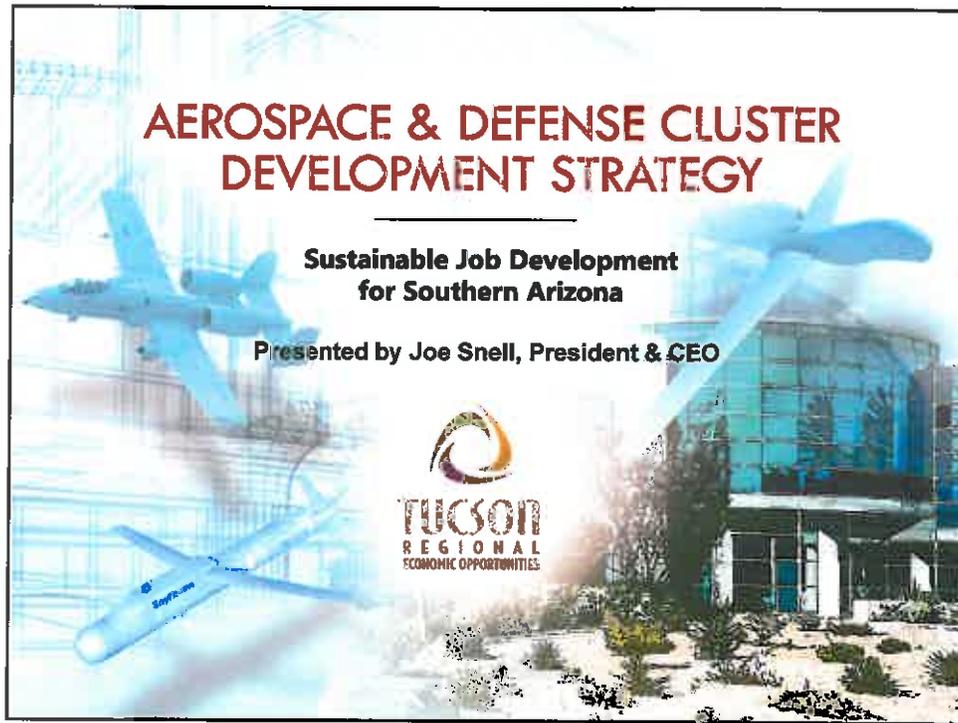
environment that allows for growth of our important industries. Southern Arizona needs to help create the business conditions to protect primary job employers and to create the ideal business environment in which they can flourish. Continued advancement of this effort is dependent on the following:

1. The active involvement of TREO in further refining the strategy and incentive package options and providing resources and guidance toward operationalizing the selected strategy;
2. The continued support of the regional jurisdictions and private sector leaders towards strategy development and implementation; and
3. Support for public investment in land acquisition, infrastructure improvements and economic incentives to attract and retain aerospace and defense industry jobs to southern Arizona.

CHH/mjk

Attachments

c: The Honorable Chairman and Members, Pima County Board of Supervisors
Nanette Slusser, Assistant County Administrator for Public Works Policy
Nicole Fyffe, Executive Assistant to the County Administrator



**AEROSPACE & DEFENSE CLUSTER
DEVELOPMENT STRATEGY**

**Sustainable Job Development
for Southern Arizona**

Presented by Joe Snell, President & CEO

TUCSON
REGIONAL
ECONOMIC OPPORTUNITIES

The cover features a blue-tinted background with architectural wireframe drawings of buildings and aircraft. A large, modern glass-walled building is visible on the right side. The text is centered and uses a mix of bold, sans-serif fonts.



**TREC TARGETED
INDUSTRY CLUSTERS**

Aerospace & Defense
Top 5 Region in the U.S.

Bioscience
*Grow the Regional Assets
Support State Strategy*

Solar
*An Emerging Industry
A Natural Fit*

Transportation & Logistics
Building on a Strategic Location

The graphic features four overlapping circular callouts, each containing an image and text for a specific industry cluster. The background is a light blue wireframe pattern. A central logo, a stylized swirl in purple, green, and yellow, is positioned in the middle of the callouts.

Significant Assets & Opportunities in Aerospace & Defense in Southern Arizona

- 200+ Aerospace & Defense companies in Southern Arizona
- 5 billion in annual revenues
- Average salary is \$60,000
- High concentration of aerospace workers
(1 of every 5 workers is employed in A & D)
- Superior military/Department of Defense assets
- Universities complement A & D industry
- Raytheon

AEROSPACE & DEFENSE CLUSTER
DEVELOPMENT STRATEGY



Aerospace & Defense Cluster Development Strategy

- Retain current firms
 - Complete buffer zone at Tucson International Airport
 - Increase awareness of A & D importance to economy
 - Identify supply chain/supplier gaps and opportunities
- Advocate for legislative tools/policies
 - Local (assist with talent gap)
 - State (statewide tools to reward investment & support higher ed.)
 - Federal (ongoing support of military assets & continued funding for A & D contractors)
- Development of an Aerospace & Defense Research Park
 - Critical mass
 - Selective tenants
 - Cost control/incentive
 - Public/Private ownership and management

AEROSPACE & DEFENSE CLUSTER
DEVELOPMENT STRATEGY



Stake our Claim as a Major Aerospace & Defense Hub

- Increase national/international marketing & promotion
- Advertising campaign
 - TIA
 - Sky Harbor
- Increased presence at industry events
- Develop Arizona/Mexico strategy in Aerospace & Defense
- Increase marketing efforts to Aerospace & Defense site selectors
 - Virtual “fam” tours
 - Web marketing

**AEROSPACE & DEFENSE CLUSTER
DEVELOPMENT STRATEGY**



TUCSON
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ECONOMIC OPPORTUNITIES

**For more information, contact TREO at
520-243-1900**

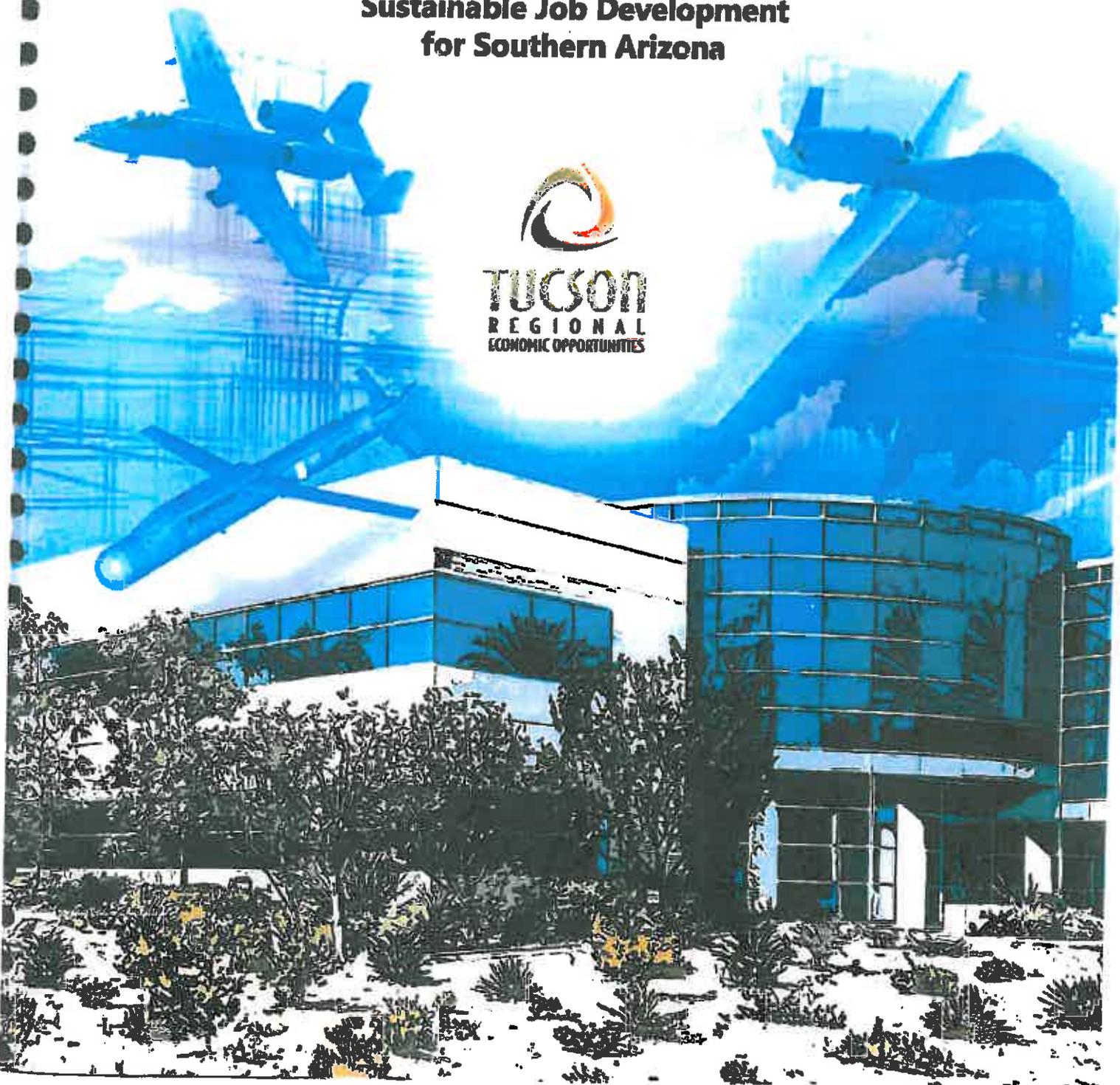
DRAFT - MARCH 18, 2011

AEROSPACE & DEFENSE CLUSTER DEVELOPMENT STRATEGY

**Sustainable Job Development
for Southern Arizona**



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Current Economic Landscape

Over the past 30 years, spurred by its climate, quality of life and low cost of living, the population growth rate of the Tucson region has far surpassed the nation as a whole. The region is currently home to nearly one million residents. The University of Arizona Economic and Business Research Center projects the Tucson region's population base will grow to 1.7 million by 2036.

The rapid population growth has presented many challenging issues for the Tucson region and will continue to do so in the future. Our region needs to provide services and infrastructure to meet the needs of these new families and residents. Equally important, we need to provide quality jobs and career opportunities so our current workforce, our children and new residents to the community can build the life they desire.

From an economic standpoint, industries like home building and construction have expanded along with the explosive population growth, resulting in an overreliance on these types of service and growth-related jobs to fuel the economy. Arizona is emerging from the recession as a state with one of the worst budget deficits in the country, resulting in dramatic funding reductions for public education.

Our current situation points out how important it is to diversify our economic engines. TREO has accelerated its leadership in strengthening our employment base by targeting four industries that provide primary high-skilled/high-wage jobs: Aerospace & Defense, Biosciences, Solar and Transportation/Logistics. With our economic diversification strategy in mind, this proposal outlines the development of an Aerospace & Defense Cluster Strategy that will spur new development, new job growth and new capital investment in a key industry in which Tucson can compete aggressively and which it has the necessary assets to win.

Southern Arizona Aerospace & Defense Industry Overview

The Tucson region has had its share of successes in each of TREO's four targeted industries, but these industry sectors are not equal participants when it comes to economic impact (and future potential impact). The Aerospace & Defense industry leads as a major contributor to the regional economy. The industry generates \$5-6 billion in revenue annually from more than 200 companies. Southern Arizona Aerospace & Defense companies include Raytheon Missile Systems, Abrams Airborne Manufacturing Inc., Learjet Inc, B/E Aerospace Inc, Bombardier Aerospace, Evergreen Maintenance, General Dynamics, Ascent, Honeywell Aerospace, Lockheed Martin, Northrop Grumman, Universal Avionics Systems, Paragon Space Development Corporation, Securaplane Technologies Inc., and Sargent Controls and Aerospace, among many others.

With a well-established industry cluster, strong military presence, specialized educational programs to supply and support a highly-educated workforce, and favorable weather and climate, the region is highly desirable as a location for growth and retention of Aerospace & Defense. In

addition, the region offers excellent flying weather, level terrain, little rainfall, rarity of high winds and the availability of vast uninhabited territory for gunnery range purposes. Most importantly, this industry provides high-wage jobs for our residents. The average salary of an Aerospace & Defense worker in Southern Arizona is \$60,000, almost double the median regional wage.

TREO's Economic Blueprint, the regional strategic plan for economic development, provides an outlook on industry clusters found within the region. This study found that the Aerospace & Defense industry is highly represented in the region, accounting for over 6.2% of the national cluster's total employment. Tucson offers one of the highest concentrations of Aerospace & Defense workers in the country: 1 in 5 jobs in the region is tied to the sector.

Another recent Aerospace & Defense study commissioned by TREO ("Tucson Region Aerospace & Defense Growth Strategies" study by Elliott D. Pollock and Company - attached) indicates that, in the short term, demand for Aerospace & Defense-related manufacturing will increase as the economy improves. Long-term demand will primarily be due to the ability of developing countries to expand their aircraft fleets as well as the retirement of several thousand airplanes. Demand for military products is likely to grow at a much slower pace but should, indeed, grow. In the defense segment of the industry, weapons demand and costs are largely decided by the government which makes long-term growth projections subject to a high degree of speculation.

These factors make it necessary for the Tucson region to be more aggressive and competitive in its approach. Although recent efforts at the state level to address competitiveness are a good first step, the Tucson region needs to be more aggressive about such efforts. Competitor incentive packages across the country usually come from the state level in the form of income tax incentives, sales tax abatement, property tax abatement, cash, forgivable loans, job training grants and other cash equivalent programs funded by separate or redirected taxes. Typical site location deals across the country can involve tens of millions, if not hundreds of millions of dollars, in incentives. However, the Tucson region is currently uncompetitive in terms of such economic development programs and tools. The development of a locally controlled and implemented program for the Aerospace & Defense industry would be complementary to recent statewide efforts and important to improving our regional competitiveness, creating regional opportunities.

Recruitment in the Aerospace & Defense industry has historically been highly competitive. With globalization and the current economic recovery, any growth will be even more competitive. In fact, some of the Tucson region's competitor markets are actively implementing plans to recruit this industry. Both economic developers and policymakers within the region must take a more proactive role in terms of retaining current businesses and recruiting new ones.

Aerospace & Defense technology is one of Southern Arizona's most substantial economic pillars. In these trying economic times it's vital to protect Arizona jobs and create an environment that allows for growth of our important industries. Southern Arizona needs to help create the business conditions to protect primary job employers and to create the ideal business environment in which they will grow.

The Opportunity

An aggressive cluster development initiative focused on the Aerospace & Defense sector of Southern Arizona has the potential to provide significant economic returns for the region. Another study commissioned by TREO found that there is a high awareness among site selectors of the Aerospace & Defense industry here. This, coupled with building on our existing assets in this sector (see above) creates the potential for significant returns and future positive economic impacts for our community. With a base of over 200 firms in Southern Arizona and an economic impact of over \$5 billion annually, the key building blocks exist to grow this industry and our economy with a relatively small investment. The competitive nature of the Aerospace & Defense sector requires that Southern Arizona be aggressive and creative in order for us maintain our current position in the market.

In addition to retention of the current base, an effective cluster strategy would focus on adding new firms and associated jobs in the sector to the regional mix. Similar to retention, even small percentage increases on the base would result in significant returns for the regional economy. Development of the cluster strategy will include an analysis of known recruitment opportunities, including the associated fiscal impacts across the region. Targets for recruitment efforts could include existing subcontractors operating outside the state and region. Preliminary discussions with such firms have indicated strong interest in being located closer to the prime contractor, especially when there is an offer of financial incentives and the provision of essential infrastructure.

Benefits of developing an effective cluster strategy include:

- Creation of an opportunity for Aerospace & Defense companies to cluster together/locate in close proximity, encouraging collaboration and possible joint venture possibilities between companies.
- Creation of an ability to share key industry suppliers/vendors as well as talent, without geographic boundaries.
- Contributes to the expansion and continued success of TIA.
- Contributes to the regional pursuit of the F-35 International Training mission through the 162nd Fighter Wing/AANG.
- Provides the region with a competitive advantage in this sector.
- Provides the necessary buffer to Raytheon Missile Systems to comply with the annexation agreement currently in place with the City of Tucson and thereby, contribute to the overall effort to retain and grow the largest of primary employers in the region.

The Cluster Development Strategy

The combination of the current economic environment, the strength and size of the region's Aerospace & Defense sector and the direction of the market, point to the need for a cluster strategy to strengthen the most important cornerstone of our region's economy. The proposed Aerospace & Defense Cluster Strategy includes several components: development of a marketing plan, development of a business/research park, business retention/expansion strategy including successful completion of the buffer zone effort, and pursuit of policy/legislative tools.

Brand Building, Marketing and Sales of the Aerospace & Defense Cluster

The initial marketing strategy for the A&D Cluster Strategy will focus on a multi-pronged approach:

Strategy: Increase positive awareness of Tucson's Aerospace & Defense industry among Site Selectors. Actions will include development of targeted email and web-based marketing tools such as e-newsletter, expanded TREO website Industry Strengths section, expanded industry data collection and potential social media applications.

- Work with site selectors to strategically identify A&D geographic, industry and driver trends. Industry trends are based on technological and workforce advances, and the drivers that act as incentives such as workforce development and education, tax incentives, and state and local tax structures. A comprehensive understanding of geographical, industry and driver trends will help guide where TREO's focus should be in terms of locations and companies.

Strategy: Enhance or shift the Southern Arizona value proposition from tourism and quality of life to a business focus and demonstrating the market as an A&D hub.

- Launch of National PR Campaign with development of media pitches, fact sheets and other press kit materials. Communicate process and activity to local Tucson stakeholders. Publications will include national top-tier media and A&D trade publications.
- Develop an advertising campaign targeting A&D decision makers to demonstrate and differentiate our region as a leading A&D center.
- Work with both TIA and Sky Harbor to promote Southern Arizona as a key A&D location.

Strategy: Launch a national/international sales effort to attract/expand A&D firms, operations in Southern Arizona.

- Work with and support local A&D companies at key industry events such as the Paris Air Show or Farnborough Air Show. Focus on supply chain development and partnership with Tucson companies present at show, in addition to booth presence in partnership with State of Arizona.
- Attract companies to the Tucson region based on suppliers and vendors of our major employers as well as the determination of industry trends as identified by site selectors. Specifically contact and meet with Raytheon, Honeywell, Bombardier, Sargent and others to determine targeted leads such as key suppliers, vendors, etc.

Development of Aerospace & Defense Research/Business Park

The creation, development, and establishment of an Aerospace & Defense Research/Business Park (Park), adjacent to the Tucson International Airport and Raytheon Missile Systems, is a major component of the proposed cluster strategy. Such a Park is a concept that would provide several benefits and contribute substantially to the region's competitiveness in the area of industry expansion and relocation. Park development would significantly benefit all jurisdictions as thousands of A&D employees travel from all over the region to work in this industry; therefore, TREO would ask the cooperation and participation of Pima County, City of Tucson, Town of Marana, Town of Oro Valley, Town of Sahuarita, City of South Tucson, Raytheon Missile Systems, Tucson International Airport, Arizona Air National Guard, and private sector leadership across the region, including the existing firms within the sector, to support and enhance its development.

Tucson currently offers several options for the location of incoming and expanding firms. Examples include Innovation Park in Oro Valley, the UA Tech Park and the future Bio Park at Kino Parkway. These are important assets for the region's economic development efforts and are essential for our future success. However, there are important differences between those assets and what is being proposed under the concept of the Park. The most important of these differences is the public/private ownership and management structure. The aforementioned business parks are privately owned and limited in their ability to provide financial incentives. The envisioned Park would include built-in incentives for qualifying firms in the form of discounts on land costs, provision of infrastructure and proximity to other firms in the A&D cluster.

The proposed Park would be governed by a management structure that allows for public ownership and private administration. In other words, the Park would be publicly owned and privately managed. Pima County, as the owner of the Park, would provide support for and set the strategic direction of the effort, together with TREO and the region's private sector. The County's investment would be managed by an outside agency as part of the overall cluster strategy. The managing agency would, through a formal partnership, provide the Park with the professional staff to market, promote, manage, and develop the continuing growth of the asset. The growth of primary employers within the Park would result in an economic engine for the entire region. Consideration could also be given to developing an incubator within the Park.

Strategy: Support development of the Park, local A&D public sector partnerships and incentive strategies by developing and conducting Huntsville Reconnaissance Trip in May 2011.

Strategy: Land acquisition as an addition to Raytheon buffer zone purchase. Actions include identification of funding sources (i.e., Pima County bonding, State appropriations, and/or local appropriations).

Strategy: Design management/administration structure, including regional leadership group.

Strategy: Development of requirements for qualifying firms, including sector limits, economic impact thresholds, wage levels, number of jobs and capital investment.

Strategy: Analyze potential impact of a Park. Prepare impact analysis on projected employment and capital investment associated with Park development.

Retention and Expansion of Existing Aerospace & Defense Firms

Work with Southern Arizona A&D companies to encourage expansion and ensure retention of current operations.

Strategy: Complete buffer zone acquisition for Raytheon Missile Systems allowing the conditions to exist for retention and expansion.

Strategy: Create Aerospace & Defense Advisory Council. Work with firms to identify barriers and opportunities to growth in Southern Arizona.

Strategy: Identify targeted supply chain firms and potential subcontractors that benefit existing A & D firms.

Legislative/Policy Tools

A successful cluster strategy would require the development and implementation of expanded policy and legislative tools. Some of this type of advocacy has already begun and applies to all sectors. The recent passage of Governor Brewer's Competitiveness Package included such tools and represents a good first step. The tax adjustments included in that recent legislation - together with the economic development tools - will contribute a great deal to the proposed strategy. However, more effort will be required specifically related to the Aerospace & Defense sector. Additional tools could include legislation related to Tax Increment Finance Funding (TIFF) to facilitate the creation of a business park, local development and job creation incentives, and adjustments to existing programs.

Strategy: Identify key policy needs for A & D companies at the Federal and State level. Action includes leading delegations to both Phoenix and Washington, D.C. to advocate for priorities outlined.

Research Park Case Study

Cummings Research Park, Huntsville, AL

One of the world's leading science and technology business parks, Cummings Research Park is a model for the establishment and operation of a high-tech business park. With a vibrant mixture of Fortune 500 companies, local and international high-tech enterprises, US space and defense agencies, a thriving business incubator, and competitive higher-education institutions, Cummings Research Park (CRP) is the center of attention for research and technology in the Huntsville region.

CRP is the heart of high-tech for the Huntsville area, a community whose modern history helped to establish and guide the development of space and missile programs in the United States. In the earliest beginnings of these programs, Huntsville-based programs designed the rockets that "put man on the moon." This initial base of technical knowledge and ability has since evolved into one of the world's most concentrated centers for research and technology.

CRP began as a public-private initiative and has become a powerful magnet for corporate investment in the community. CRP was intended to attract and retain the world's top technology and research development companies, and to provide a world-class site for expansion opportunities for existing companies. CRP has served its corporate citizens well, enabling them to achieve significant business growth, which continues to positively impact the region's economy today. This success creates significant new investment and employment opportunities for highly-qualified area residents.

In 1962, the public sector entities involved in establishing CRP included the City of Huntsville and the University of Alabama in Huntsville Foundation, while private sector efforts were led by Teledyne Brown Engineering (then known as Brown Engineering Co.), with numerous other companies quickly following its leadership. Since then, a steadily increasing number of technology-based companies have invested in the park. The State of Alabama and the Chamber of Commerce of Huntsville/Madison County (Chamber) are now important partners in the marketing and promotion of the park. In many different ways, some hoped for and others unforeseen, CRP has been extremely successful in achieving the goals set forth by its founders.

As the owner of the park, The Huntsville City provides continuous and strong support for the development of CRP. As a result of visionary investment by the City of Huntsville, CRP is clearly the heart of high-technology in the Huntsville area. The Chamber, through a formal partnership with the City of Huntsville, provides CRP with the resources and professional staff to market, promote, manage, and develop the continuing growth of CRP and acts as the primary point of contact for this coordinated effort. The growth of technology-based companies in CRP is an economic engine for the entire region, positively impacting hundreds of companies and creating thousands of new jobs. The support of the Huntsville City has been critical to the success of CRP.

The Research Park Director, an employee of the Chamber with funding from the City of Huntsville, coordinates the development and investment process throughout CRP, including the sale of

AEROSPACE & DEFENSE CLUSTER DEVELOPMENT STRATEGY

land and the recruitment of new industry. The Research Park Director is also available for direct assistance to companies in the process of identifying available buildings and office space within the park.

Location:	Huntsville, Alabama
Established:	1962 - as Huntsville Research Park
Renamed:	1973 - in Honor of Mr. Milton K. Cummings
Major Expansion:	1982 - CRP West; Land Purchased by City of Huntsville
Rankings:	2nd largest research and technology park in the U.S. 4th largest in the world Most Outstanding Science Park in the World (AURP, 1997)
Current Land Area:	3,843 Acres / 1,550 Hectares
Companies:	285 Companies
Workforce:	25,000 Employees
Buildings:	175 Buildings
Capacity:	9.5 million Square Feet
Zoning:	Restricted zoning for technology industries.
Air Access:	Huntsville International Airport (10-Minute Drive)
Highway Access:	I-565 (Adjacent), I-65 (15-Minute Drive)

Tucson Region Aerospace & Defense Growth Strategies



Prepared for:

Tucson Regional Economic Opportunities, Inc.

May 2010

Prepared by:



Elliott D. Pollack & Company
7505 East 6th Avenue, Suite 100
Scottsdale, Arizona 85251

Table of Contents

Executive Summary	i
1.0 Introduction	1
2.0 Tucson's Regional Assets – Why Tucson	2
2.1 Economic Profile of Tucson Region	2
2.2 Workforce Characteristics & Location Quotients	6
2.3 Aerospace in Arizona and the Tucson Region	8
2.4 Short and Long Term Forecasts	13
2.5 Local Policies and State Constraints	17
3.0 Aerospace & Defense Outlook	18
3.1 Commercial Aircraft & Jet Engines	18
3.2 Maintenance, Repair, and Overhaul	23
3.3 Military Weapons	24
3.4 Summary	27
4.0 Quantifying the Importance of Base Industries	28
4.1 Explanation of Base vs. Local Market Operations	28
4.2 Economic Modeling of the Impact of Aerospace & Defense	28
5.0 Strategic Drivers in Site Selection	33
5.1 Capital-Intensive Operations	34
5.2 Labor-Intensive Operations	37
6.0 Economic Incentives	40
6.1 National Economic Incentives Environment	40
6.2 Arizona's Incentives Toolbox	41
6.3 Impact of Incentives on a Location Decision	44
6.4 Business Personal Property Tax Exemption	45
6.5 Aerospace Clustering and Incentive Programs	48
6.6 Recent Aerospace Site Acquisitions	53
7.0 Strategies for the Tucson Region	54



Executive Summary

An economic development analysis of business locations/expansions/retentions within the aerospace and defense industries in the Tucson region has been conducted. This report includes a review of how the Tucson region specifically will be able to better participate in location deals that are occurring throughout the country.

Background

The following points highlight the primary economic issues that were considered in formulating the economic development policy recommendations that immediately follow.

- The current forecast for employment growth in the aerospace and defense industry within the Tucson region is favorable. However, in this firm's view, the forecast should be slightly more pessimistic given Arizona's weak position regarding economic development programming.
- With a well established industry cluster, strong military presence, industry demanded educational programs to supply and support a highly educated workforce, and favorable weather and climate, the Tucson region contains many desirable basic business inputs. The inequities related to the cost of doing business are primarily in property taxes, but the State's corporate income tax rate is also somewhat high compared to other states in the Western Region. These two tax categories are of concern to companies that produce high tech goods. Unfortunately, this makes Arizona as a whole less competitive in the aerospace and defense sectors.
- In the short term, demand for aircraft and consequently jet engines will increase as the economy improves more significantly. Long term demand will primarily be due to developing countries' increasing ability to expand their aircraft fleets as well as the expected retirement of several thousand airplanes. Demand for military products is likely to grow at a much slower pace but should indeed grow. In the defense segment of the industry, weapons demand and costs are largely decided by the government. This makes long term growth projections subject to a high degree of speculation.
- Capital-intensive operations, like many within the aerospace and defense industry, tend to invest heavily in infrastructure, machinery, and equipment for operations. Transportation and inventory costs account for nearly 72% of the total cost of doing business for typical manufacturing and distribution operations. Property taxes are also an area of focus. Arizona compares quite poorly regarding business personal property taxation.
- Labor cost is at the forefront of a labor intensive operation's success and is the key driver in a location decision. Since payroll costs can be upwards of 70% to 80% of total operating costs, the savings benefit to locating in a more cost effective labor market is essential. The Tucson region appears to have a general labor cost disadvantage compared to its peer competitive markets. In these cases, economic development tools that assist in mitigating these costs through training grants or other subsidies are very important.
- Arizona is currently considered uncompetitive in terms of economic development programs. This is very relevant to the Tucson region since the most aggressive incentive



packages across the country come at the state level in the form of income tax incentives, sales tax abatement, property tax abatement, cash, forgivable loans, job training grants, and other cash equivalent programs funded by separate or redirected taxes. Typical site location deals across the country involve tens of millions, if not hundreds of millions of dollars, in incentives. Arizona does not currently have the tools to compete with such inducement. The Tucson area's shortcomings related to aerospace and defense expansion and retention are primarily related to the State's lack of economic development tools.

- There are two broad based strategies that a community can follow. First, a community with a weak state-level economic development portfolio will need to concentrate efforts on business retention. Retention is far less costly than business recruitment. Second, a community must use an array of local economic development tools. Any one of these tools by itself will not result in significant change. However, when multiple items are combined into a package, a community's economic development strategy can work.
- Fortunately, the broader economic foundations for the aerospace and defense industry remain sound. The industry has a bright future in the local and global marketplace. When confronted with managing the maintenance and expansion of an industry with sound economic fundamentals, the level of economic incentives may be slightly reduced (but is still dependent on competitor relocation offers). However, significant expansions in the industry will face heavy competition from competitive markets and states. Incentives are a necessary component to the corporate location decision process.

Action Items

The following is a list of programs that TREO may wish to pursue. The organization should separately identify those areas of influence that impact industry retention from those areas that impact potential industry expansion. Industry retention should then receive priority. As stated previously, without better State programs, TREO will be hindered in its expansion efforts. This makes support for TREO in the Tucson region, from both the public and private sectors, even more important. Actual examples of how other communities have used the following programs are included in the body of the report.

- Property Tax Abatement -

Any reduction in property taxes on real and business personal property would be an attractive incentive. This is a matter of great concern for most manufacturers. Outside of implementing a new property tax class into State law, directly abating property taxes appears problematic.

TREO can work with municipalities and private entities to utilize the recently approved filing for general purpose Foreign Trade Zone (FTZ) status for all of Pima County. The expanded FTZ opens up more of Pima County to FTZ benefits than the previous zone allowed. FTZ status yields a reduction in assessment ratio from 21% to 5%. This reduction could yield a 76% reduction in property taxes for both real and personal property.

While the broadened FTZ is an excellent new tool for economic development, even property tax relief through FTZs can be politically problematic since decisions must be made about current company operations. One option is to designate a zone that offers favorable benefits to new or expanded business operations. Thus, the incentive would only be relevant for expansion and



relocation, but not retention. Since the Tucson region is at considerable risk of losing a portion of its aerospace and defense base, it is worth exploring how the FTZ can also be used as a retention tool for some current operations. Other states have successfully implemented new tax laws that specify government industry codes to identify very specific eligibility.

Apart from Foreign Trade Zone expansion, becoming familiar with the opportunities and constraints of GPLET should be a priority. As TREO and its stakeholders fully understand how to maximize the application of this incentive within municipalities throughout the Tucson region, there may be potential for marketing and implementation of significant property tax relief to business recruitment or retention targets.

- Land Banking & Land Donations -

Land donations or banking normally involve a municipality purchasing desirable vacant land for expanded business use by a private sector entity. An example area could be land in proximity to the Tucson International Airport or Davis Monthan Air Force Base. Providing low-cost to no-cost land to qualified aerospace and defense companies is a significant financial incentive that most of the identified competitive markets do not offer. With land donations, property remains an asset to the City/County and the company can reallocate funds to capital inputs that otherwise would be spent on land acquisition. Land donations can also be structured as loans forgiven by the creation and maintenance of high quality jobs and investment in significant capital.

There were no identifiable cases where a local economic development entity financially participated, but in partnership through the local industrial development authority with management by TREO could be a possibility.

- Creating an Industrial Park -

Depending on the ability to assemble a significant amount of land, consider developing an Aerospace Industrial Park. Development could be arranged directly or as a joint venture with a private developer. With a sufficient assemblage, TREO can adequately plan for and manage the City's installation of infrastructure that is needed such as power, water/sewer, and telecommunications. Planning for heavy uses should be considered in this case. However, purchasing land and investing in infrastructure with no private sector partner "at the table" can be a risky proposition. Instead, TREO can have a plan in place and can both respond and aggressively market a particular site.

- Local Job Training Fund / Quality Jobs Fund -

TREO should consider establishing a local Aerospace and Defense Job Training Fund. Assuming the State's job training program will not be in full effect for some time, applying for Department of Labor funding could be useful in maintaining the local aerospace workforce.

The *Tucson: Job One* action plan published in April 2009 included an employer-driven job training program as one key element to job attraction and retention. This program proposed partial reimbursement of training costs depending on the wage level of the employee. The anticipated funding need was set at \$1.0 million annually. The continuation of this action plan is encouraged and TREO would be best suited to coordinate its effort among the entire industry



cluster and training resources. This effort would couple with TREO's promotion of job openings between displaced workers and open positions in the region.

Tangentially, the job training program may be coupled with a quality jobs program that reimburses companies for the hiring of highly paid, net new workers in this field. This would be a secondary means of bridging the gap between what an employer can pay workers to expand in the Tucson region versus what workers will ultimately demand to relocate.

In both cases, TREO would need to establish a well crafted application process that also includes a cost benefit analysis of the program. In no situation should any entity provide subsidies in excess of what are being derived from the target operation.

- Conduit Financing -

TREO may consider a strategy to utilize unallocated Private Activity Bonds to construct facilities for high quality aerospace companies. Again, this relates to expansion and less to retention. Issuance of industrial revenue bonds can be structured with the County or a municipality as the landlord offering an operating lease to a prospective company. Debt service of the bonds can be directly tied to a triple net operating lease (a way of reducing rents and taxes for a company) with a company of good credit quality and sufficient credit backing. This type of creative financing started in the Midwest and has been used to attract high quality prospects looking to offset start-up capital investment.

- Other: Supply Chain Development -

TREO should implement strategies to attract complementary users that provide goods and services to Raytheon and other manufacturers. It appears the "big players" make location decisions in part based on the location of major suppliers. This is the idea behind the multiplier analysis that was presented earlier. For each job that is created at Raytheon another three or more are created in the surrounding area. If a base industry operation indicates that its supplies are being shipped into the Tucson region then TREO should explore ways for the base industry business inputs to be produced locally. This is why certain counties across the nation have high multipliers and others have low multipliers. Local wealth generation is based on a community's ability to contribute as much as possible to the product development process.

- Other: Advocacy -

It is clear that most of the competitive markets across the country rely heavily on their state as the lead for economic and tax incentives. TREO may consider a significant advocacy effort to pursue passage of local economic development legislation. Additional pursuits could include, but are not limited to: (a) new property tax class for aerospace, (b) State sales tax exemption for aerospace companies, (c) enhanced job training programs, (d) State job retention programs tied to withholding taxes.

The Arizona Legislature very nearly enacted significant economic development reforms through HB2250 this past session but lacked support among some key senators and the Governor. Additional pressure this next fall and continued into the next regular legislative session will be necessary if similar legislation is to have any chance of passing in 2011. The authors of this report recommend the backing of a separate aerospace and defense pilot program that dedicates a



portion of the State's job training tax for use on a separate aerospace and defense job training fund and a separate aerospace and defense retention fund. These dedicated monies could be distributed based on recommendations developed by TREO.

- Other: Marketing -

As the official agency responsible for promoting and marketing the region to the national and international business community, TREO should build upon the successful 2009 National Marketing Campaign that generated positive press coverage for the bioscience and solar industries. It is recommended that TREO adopt a similar strategy for the aerospace and defense sector. Targeted marketing to site selection consultants, aerospace trade groups, economic development publications, and key companies will be critical. Other competitive markets and states are viewed as much more aggressive and forward-facing than the Tucson region. If Tucson is not top-of-mind to these targeted groups, the region may be forgotten.

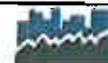
TREO may also consider a strategic shift to fostering job growth and investment within existing aerospace and defense companies. This will be critical in retaining current jobs in targeted sectors. It is suggested that TREO directly engage in conversations about how to attract investment that otherwise might be going to a competitive market. This was recommended as a first priority in TREO's Economic Blueprint and the research conducted within this report concurs given the highly competitive recruiting efforts occurring globally.

TREO has already recognized the importance of marketing and "top of mind" awareness for business recruitment. The *Tucson: Job One* action plan introduces its strategy with consistent marketing efforts focused on desired industries and markets with real recruiting potential. TREO has already partnered with the Greater Phoenix Economic Council in this effort and has maintained consistent contact with national site selectors. A centralized, constant, and unified marketing effort led by TREO will maximize advertising effectiveness and give the region the greatest prospects to succeed in this effort.

- Other: Funding -

It is unclear if State policymakers will have the ability to enact economic development legislation to make the State more competitive. This puts more pressure on economic development entities such as TREO. The organization will need significant commitment, meaning financial support, from both public and private entities in the Tucson area. In addition, while private sector donations and public sector appropriations will assist with covering TREO's administrative costs, the public entities in the Tucson area will need to support TREO's efforts as they pertain to the establishment of many of the recommendations contained in this report.

Main Takeaway: Recruitment in the aerospace and defense industry has historically been highly competitive. With globalization and the current economic recovery, any growth will be even more competitive. In fact, some of the Tucson region's competitor markets are actively implementing plans to recruit existing industries. Both economic developers and policymakers within the region must take a more proactive role in terms of retaining current businesses and recruiting new ones.



1.0 Introduction

Elliott D. Pollack and Company was retained by Tucson Regional Economic Opportunities, Inc. to conduct an economic development analysis of business locations/expansions/retentions within the aerospace and defense industries in the Tucson region. This report includes a review of how the Tucson region specifically will be able to better participate in location deals that are occurring throughout the country.

More specifically, the scope of our engagement includes the following:

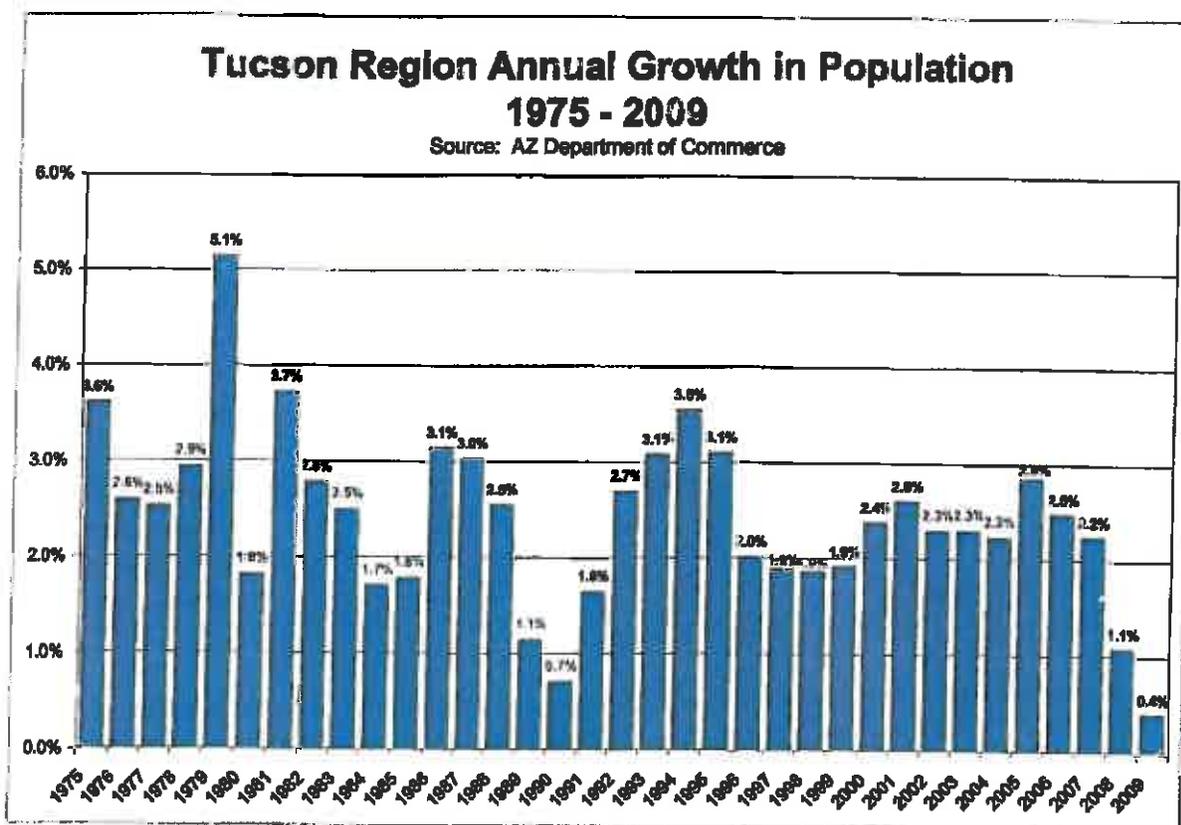
- A brief economic profile of the Tucson region. This section will describe a listing of the region's assets including aerospace and defense industry clusters and workforce characteristics. A brief history of the aerospace and defense industry is also provided. Various forecasts for the region and a brief discussion of local constraints has been included as well.
- A background review on where the aerospace and defense industry will be headed during next two decades and how this specifically relates to the Tucson region. This includes the industries of commercial aircraft, jet engines, MRO (maintenance, repair, and overhaul), and military weapons.
- A review of base versus local industries and an incremental, quantitative analysis of the impact of the aerospace and defense on the Tucson region.
- An overview of site selection factors specific to differing business models.
- A comprehensive review of incentives and their role throughout the country in inducing business expansion or relocation. Arizona's state-level incentives are inventoried and compared to competitive states that have been identified as having an aerospace industry presence. A review of actual deal closing agreements that have occurred related to aerospace/defense expansion and retention is included.
- Recommended strategies that can help the Tucson region both retain existing companies and become more attractive from a business operations standpoint to help induce additional companies to expand or relocate into the area.



2.0 Tucson's Regional Assets – Why Tucson?

2.1 Economic Profile of Tucson Region

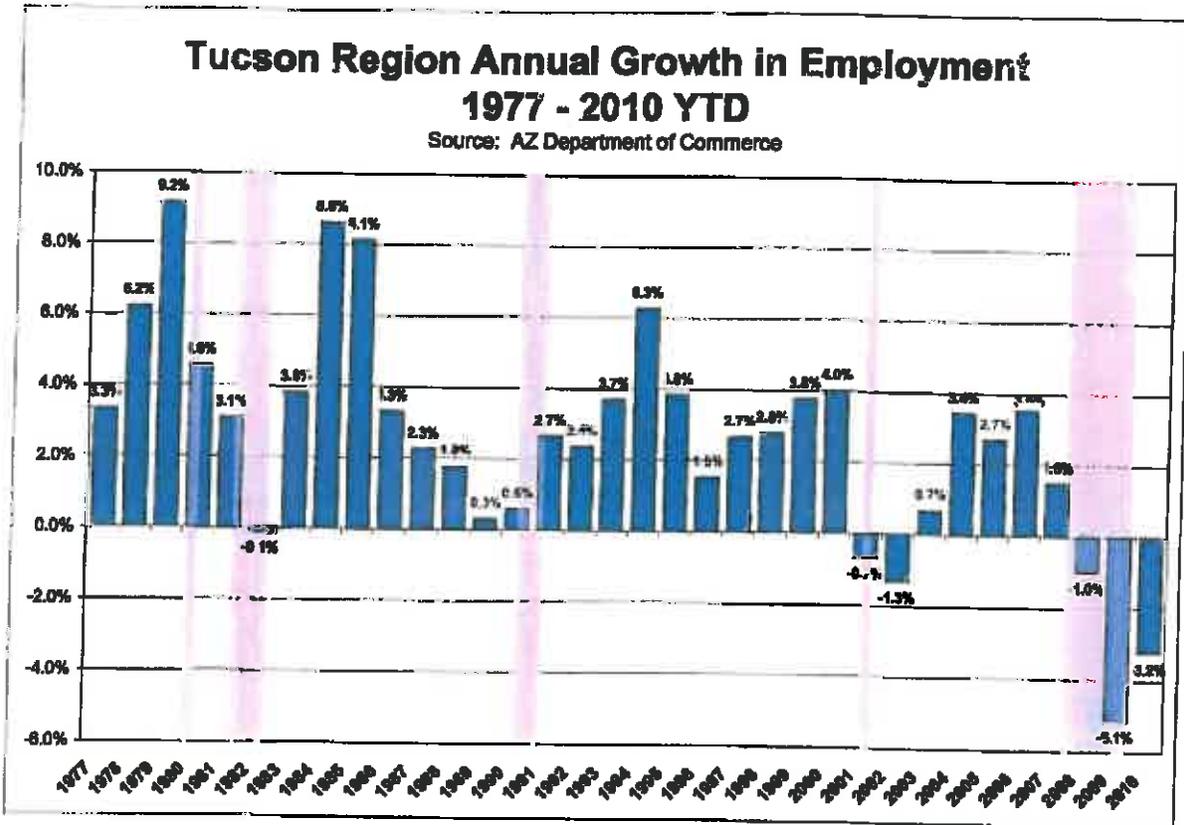
Since 1975, the Tucson region has grown by an average of 2.4% per year. There have been only two instances within the reported time period where population growth fell below 1%. One of those years is the estimated growth rate for 2009, when it has been speculated that net migration could have been zero or even negative. The decrease in population during the latest recession is more of a reflection of the decrease in mobility by those around the country desiring to move but unable to either retire as planned or be able to liquidate a housing asset because of a depressed housing market. It is anticipated that 2009 will be a single year anomaly and the Tucson region will begin to grow at historical averages as early as 2011.



This impressive population growth could not be supported without the creation of jobs, and the employment statistics for the region paint a similar picture. Historically, the job market declines that are realized during periods of recession in the Tucson region tend to be mild. In both 1991 and 2001, the previous two recessions, job declines were minimal, only going negative during the 2001 recession. The job losses in 2008, which totaled over 3,800 jobs, were dominated by the construction industry and those sectors that support housing development. In 2009, the job losses occurred in nearly all employment categories, lead by both the construction and retail trade industries. An additional 5.0% decline in employment, or a loss of nearly 19,600 jobs, occurred in 2009. Currently, the year-to-date losses are -3.2% compared to 2009. This trend is

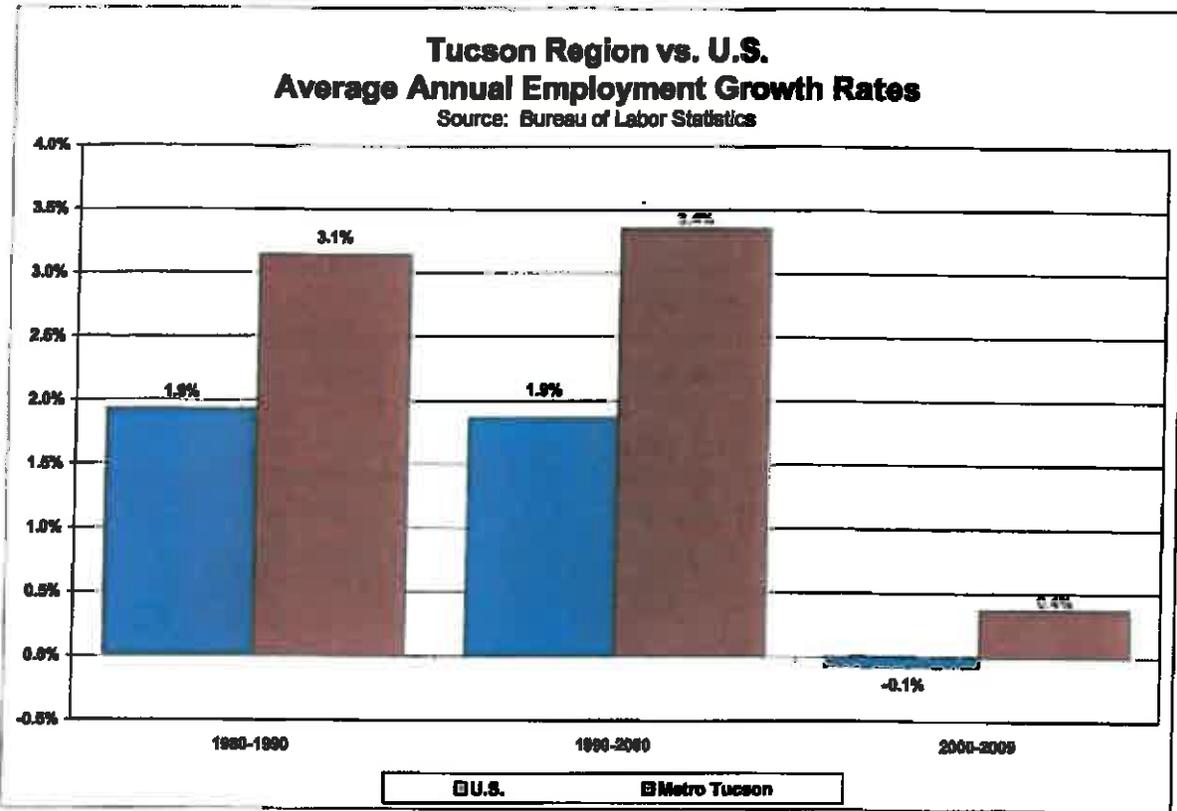


expected to slightly improve to an annualized 1.6% loss, equating to approximately 5,800 jobs lost for the year. It is expected that 2010 will be the final year of reported net losses and that Tucson could regain employment back to peak levels as early as 2012-2013, much sooner than Greater Phoenix.



During previous decades, employment growth in the Tucson region outpaced the nation as a whole by a factor of between 1.6 and 1.8. From 2000 through 2009, this growth disparity increased to as the U.S. is now reporting fewer jobs through 2009 than in 2000 and the Tucson region added jobs at an average annual rate of 0.4%.





2.1.1 Additional Strengths

Upon review of hundreds of documents pertaining to why certain places grow and flourish while others stagnate, some key fundamentals surface. These include:

Climate – The Tucson region is blessed with warm weather, lots of sunshine and the ability to deal with hot summers.

Average Percent of Possible Sunshine	
City	% Annual Average
Tucson, AZ	85%
Albuquerque, NM	76%
Birmingham, AL	58%
Chicago, IL	54%
Dallas, TX	61%
Denver, CO	69%
Miami, FL	70%
Salt Lake City, UT	66%
San Diego, CA	47%
Seattle, WA	68%

Source: National Climatic Data Center



Lifestyle – The Tucson regional lifestyle offers not only low-density living, but also a social opportunity for someone new to come into town and have an impact.

Geographical location – The Tucson region is not only in close proximity to bordering Mexico, a major trade partner, but is also near the coastal communities of California and along a major transportation route that provides access to markets in other southern states.

Focused incentives (with qualifier) – The tax structure allows for incentives to be focused on an individual company that brings jobs to the area and stimulates economic activity. This activity has become increasingly important in the last decade. Unfortunately, this area still needs improvement as other competitor locations across the country have expanded their business location operations.

A relatively low cost of living – The fact that the Tucson region is comparable to some of the most affordable markets west of the Mississippi provides a competitive edge.

Median Price of Existing Single Family Homes Greater Tucson v. Peer Metropolitan Areas	
	Median Price
U.S. AVERAGE	\$172,900
GREATER TUCSON	\$166,700
GREATER PHOENIX	\$143,900
Albuquerque, NM	\$175,600
Atlanta, GA	\$124,800
Boston, MA	\$332,800
Dallas, TX	\$142,100
Denver, CO	\$223,200
Houston, TX	\$150,000
Jacksonville, FL	\$141,300
Las Vegas, NV	\$139,400
Los Angeles Area, CA	\$352,700
Orange County, CA (Anaheim)	\$495,000
Orlando, FL	\$139,600
Raleigh-Durham, NC	\$219,500
Riverside/San Bernardino, CA	\$176,800
Sacramento, CA	\$188,600
Salt Lake City/Ogden, UT	\$207,800
San Diego, CA	\$379,200
San Francisco Bay Area, CA	\$551,300
Seattle, WA	\$305,500
Tampa/St. Petersburg/Clearwater, FL	\$140,200
<small>Note: Data as of 4th quarter 2009</small>	
<small>Source: The National Association of Realtors</small>	



Focused congressional delegation (with qualifier) – Historically, the congressional delegation has been focused not only on the nation but also on the State of Arizona’s long term needs. More, recently, though, this has not been the case. The education and encouragement of our congressional delegation is one area that should be pursued.

Other things that are notably important include the local availability and affordability of land, plentiful water and electricity, the quality and affordability of the workforce, and the presence of transportation infrastructure such as an interstate highway and airport.

One area of great unknown relates to recent immigration reforms at the State Capitol. In the short term, the tourism industry will be impacted disproportionately compared to other local industries. In the longer term, labor shortages are possible in the lower value added sectors such as construction and other low skill services such as retail and tourism. This will result in some degree of wage inflation which will translate into a higher cost of doing business. The local market industries will be impacted the most and costs will be primarily passed on to consumers. For higher value added base sectors such as manufacturing, the immigration issue will have a lesser impact. However, the general lack of statewide incentives will continue to dampen the local employment outlook for these industries.

2.2 Workforce Characteristics & Location Quotients

The Tucson region is a well rounded economy with no obvious voids among major industry categories. Compared to the State of Arizona, the Tucson region has relatively more manufacturing, health & education services, and government jobs and fewer construction, trade, financial, and professional business services jobs. Compared to the U.S. as a whole, there are a greater percentage of professional and business services, education & health services, leisure and hospitality, and government jobs and fewer manufacturing (with the exception of aerospace manufacturing), trade, information, and financial activities jobs.



Greater Tucson Employment Distribution YTD March 2010

	Metro Tucson <u>Employment</u>	Metro Tucson <u>% of Total</u>	AZ <u>% of Total</u>	U.S. <u>% of Total</u>
Natural Resources and Mining	1,733	0.5%	0.4%	0.5%
Construction	14,033	3.9%	4.6%	4.1%
Manufacturing	24,333	6.8%	6.1%	8.9%
Aerospace Products and Parts	12,533	3.5%	1.2%	0.4%
Trade, Transportation, and Utilities	57,100	16.0%	20.0%	19.0%
Wholesale Trade	8,300	2.3%	4.3%	4.3%
Retail Trade	40,067	11.2%	12.4%	11.1%
Transp., Warehousing, and Utilities	8,733	2.4%	3.3%	
Information	4,500	1.3%	1.6%	2.1%
Financial Activities	17,367	4.9%	6.8%	5.9%
Professional and Business Services	47,167	13.2%	14.1%	12.7%
Professional and Tech. Services	18,867	5.3%	5.2%	
Administrative and Waste Services	24,700	6.9%	7.9%	
Business Support Services	7,967	2.2%	1.1%	
Educational and Health Services	59,200	16.6%	14.0%	15.2%
Leisure and Hospitality	38,767	10.9%	10.7%	9.7%
Accommodation	5,933	1.7%	1.7%	
Food Svcs and Drinking Places	28,467	8.0%	7.6%	
Other Services	14,200	4.0%	3.8%	4.1%
Government	78,700	22.0%	17.7%	17.7%
Federal Government	12,067	3.4%	2.4%	
State Government	24,033	6.7%	3.5%	
State Government Education	19,467	5.5%	1.9%	
Local Government	42,600	11.9%	11.8%	
Total Non Farm Employment	357,100			

Source: AZ Department of Commerce

By comparing the Tucson region to the State of Arizona and the U.S. under more detailed industry classifications, we are able to identify some clustering of industries, or relative concentrations of certain businesses. This is represented through the use of location quotients. Anything with a location quotient higher than 1.0 means that there is a relatively higher percentage of that industry compared to the broader economic region. In addition, an employment figure known as “excess employment” illustrates the total number of jobs that the concentrated industry would have to be reduced by to reflect the broader region.

The Tucson region has a number of industries in which the location quotient was greater than 1.0 relative to both the United States and Arizona. The following table lists these industries. Many of these industries would have to shed over 1,000 jobs to decline to the national average. Most notably, guided missile & space vehicle manufacturing (Raytheon) is by far the most concentrated industry relative to broader economic regions. This and related aerospace industries will be discussed in further detail in the following section. In addition, hotels & motels, telemarketing, medical and surgical hospitals, and engineering services all had much higher concentration of employment in the Tucson region compared to the nation as a whole.



Industry	Number of Establishments	Employment	Relative to Nation		Relative to Arizona	
			Location Quotient	Excess Employment	Location Quotient	Excess Employment
Guided missile & space vehicle manufacturing	4	11,100	91.37	11,067	7.09	9,612
Hotels (except casino hotels) & motels	116	6,337	1.75	2,713	1.18	945
Telemarketing bureaus	16	3,452	4.04	2,597	1.63	1,565
General medical & surgical hospitals	8	14,937	1.19	2,356	1.62	5,733
Engineering services	170	4,504	2.04	2,293	2.23	2,439
Fossil fuel electric power generation	2	2,049	10.24	1,849	3.72	1,499
Drywall and insulation contractors	60	2,498	3.30	1,741	1.45	775
Limited-service restaurants	535	10,047	1.19	1,637	1.21	1,750
Full-service restaurants	501	12,558	1.14	1,576	1.12	1,353
All other travel arrangement & reservation services	7	1,814	7.19	1,561	3.49	1,292
Other aircraft part & auxiliary equipment manufacturing	5	1,597	6.99	1,369	3.70	1,185
Software publishers	31	2,147	2.54	1,391	3.19	1,474
Vocational rehabilitation services	32	1,931	2.33	1,102	4.00	1,448
Primary smelting & refining of copper	1	1,061	195.58	1,856	7.73	924
Framing contractors	36	1,432	3.43	1,014	0.85	0
Telephone answering services	4	1,165	7.51	1,010	6.05	934
Offices of physicians (except mental health specialists)	671	5,660	1.15	786	1.49	1,967

2.3 Aerospace In Arizona and the Tucson Region

In the 1940's the Greater Phoenix area was the agricultural capital of the Southwest, the political capital of Arizona, and functioned as the economic and social epicenter of the region. It was already a national tourist attraction with highway, rail, and air transportation links to the rest of the Country. Its economy was based on the five C's: copper, cattle, citrus, cotton and climate. This structure of the economy would change forever with the military build up for World War II.

As early as 1939, the federal government contracted with flyers throughout the region to conduct "War Preparedness" programs. In the Greater Phoenix area, one such program was run at an airfield called Sky Harbor Airport. In addition, originally named the Phoenix Military Airport, Luke Air Force Base opened in June 1941. Also in 1941, officials at Thunderbird Field, north of Glendale, signed a contract with the Army Air Corps to provide primary training to cadets. Soon after, another contract was signed, this time with England's Royal Air Force, to train its cadets at a new base northeast of Mesa, called Falcon Field. It opened in September 1941. In 1942, the Mesa Military Airport was renamed Williams Field and added 3,000 officers, cadets and enlisted men to the area. On the heels of Pearl Harbor, other fields came into existence. Thunderbird II, now Scottsdale Airpark, and Litchfield Naval Air Facility, a testing station in Litchfield Park, were added. By the end of the war, Luke Air Force Base had become the world's largest advanced flight training school.

In the Tucson region, Davis Monthan Air Force Base was another airfield established in 1941. One year later, the Ryan School of Aeronautics opened 13 miles west of Tucson to train WWII pilots.

By 2008, it was estimated that there are nearly 45,600 direct military employees within the State of Arizona, which helps support an additional 50,760 jobs throughout the State for a total economic impact of over \$9.1 billion dollars. Aerospace and defense contractors are included in part within these figures.



Defense Plants & Manufacturing

Because of the government's attempt to diversify the country's manufacturing basis away from the coasts, which the military believed was vulnerable to air attack, the Valley began to attract defense plants.

In July 1941, Phoenix city officials announced that a \$500,000 Goodyear Aircraft Corporation airplane parts plant would open at Litchfield Park. This was Arizona's first large defense facility. At its peak, the plant employed more than 7,500 workers. Compare this to the 1940 level of employment in the Valley of less than 45,000. Taking into account the multiplier effect, this plant alone effectively increased the size of the Valley economy by 33%.

Within a few years, several other defense plants located to the area, notably Alcoa and Air Research. In 1942, Alcoa opened a plant on a 300-acre site at 35th Avenue and Van Buren that employed 3,500. In November 1942, Air Research opened a plant south of Sky Harbor that ultimately employed 2,700 workers. Both of these facilities opened in cooperation with the government's Defense Plant Corporation.

That same year a company called Consolidated Vultee (now General Dynamics) constructed hangars at Ryan Airfield in Tucson to facilitate B-24 modifications. Hughes Aircraft (now Raytheon Missile Systems) arrived in 1951.

All in all, Arizona offered air bases, excellent flying weather, level terrain, little rainfall, rarity of high winds, and the availability of vast uninhabited territory for gunnery range purposes. Thousands of defense workers arrived in Arizona during the war, seeking employment at the new plants. Then, as today, the continued flow of population supplied companies with a growing pool of qualified workers necessary to support employment growth. Many firms present today are linked to the arrival of the original companies over 50 years ago.

Tucson Region Aerospace

In addition to the location quotient analysis performed by the Arizona Department of Commerce, Section 6 of the Tucson Economic Blueprint provides an outlook on industry clusters found within the region. This study found that the Aerospace Vehicles and Defense industry is highly represented in the region, accounting for over 6.2% of the national cluster's total employment. That ranks Tucson 5th among the top 100 U.S. metro areas. The region also accounted for 2.3% of the entire U.S. Aerospace Product and Parts Manufacturing industry.

The study also identified emerging cluster and sub-cluster industries in the Tucson region. Under the industry cluster classification "Aerospace Engines", both aircraft engines and precision metal products are considered emerging clusters. Within "Aerospace Vehicles and Defense", the aircraft, missiles & space vehicles, and defense equipment industries are reported as emerging clusters. Corollary industries include some analytical instruments businesses (i.e. search and navigation equipment manufacturing).

Within the Tucson region's high-tech industry cluster, aerospace represents over half of total employment. Raytheon Missile Systems anchors the region, employing approximately 60% of all aerospace workers in the Tucson region and 80% of all aerospace engineers. Other Tucson



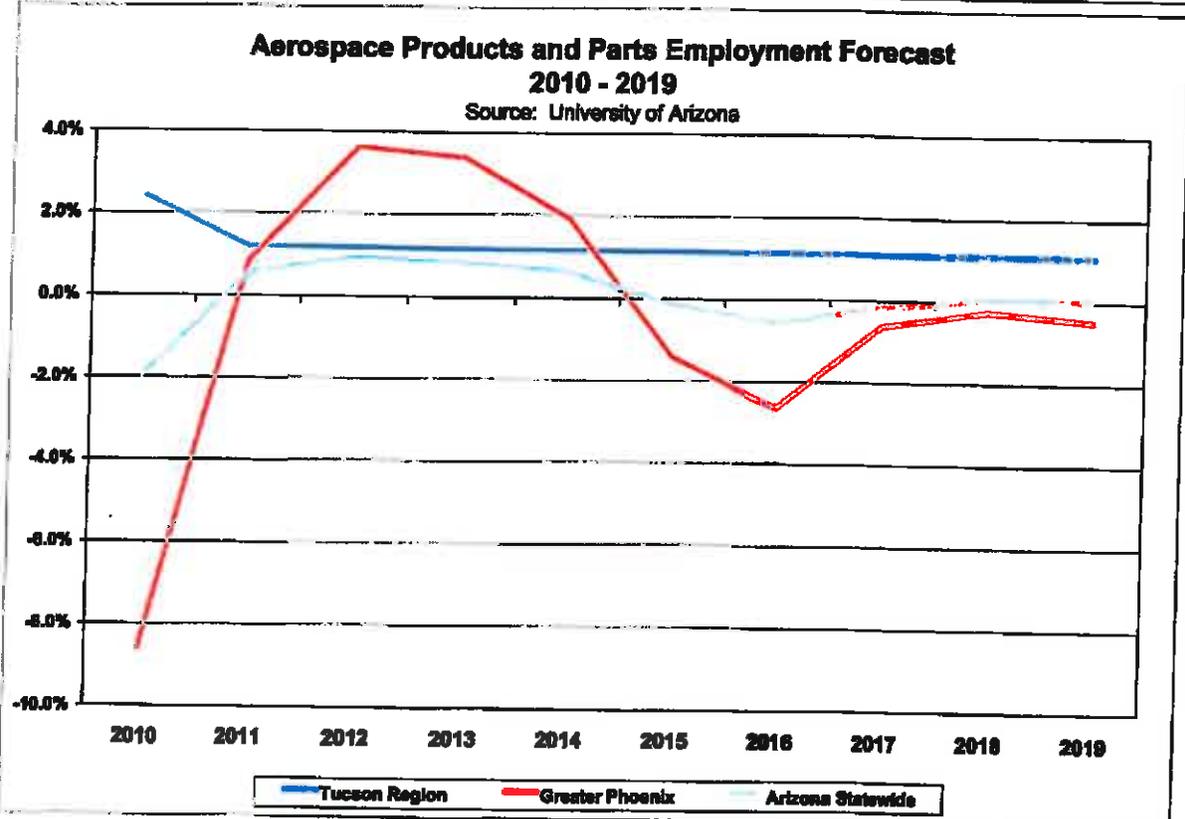
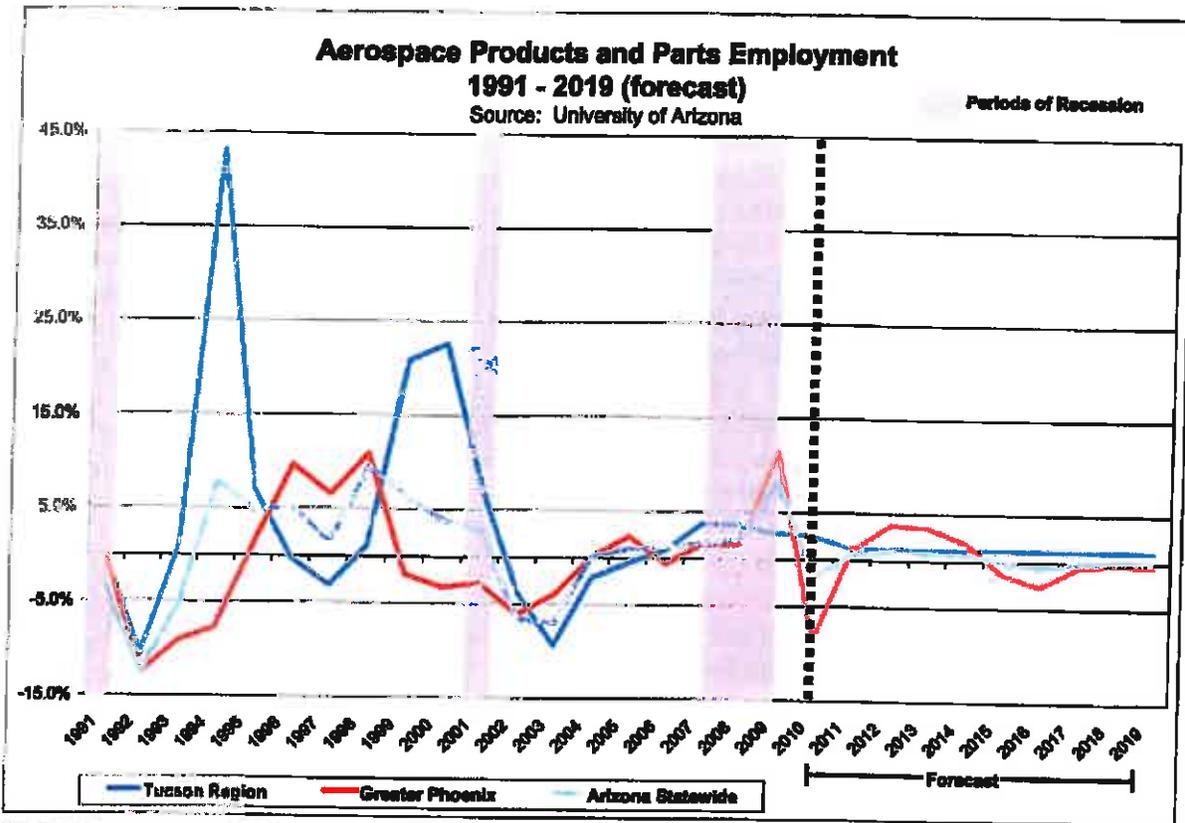
area aerospace and defense companies include Abrams Airborne Manufacturing Inc., Learjet Inc, B/E Aerospace Inc, Bombardier Aerospace, General Dynamics, Global Aircraft Solutions, Honeywell Aerospace, Northrop Grumman, Universal Avionics Systems, Paragon Space Development Corporation, Securaplane Technologies Inc., Sargent Controls and Aerospace and Lockheed Martin, among many others.

The expansions made by Raytheon over the past 20 years have driven most of the employment growth in the region for the Aerospace and Defense industry. As shown on the following chart, the Tucson region has experienced bursts of employment growth in the Aerospace and Defense sector as well as year over year declines. The growth pattern has been somewhat volatile in the Greater Phoenix region and the State of Arizona as a whole. Overall, the industry appears to lag recessionary periods with losses in employment.

Going forward, it has been forecasted by the University of Arizona that the State will lose employment or remain relatively flat over the next 10 years in this industry. In the short term, the employment losses can be directly attributed to the recent economic downturn. Going forward, however, it is the forecasted losses of aerospace employment in Greater Phoenix that is the cause of the weak statewide outlook. In contrast, the Tucson region is forecasted to maintain steady growth (1.1%) over the same time period.

It is important to note that the following forecasts do not include the potential effect from the State of Arizona not being able to compete with the states that are more aggressively recruiting aerospace and defense operations. The forecasts are mostly based on past trends that have been occurring in the years leading up to the forecast period. *In this firm's view, the forecast for Tucson should be more pessimistic given Arizona's weak position regarding economic development programming.*





Many industries have found the assets of the Tucson region conducive to their business models. For aerospace and defense in particular, there are many geographic and workforce related characteristics that make Tucson an excellent location.

The Tucson region is located in close proximity to many aerospace related military operations. More specifically, the Davis Monthan Air Force Base, Air National Guard's 162nd Fighter Wing (located at Tucson International Airport), Silverbell Army Heliport, as well as Fort Huachuca (a major military installation within the Southwest United States) in Cochise County. One of the primary missions at Fort Huachuca includes unmanned aerial systems training. All of these operations receive U.S. Department of Defense funding to execute contracts for products and services related to maintenance and operations. In addition, defense spending has not historically been affected significantly by economic cycles and so provides a stable opportunity for defense related contracts to companies. The combined spending of Tucson regional military operations reach into the hundreds of millions of dollars on an annual basis.

The Tucson region is also home to the University of Arizona (UA), Pima Community College, and Embry-Riddle Aeronautical University. The UA is a state university with an extensive research and knowledge center and contains both the College of Engineering and Department of Aerospace and Mechanical Engineering (AME). AME offers ABET accredited undergraduate, master's, and doctoral programs in aerospace engineering and mechanical engineering with research activities concentrated in fluid mechanics and aerodynamics, multi-body dynamics and control, heat transfer, solid mechanics and composite materials, space technology, biomedical engineering and reliability. Some of the emerging areas of concentration include micro-electrical-mechanical systems (MEMS), nanotechnology and opto-mechanics. This university ranks in the top 10 of NASA grant recipients and is No. 1 in space science research. Also, Arizona Center for Innovation, located at the UA Science and Technology Park, is a high tech incubator that focuses on important developing areas including aerospace, advance composites, information technology and the life sciences.

Pima Community College offers FAA-approved aviation technology associate's degrees and certificates, along with a customized training program for any employer's requirements. With over 40 hands-on course offerings, PCC's dedicated Aviation Technology Center and new Avionics Expansion provides technical training in modern aircraft airframes, power plants and avionics.

The Embry-Riddle Aeronautical University offers several undergraduate and graduate degrees and undergraduate certificates at its Davis-Monthan AFB Campus.

With a well established industry cluster presence, strong military presence, industry demanded educational programs to supply and support a highly educated workforce, and favorable weather and climate, the Tucson area contains many desirable attributes to the aerospace and defense industry.



2.4 Short and Long Term Forecasts

Even if the excesses of the recent housing market “frenzy” had not occurred to the degree that was realized, the local economy would still be feeling some pains associated with an economic downturn. However, the overbuilding and related financial turmoil that occurred in the Tucson region and many other communities across the nation turned a potentially mild downturn into a more severe recession. According to the Arizona Department of Commerce, the hardest hit sectors as of March 2010 were construction, accommodations, and information, though all declined except financial activities, health services, and food services & drinking places. More construction jobs were lost in the first three months than in any other sector.

Tucson Region Employment		
YTD March 2010 vs. YTD March 2009		
Industry	% Change	Number of Jobs
Natural Resources and Mining	-1.9%	-33
Construction	-21.7%	-3,900
Manufacturing	-4.6%	-1,167
Wholesale Trade	-6.4%	-567
Retail Trade	-3.1%	-1,300
Transp., Warehousing, and Utilities	-5.8%	-533
Information	-10.6%	-533
Financial Activities	2.4%	400
Professional and Business Services	-2.6%	-1,267
Educational and Health Services	1.0%	600
Accommodations	-11.4%	-767
Food Services and Drinking Places	0.5%	133
Other Services	-4.9%	-733
Government	-2.6%	-2,067
TOTAL	-3.2%	-11,733

Source: AZ Department of Commerce

The University of Arizona, projects that professional services employment will continue to decline slightly through 2011. All other sectors are projected to turn positive by then. Though the figures may differ between sources, the most important point to take from the following table is that 2010 will be another weak year with significant employment growth not occurring until 2012. However, the rebound in employment is anticipated to be strong going forward.

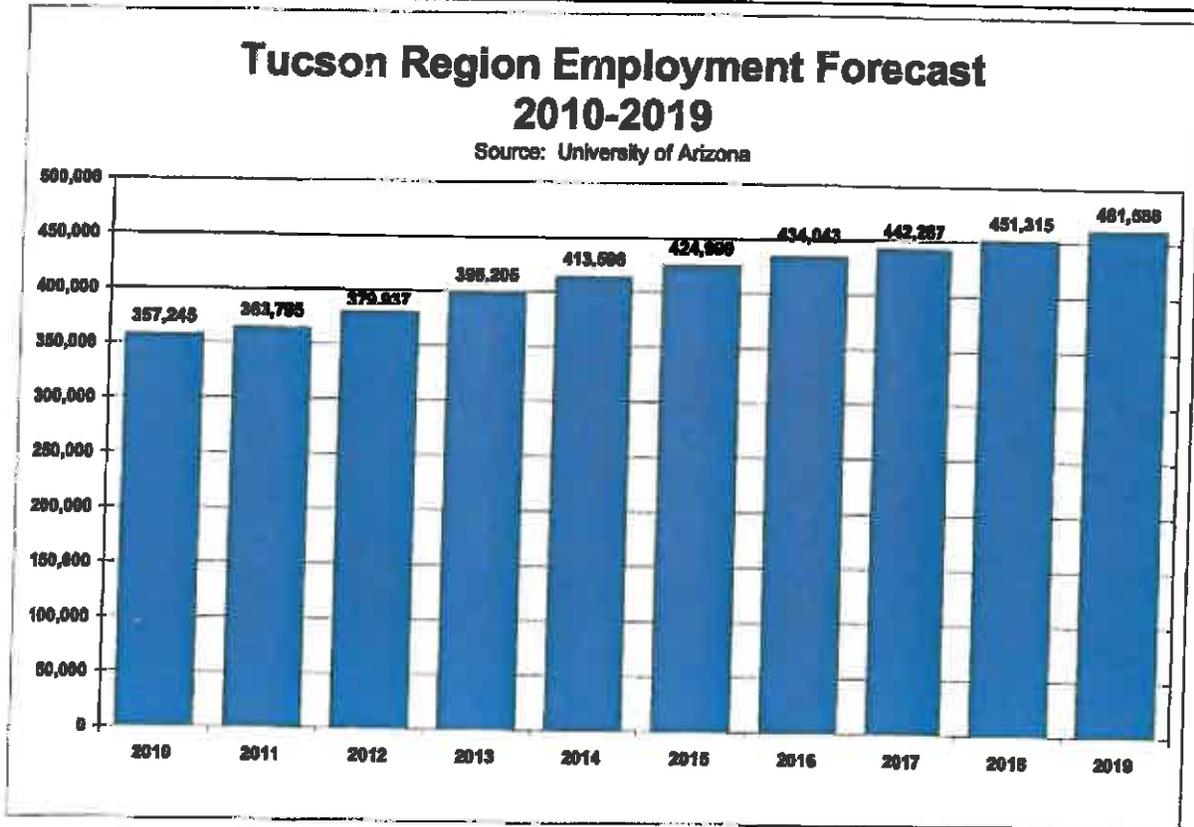
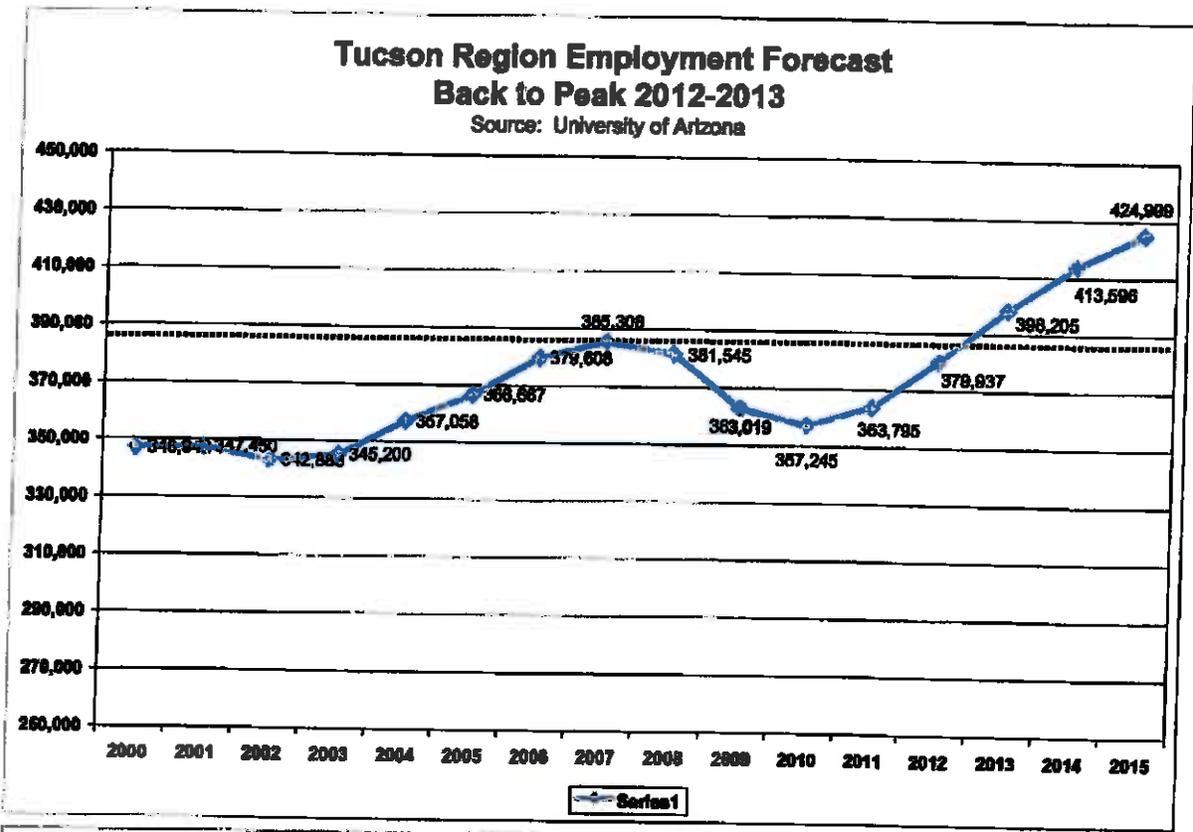


Short Term Employment Forecast By Industry 2009 - 2013					
	2009	2010	2011	2012	2013
Mining	1.8	1.7	1.7	1.7	1.7
% change	-8.5%	-4.4%	0.7%	0.6%	-1.5%
Construction	16.8	14.1	14.6	17.6	21.1
% change	-26.0%	-16.1%	3.5%	20.2%	20.3%
Manufacturing	25.4	25	25.3	26.2	27.3
% change	-6.2%	-1.5%	1.3%	3.6%	3.9%
Trade, Transportation & Utilities	57.5	57.1	58.2	60.7	63.2
% change	-8.1%	-0.8%	1.9%	4.4%	4.1%
Information	4.7	4.5	4.6	4.7	4.7
% change	-11.0%	-3.1%	2.8%	0.6%	1.2%
Professional & Business Services	47.2	44.7	44.4	46.2	49.6
% change	-8.2%	-5.3%	-0.6%	4.0%	7.2%
Leisure & Hospitality	38.6	38	39.4	41.4	43.2
% change	-3.2%	-1.6%	3.6%	5.1%	4.4%
Government	80.7	79.7	80	81.7	83.4
% change	0.1%	-1.2%	0.3%	2.2%	2.1%
Total Non Farm Employment	363	357.2	363.8	379.9	398.2
% change	-4.9%	-1.6%	1.8%	4.4%	4.8%

Source: University of Arizona

To summarize, the Tucson region economy has been shrinking over the past two years. However, the underlying economic fundamentals have not changed. We expect that during the next period of expansion the local economy will again outperform the nation as a whole. Over the short term it is expected that, after 2010, the Tucson region will add jobs at a rate high enough to restore the region to peak employment sometime between 2012 and 2013. Beyond that, the area should continue to add jobs through 2019 to nearly 462,000 jobs.



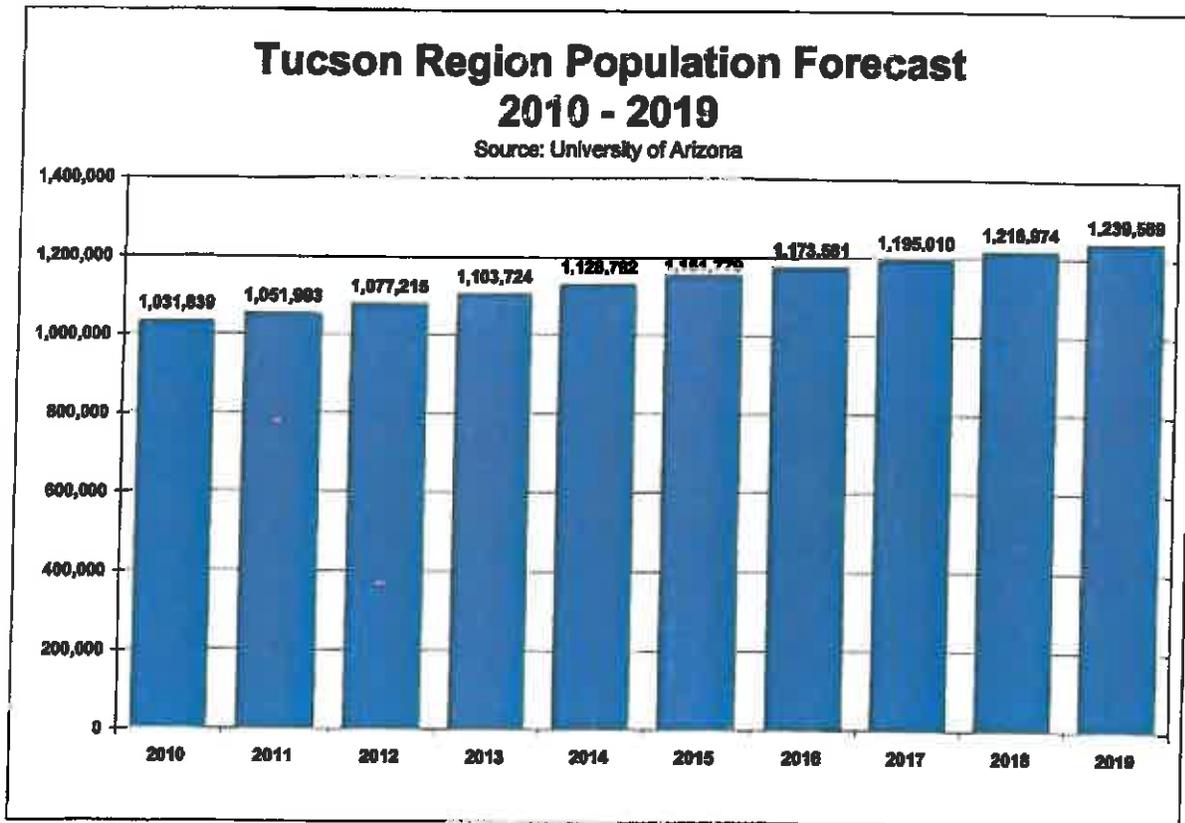


Personal income growth couples roughly with employment growth. Significant personal income growth is forecasted starting in 2011 and increasing further in succeeding years. Notable per capita personal income growth is expected beginning in 2012.

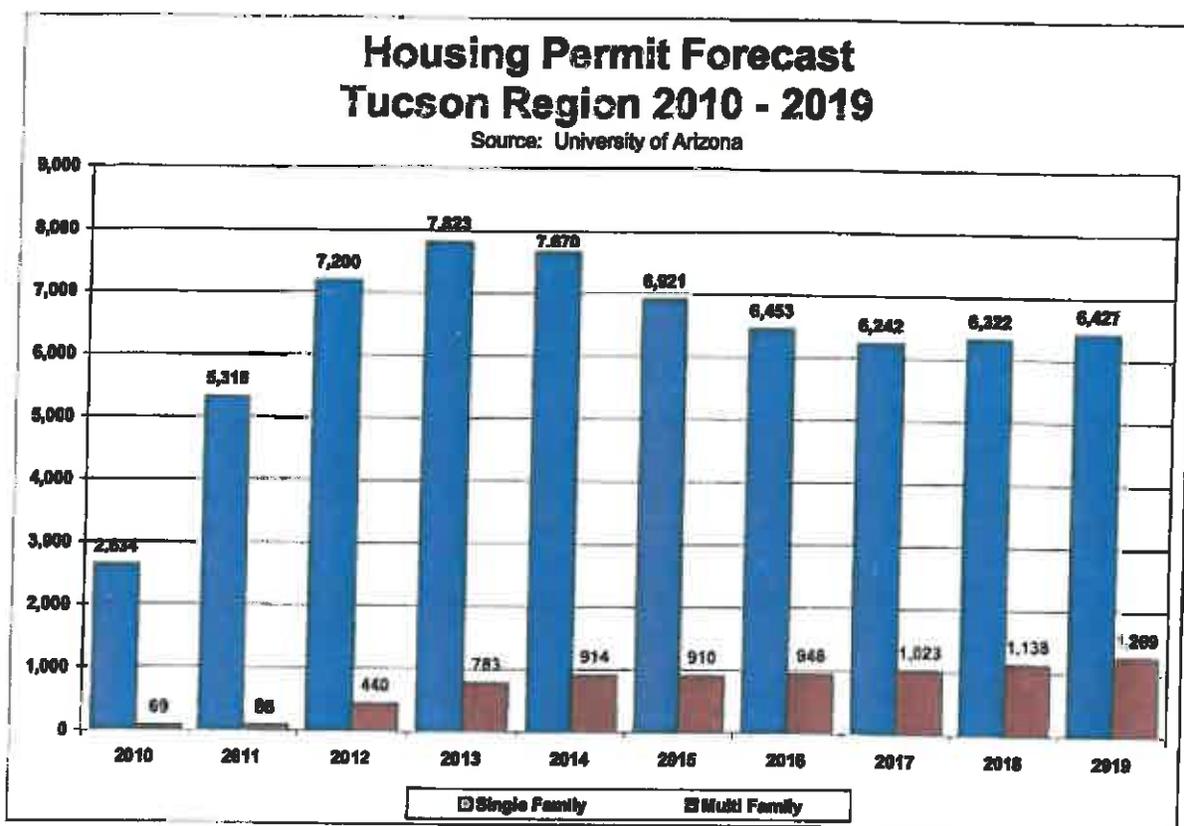
Short Term Income Growth Forecast 2009 - 2013					
	2009	2010	2011	2012	2013
Personal Income (\$mill)	\$32,223.2	\$33,144.8	\$34,454.5	\$36,703.0	\$39,323.9
% change	-1.3%	2.9%	4.0%	6.5%	7.1%
Per capita Personal Income (\$)	\$31,648.1	\$32,122.0	\$32,751.7	\$34,072.1	\$35,628.4
% change	-1.9%	1.5%	2.0%	4.0%	4.6%

Source: University of Arizona

The population of the Tucson region has maintained positive growth rates through the recession. Going forward, the region is forecasted to experience growth rates at historic averages. By 2019, the region will be home to nearly 1.24 million people.



The Tucson housing market did not overbuild to the extent that the Greater Phoenix region did. Because of this, the housing market is expected to rebound much sooner. By as early as next year, the Tucson region is forecasted to have nearly historic average permit activity. Multi-family permit activity is anticipated to rebound much more slowly.



2.5 Local Policies and State Constraints

While the Tucson region appears to have excellent physical and intellectual attributes, the State of Arizona is not advancing its position as it pertains to economic development competitiveness. As previously noted, and referencing a longer term history, the State has maintained a fairly competitive business climate. High union costs are not an issue in Arizona (a right to work state) and the State has been fairly competitive in its overall tax structure. However, a more thorough review reveals that Arizona is kind to households but tough on businesses in terms of taxation.

The inequities related to the cost of doing business are primarily in property taxes, but the State's corporate income tax rate is also somewhat high compared to other states in the Western Region. These two tax categories are of concern to companies that produce high tech goods. Unfortunately, this makes Arizona less competitive in the aerospace and defense sector. Economic development competitiveness is examined more thoroughly in later sections of this report.



3.0 Aerospace & Defense Outlook – Why Aerospace?

This section presents a summary of short and long term outlooks for various sectors of the aerospace & defense industry. More specifically, an overview of commercial aircraft and jet engines, MRO (maintenance, repair and overhaul), and military weapons is provided.

3.1 Commercial Aircraft and Jet Engines

There are currently only two major manufacturers of large passenger aircraft (airplanes with 130 seats or more). These two manufacturers are the Boeing Company and Airbus SAS. In addition, the Commercial Aircraft Corp. of China (COMAC) has orders for its first production regional aircraft which completed its first flight in November 2008, and first delivery is scheduled for mid-2010. Numerous suppliers have been contracted to help develop the new COMAC airplanes including Honeywell Aerospace, Rockwell Collins Inc., and GE. COMAC has plans to produce an airplane more comparable to the larger aircraft manufacturers by 2016.

The large commercial jet manufacturing is indeed a mature industry. However, growth in air travel in Asia, the Middle East, and other developing regions has allowed the industry to continue to grow. Orders of large commercial jets grew at a compound annual rate of 5.3% from 1989 through 2007. In 2007, total orders rose to 2,827, from 1,849 in 2006 and 2,139 in 2005. Orders in 2008 totaled 1,525, down significantly from 2007, and orders for 2009 were 573. Standard & Poor's believes that airline profitability is necessary before the next wave of aircraft orders occurs.

As illustrated on the following table, the Boeing Co. delivered 481 planes in 2009 and Airbus SAS delivered 498. This is historically the most aircraft delivered in a single year. Through the first quarter of 2010, Boeing has delivered 108 aircraft while Airbus has delivered 122 airplanes. Both Boeing and Airbus are experiencing record backlogs: about 3,400 planes each (Boeing – 3,350 and Airbus – 3,426), equal to approximately seven years of production for the aircraft makers. Honeywell International Inc. anticipates deliveries of large commercial and regional aircraft will decline 10%–15% in 2010 while Standard & Poor's forecasted modest production cuts likely to be announced in 2010.

Orders and Deliveries of Commercial Aircraft								
	Orders				Deliveries			
	Boeing	Airbus	TOTAL	% Change	Boeing	Airbus	TOTAL	% Change
2000	589	520	1,109		492	311	803	
2001	314	375	689	-38%	527	325	852	6%
2002	251	300	551	-20%	381	303	684	-20%
2003	248	284	532	-3%	281	305	586	-14%
2004	276	370	646	21%	285	320	605	3%
2005	1,010	1,111	2,121	228%	290	378	668	10%
2006	1,025	824	1,849	-13%	398	434	832	25%
2007	1,369	1,458	2,827	53%	441	453	894	7%
2008	625	900	1,525	-46%	375	483	858	-4%
2009	263	310	573	-62%	481	498	979	14%
2010YTD ^{1/}	94	60	154		108	122	230	

^{1/} Year to date through March 2010
Source: Boeing.com; Airbus.com



General Electric Co. (GE), Pratt & Whitney (a subsidiary of United Technologies Corp.), and Rolls-Royce dominate the commercial jet engine-making industry, thus this industry operates as an oligopoly. GE and a subsidiary of France-based SAFRAN also have a joint venture, CFM International SA.

The big jet engine makers are willing to discount engine prices heavily (even at a loss in some instances), to help ensure long-term replacement parts, repairs, and maintenance of those engines over the economic life of the aircraft. In addition to being highly profitable, maintenance contracts diversify the business enough to protect engine makers from large variations in jet engine sales by providing stable, long-term revenue and earnings. These parts and maintenance contracts give jet engine makers healthy profit margins.

In 2009, business jets experienced both declining corporate profits and political backlash. According to the General Aviation Manufacturers Association (GAMA), business jet shipments in 2009 fell 33.7% year over year (870 shipments in 2009 versus 1,313 in 2008).

Through 2009, corporate profits made a sharp recovery of 30.6% year over year, though still much lower than 2006 peaks. This positive news may lead to an improvement in orders starting this year or early 2011.

Standard & Poor's estimate that revenue at Textron Inc.'s Cessna business jet unit declined 42% in 2009, while revenue at General Dynamics Corp.'s Gulfstream unit declined only 6%. Gulfstream's high-end business jets fared better in the downturn than did smaller jets. Honeywell Aerospace, a major manufacturer of small jet engines, forecasts a 40% peak-to-trough decline in business jet shipments, with an uptick in shipments beginning in 2011.

3.1.1 Demand

Demand for new commercial jets and jet engines is driven by issues such as airline profitability and growth in air traffic. The health of the economy, fuel prices, interest rates, and consumer confidence tend to shape both of those factors. As was witnessed in the latest global recession, all of these indicators can be quite volatile.

The International Air Transport Association (IATA), an international trade body representing 230 airlines, estimates that passenger air traffic declined 4.1% in 2009, and projects a 4.5% increase in 2010. This drop would be the first decline in passenger air traffic since a 2.7% decline in 2001. Over the long term, Boeing forecasts air traffic growth averaging 4.9% while Airbus forecasts passenger traffic growth of 4.7% annually over the 20 years from 2008 through 2028.

The Standard & Poor's report of the aerospace and defense industry notes that globalization of business and growth in developing economies, including China, India, the Middle East, Eastern Europe, and Latin America, will drive growth in global air travel and demand for new aircraft. Because the economic growth rates in these regions over the next two decades is forecasted to be well above growth rates in developed economies in North America and Europe, substantial growth in air travel in these regions is anticipated.



Revenue Passenger Kilometer Performance

According to the IATA, international revenue passenger kilometers (RPK) in 2008 fell 1.5% in Asia/Pacific, but rose 10.2% in Latin America and 7.0% in the Middle East, versus overall growth of 1.6%. The table below illustrates annual growth for 2007 as well.

Percent Growth in Revenue Passenger Kilometers		
	2007	2008
Asia/Pacific	7.3%	1.5%
Latin America	8.4%	10.2%
Middle East	18.1%	7.0%
GLOBAL TOTAL	7.4%	1.6%

Source: Standard & Poors; IATA

Commercial Aircraft Fleet to Population Ratios

The populations of the United States and Europe (308 million and 700 million respectively) pale in comparison to the emerging countries of China (approximately 1.34 billion) and India (roughly 1.2 billion people). According to Boeing, China had approximately 1,430 commercial aircraft in 2008. That equates to one airplane for every 1.0 million people. In Southwest Asia (including India, Pakistan, and Bangladesh) there were 450 commercial aircraft in 2008, or one airplane for every 3.4 million people. By comparison, North America had one for every 50,000 people and Europe (including Eastern Europe) had one for every 169,000 people in 2008.

Economic growth in these regions and other emerging economies will most likely translate into fleet growth. Many have forecasted significant fleet expansion over the next 20 years in Asia and other emerging regions. In time, these regions should begin to converge on the ratios seen in rich countries. In their *Current Market Outlook 2009–2028*, Boeing forecasts Asia/Pacific to be the largest region for air traffic growth with average annual growth of 6.9%. Air traffic growth within China is expected to grow by 8.6%, versus growth of 4.6% within the North Atlantic region (including the U.S.) and 3.4% within Europe. Latin America, Africa, and the Middle East are all expected to have stronger air traffic growth rates than the U.S. and Europe. Similarly, Airbus predicts that regions such as China and India have the highest growth potential over the next 20 years.

Fleet Age and Retirement Cycle

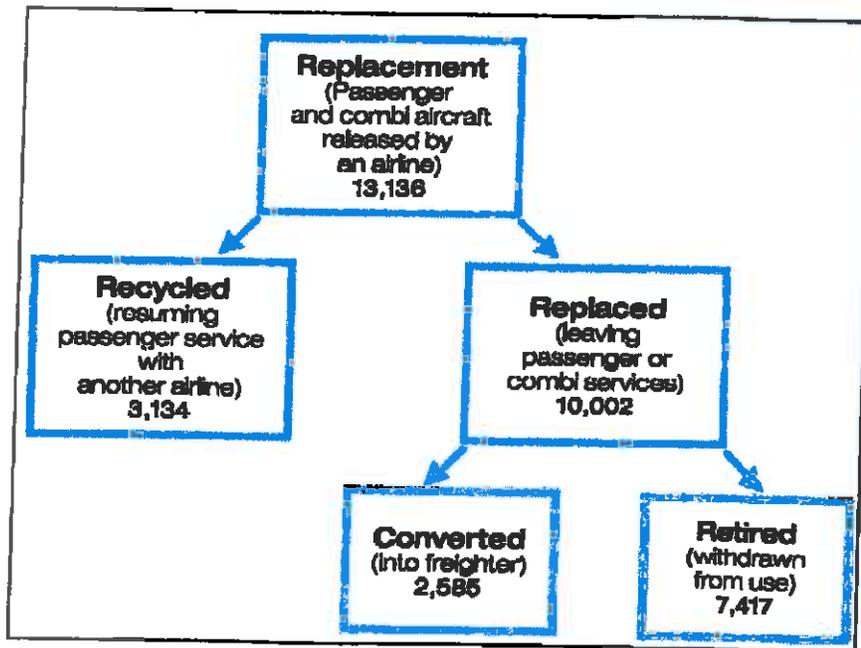
Commercial aircraft demand is also driven by fleet retirement cycles. The average economic life of a commercial airplane is about 20 years. The following table displays the average fleet age of airlines with at least 100 aircraft in their fleet according to www.airfleets.net, an online aircraft and airline database. Most notably are the following fleet ages: American Airlines, 14.7 years; Southwest Airlines, 12.9 years; Delta Airlines, 13.5 years; United Airlines, 13.6 years; US Airways, 11.9 years; Lufthansa, 13 years; British Airways, 11.5 years; Air China, 15.3 years; Air Canada Jazz, 14.8 years; and UPS, 12.8 years.



Current Average Fleet Age			Select Airlines		
Airline	Fleet Age (years)	Fleet Size	Airline	Fleet Age (years)	Fleet Size
Delta Airlines	13.5	682	Air Canada Jazz	14.8	198
American Airlines	14.7	619	EasyJet	3.4	171
Southwest Airlines	12.9	543	Atlantic Southeast Airlines	7.7	162
United Airlines	13.6	359	JetBlue	4.8	151
US Airways	11.9	347	Emirates	5.9	147
Continental Airlines	8.3	336	Pinnacle	6.4	142
China Southern Airlines	6.9	335	Air Canada	10	136
SkyWest USA	7.7	290	TAM	6.2	135
Lufthansa	13	274	Qantas	11.3	131
Air China	15.3	258	Korean Air	10.1	127
Air France	9.1	250	THY Turkish Airlines	6.5	125
China Eastern Airlines	7	250	Singapore	6.5	120
Expressjet Airlines	8.3	244	Iberia	7.7	114
Ryanair	3.1	231	Saudi Arabian	12.7	114
British Airways	11.5	224	KLM	10.3	113
UPS	12.8	211	Comair	10.6	111
Japan Airlines	10.8	199	Mesa Airlines	8.9	111
Typical Economic Life of an Aircraft		20			

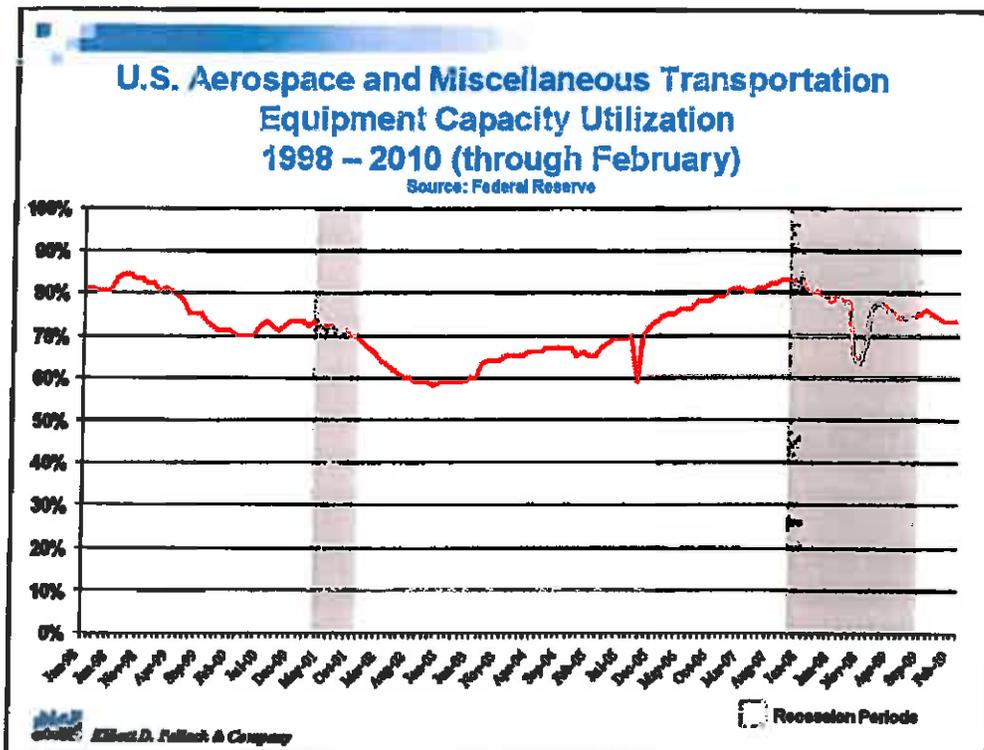
Source: Airfleets.net

U.S. airlines appear to currently have the oldest fleets, and will likely place significant orders in upcoming years. Boeing expects replacement aircraft to make up 42% of its delivery forecast over the next 20 years. Airbus projects a nearly identical portion, with 41.5% of new aircraft demand represented by the replacement of released aircraft. The following flow chart illustrates the 20 year forecast for replacement aircraft produced by Airbus.



Production Capacity Utilization

According Federal Reserve statistics, capacity utilization for the Aerospace and Miscellaneous Transportation Equipment group was 72.9% as of February 2010 (latest available data), down from 76.7% in February 2009 and down further from 79.8% in February 2007. Standard & Poor's expects capacity utilization to continue to decline moderately in 2010 if aircraft makers reduce production rates.



Equipment capacity utilization reveals the aerospace manufacturers' cost structure and pricing power. These are both factors of profit margins and return on equity (ROE), which illustrate profitability at any given time. In general, rising capacity utilization rates lead to higher profit margins and ROE.

Boeing predicts that worldwide air traffic will grow at a compound annual rate of 4.9% over the next 20 years and cargo traffic will grow at a 5.4% rate. These growth rates are predicated on a world GDP growth assumption of 3.1% and growth of 4.1% in the number of airline passengers. As a result, Boeing sees 3.2% annual growth in the number of airplanes in service over this period. Airbus has projected similar rates of growth over the same time period, with worldwide air traffic growth at a compound annual rate of 4.7% over the next 20 years and cargo traffic growth at a 5.2% rate

Standard & Poor's agrees that the outlook for commercial aircraft sales is strong over the next 20 years, but that the airline manufacturers' projections may be too optimistic.



3.2 Maintenance, Repair and Overhaul

The global maintenance, repair, and overhaul (MRO) industry consists mostly of repair service and replacement parts sales to the commercial airline industry.

According to statistics provided by AeroStrategy LLC, an aerospace and aviation management consulting firm, the military and air transport segments of the MRO market generated estimated revenues of \$103 billion in 2009. It was also estimated that large commercial maintenance, repair, and overhaul (MRO) business declined 15%–20% in 2009, while in comparison passenger air traffic declined only 4.1% over the same time period as estimated by the IATA.

Airlines have been implementing short term strategies to reduce spending on MRO to mitigate losses in passenger volume and sales prices. These strategies included reducing parts inventories, stalling non-critical maintenance items, removing aircraft from service prior to large-scale maintenance, and recycling parts from parked aircraft. These actions are viewed as merely temporary cost cutting strategies and are not sustainable options going forward.

3.2.1 Demand

Honeywell Aerospace expects inventory demand to mirror flight hours once again beginning in 2010 based on the assumption that airlines will no longer be able to reduce parts inventories or stall maintenance. For perspective, 4.5% air traffic growth and 7% cargo demand growth has been forecasted for 2010. In terms of restocking inventories, Honeywell anticipates that will not occur until 2011 or 2012. Standard & Poor's expects a 6% to 10% increase in MRO demand in 2010.

On a positive note, MRO continues to expand in the emerging markets to meet the demand generated by growth in flight volume in these regions. In addition, it appears that airlines are increasingly outsourcing MRO to third party businesses.

Goodrich Corp., an MRO provider, notes that parts and services for aircraft begin in earnest approximately five years after a plane has been delivered. With strong deliveries by Boeing and Airbus in 2006 through 2009, MRO providers should begin to see parts and service requests from an increased fleet size starting in 2011 through 2014.

In terms of long term demand, AeroStrategy LLC forecasts air transport MRO revenue growing at a compound annual growth rate of 2.3% over the next 20 years to \$55 billion. (Air transport includes large commercial and regional jets.) Industry trends should mirror the geographic growth in airline fleets, with the highest levels of growth in developing economies.

AeroStrategy also projects a 1% compound annual growth in military revenues over the next 20 years, to \$67.5 billion, driven primarily by an aging military fleet.



3.3 Military Weapons

3.3.1 Global Defense Contractors

The global defense industry is dominated by U.S. based firms. Based on revenue to the companies related to defense contracting, four of the top five companies are based out of the U.S. Further down the rankings, seven out of the top ten firms are U.S. based and 17 of the top 25 defense revenue grossing companies are American firms. The following table lists these companies in order of defense revenue generated in 2008.

LEADING GLOBAL DEFENSE CONTRACTORS					
<i>(Ranked by defense revenues, in millions of dollars)</i>					
	COMPANY	COUNTRY	2008 REVENUES		DEFENSE AS % OF TOTAL
			(MII \$)		
			DEFENSE TOTAL		
1	Lockheed Martin	US	\$39,550	\$42,731	92.6%
2	BAE Systems	UK	\$32,667	\$34,351	95.1%
3	Boeing	US	\$31,082	\$60,909	51.0%
4	Northrop Grumman	US	\$26,579	\$33,887	78.4%
5	General Dynamics	US	\$22,854	\$29,300	78.0%
6	Raytheon	US	\$21,552	\$23,174	93.0%
7	EADS	Netherlands	\$16,207	\$63,639	25.5%
8	L-3 Communications	US	\$12,159	\$14,901	81.6%
9	Finmeccanica	Italy	\$10,219	\$22,119	46.2%
10	United Technologies	US	\$9,976	\$58,681	17.0%
11	Thales	France	\$8,020	\$18,650	43.0%
12	SAIC	US	\$7,661	\$10,070	76.1%
13	ITT	US	\$6,282	\$11,695	53.7%
14	KBR	US	\$5,997	\$11,581	51.8%
15	Honeywell	US	\$5,313	\$36,556	14.5%
16	Almaz-Antei	Russia	\$4,335	\$4,617	93.9%
17	Rolls-Royce	UK	\$4,238	\$16,951	25.0%
18	GE Aviation	US	\$4,000	\$19,200	20.8%
19	Navistar	US	\$4,000	\$14,724	27.2%
20	MBDA Missile Systems	France	\$3,995	\$3,995	100.0%
21	Computer Sciences	US	\$3,800	\$16,500	23.0%
22	Booz Allen Hamilton	US	\$3,575	\$4,300	83.1%
23	Textron	US	\$3,400	\$14,200	23.9%
24	URS	US	\$3,370	\$10,086	33.4%
25	DCNS	France	\$3,200	\$3,200	100.0%

Source: *Defense News*.

3.3.2 International Arms Exports

International trade of weapons is highly regulated and subject to the global political climate, both in terms of demand for U.S. arms and allowed supply. In addition, offsets (incentives) to foreign governments have become commonplace and typically include production of arms (at least a portion) within the buyer's country. The upside is that a company may be able to extend the



production life of an outdated system (most foreign countries are only allowed to purchase older generation weapons systems).

3.3.3 U.S. Department of Defense Budget

Fiscal year 2010 included a \$691 billion defense spending bill in its overall budget, which included \$160 billion to fund the ongoing wars in Iraq and Afghanistan. This is an increase from the previous year with \$662 billion appropriated in fiscal year 2009, which included \$142 billion in war funding. The additional fiscal 2010 war funding is to accommodate the additional 30,000 troops being sent to Afghanistan. This resulted in a 3.8% increase in the total 2010 defense budget, above the Standard & Poor's projection of a 1.8% increase in inflation in 2010, as measured by the consumer price index.

Programs that are receiving funding in the fiscal 2010 defense budget are included below.

FY 2010 Funded Projects			
Company	Project	Amount (\$mil)	Notes
Fighter jets			
Lockheed Martin ^{1/}	F-35 Joint Strike Fighter	\$6,800	80 aircraft
Boeing	Super Hornets & Growlers	\$3,100	40 aircraft
Boeing	P-8 Poseidon Multi-mission Maritime Aircraft	\$1,200	continued development
Helicopters			
United Technologies	Black Hawk	\$1,300	79 helicopters
Textron's Bell Helicopter	Cobra	\$585	24 helicopters
EADS NV	Light Utility Helicopters	\$328	54 helicopters
Boeing/Textron	V-22 Osprey "tilt-rotor" aircraft	\$2,700	35 aircraft
Other			
Northrop Grumman/EADS	KC-X Aerial Refueling Tanker	\$3,000-\$4,000	Still unknown
^{1/} Pratt & Whitney, Northrop Grumman, BAE Systems PLC, and Alenia Aeronautica are also major contractors.			
Source: U.S. Department of Defense; Standard & Poor's			

The following programs projects that lost their funding for fiscal year 2010.

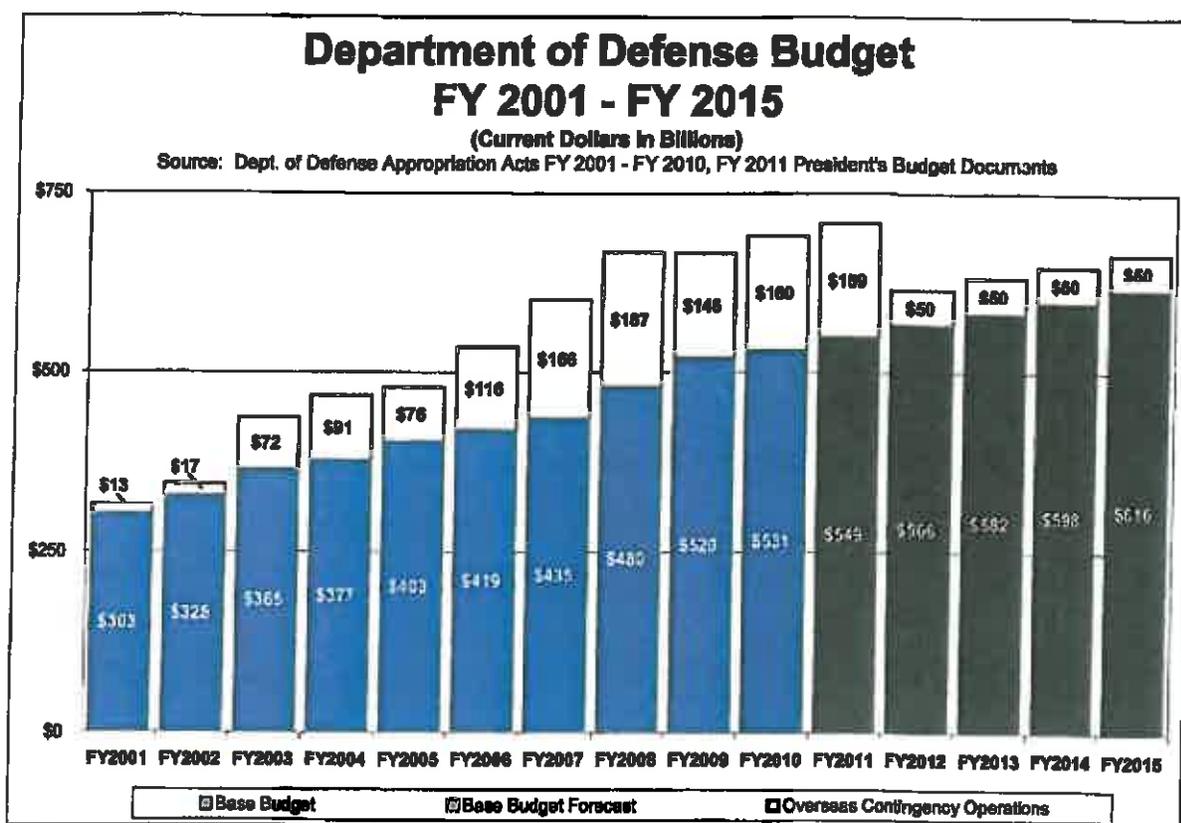
FY 2010 Budget Cuts		
Company	Project	Notes
Aircraft/Transport		
Lockheed Martin	F-22 Raptor	12 more aircraft to be delivered
Lockheed Martin	VH-71 Presidential Helicopter Program	
Lockheed Martin	Combat Search & Rescue Helicopter Program	
Northrop Grumman	CVN-21 Aircraft Carrier Replacement Program	
Boeing/Science Applications Intl Corp	Future Combat Systems	Ground vehicle component
Missile Defense		
Lockheed Martin/Boeing	Transformational Satellite Communications System (TSAT)	
Textron	Multiple Kill Vehicle	
Boeing	Airborne Laser Program	
Source: U.S. Department of Defense; Standard & Poor's		



3.3.4 Growth in Defense Industry

Defense spending has been driven by the wars in Iraq and Afghanistan, with the Global War on Terror funding rising from \$13 billion in fiscal year 2001 to a peak of \$187 billion in fiscal year 2008. The level of funding decreased to \$146 billion in fiscal year 2009 and has risen in fiscal year 2010 to approximately \$160 billion. Additionally, there are a number of aging planes, ships, and ground vehicles in need of replacement and new technologies worthy of pursuit.

Going forward, the U.S. Department of Defense forecasts that the fiscal year 2011 supplemental war budget will roughly match the 2010 total, and that base budget funding will increase approximately 3.4%. After fiscal year 2011, it is projected that war funding will drop dramatically to around \$50 billion, reflecting President Obama's commitment to troop withdrawal in the coming years. Base budget funding is expected to increase an average of 3% per year for the next five years, about at the rate of anticipated inflation.



Defense contractors have varying views regarding the growth outlook for the defense budget over the next few years. These opinions range from declines based on expected budgetary pressures to growth equal to inflation to healthier growth based on the global threat facing the United States.

Indeed, the threat level currently faced by the United States is believed to be at the highest level in recent history. The U.S. is facing rising military power in nations such as China and Russia.



In recent years, both Russia and China have been significantly increasing their military capabilities. China is strengthening its naval fleet and has plans to build its own aircraft carrier battle group. Over the past 20 years, China has purchased fighter jets, transport planes, warships, and submarines from Russia. In addition, the U.S. faces threats from nuclear powers, such as North Korea, and emerging nuclear powers, such as Iran. The U.S. also continues to be the main target for Islamic sponsored terrorists from around the world.

Standard & Poor's forecasts growth in U.S. defense spending to slow significantly in coming years. Defense spending may actually decline in real (inflation-adjusted) terms, and perhaps in absolute terms, as well. This is based on three factors likely to cause slowing budget growth:

1. An expected removal of U.S. forces from Iraq by the end of 2011 and an anticipated drawdown in Afghanistan beginning in 2011;
2. Rapidly increasing budget deficits due to decreasing tax revenues and sharp increases in government spending; and
3. Continued growth in the "entitlements" budget.

3.4 Summary

The commercial aircraft and jet engine segments of the industry are expected to have strong growth of 3.2% over the next two decades. *In the short term, demand for aircraft and consequently jet engines will increase as the economy improves more significantly. Long term demand will be due primarily to developing countries' increasing ability to expand their aircraft fleets as well as the expected retirement of several thousand airplanes.*

The MRO industry also appears to have a healthy outlook. Temporary cost cutting measures will not continue and growth should mirror average annual air traffic projections of approximately 4.9% for passenger traffic and 5.4% for air cargo traffic. Additionally, high delivery rates from 2006 through 2009 indicate strong MRO service rates in a 5-year lag, or 2011 through 2014.

Demand for military products is likely to grow at a much slower pace but should indeed grow. In the defense segment of the industry, weapons demand and costs are decided by the government. This makes long term growth subject to a high degree of speculation. Over the next several years, growth in the defense industry is projected to be near or below the rate of inflation. However, certain levels of defense spending must be maintained to accomplish the mission statement produced in the Quadrennial Defense Review by the Department of Defense and to fund any ongoing wars. Additionally, the supply of military products for use by foreign countries will continue to be severely regulated (limited to specific countries and only "B" quality products).



4.0 Quantifying the Importance of Base Industries

To better understand just how important the State's base industries are to the local economy in generating jobs, one needs to first understand how businesses impact the economy. Base industries are those that export their products out of a region, and result in the importation of money into a region.

4.1 Explanation of Base vs. Local Market Operations

The issue of importing dollars into the State is a crucial economic development concept. Once a dollar makes its way into the State, it flows from person to person as demanded products and services are supplied. Eventually some money leaves the local economy when products (and some services) are provided by companies outside of the State. This is natural leakage and cannot be avoided. In order to compensate for these outgoing dollars an economy must be internally productive and export products beyond its borders and attract dollars from other areas. The State's base industries serve this purpose. Examples of base industries include the manufacturing sector (including aerospace and defense), export-related business services, tourism, retirement, and federal government employment. As one can see, *some base industries are high paying while others are relatively low paying. The key is to encourage higher value added/higher paying base industry development.*

Base industry companies also tend to be more capital intensive, and/or utilize skilled labor (not in every case though, i.e. tourism, federal government). As local capital investment improves, and as more highly skilled workers are employed, productivity increases. This also leads to higher incomes and a higher standard of living for employees in these industries. Of course, this assumes that disincentives of capital investment are minimized and that skilled labor is available.

The State's local serving industries provide goods and services to the local population. Activities include most retail operations, construction, and local service banks, to name a few. The existence of base industries creates demand for these local serving industries. *Without base industries, there is no means of supporting local serving employees.* The ghost towns of the Old West further illustrate the importance of base industries. Once the local mine ran out, the railhead moved, or a drought caused agriculture to no longer be viable, many communities ceased to exist. This highlights the need for proper maintenance of base industries in this State through the implementation of a competitive tax code and progressive economic development programs. *For the Tucson region, this means maintaining (and hopefully expanding) the aerospace and defense industry.*

4.2 Economic Modeling of the Impact of Aerospace and Defense

Local serving employment created as a result of export activity is often referred to as multiplier effects or "indirect and induced" employment. "Indirect" jobs are those created by businesses that provide goods and services to an export-oriented business/industry. "Induced" jobs are created as a result of the spending by direct and indirect employees in the local economy on such things as food, housing, transportation, etc.



Indirect and induced impacts can be considerable but vary depending on the nature of the base industry in question. For example, generally accepted economic multipliers indicate that high tech industries such as scientific instruments generate a significant demand for indirect and induced employment due to the high wages in the industries and the accompanying “ripple” effects that follow. These high tech industries result in indirect and induced employment counts that actually far exceed employment at the manufacturing plants. On the other hand, employment in most of the service industries has a much smaller economic impact in terms of creating additional supporting jobs.

The chart on the following page displays these multiplier effects. The table lists the additional “spin off” jobs that would be created for each 100 newly created regional jobs. For example, the table identifies that for 100 new jobs in the guided missile and space vehicle manufacturing industry, spending by the business and its employees would create another 407 jobs throughout the region. This is a very high multiplier effect. The multiplier is high because: 1) average wages are high (\$100,000+ jobs) thus allowing more local spending in the economy, and 2) the region has the ability to supply a large portion of its business inputs. When an industry pays relatively low wages and/or cannot supply its own business inputs (this tends to be the case with many rural economic regions) the resulting multipliers tend to be of lower value.



Aerospace & Defense Growth Strategies – Tucson Region

Multiplier Analysis Addition of 100 Jobs to Industry Greater Tucson (Pima County) 2010									
Industry	Total Output with 100 direct jobs	Addition of 100 Jobs to Industry			Direct Annual Wages	Indirect Annual Wages	Induced Annual Wages	TOTAL WAGES	TOTAL AVERAGE ANNUAL WAGES
		Indirect Jobs	Induced Jobs	Indirect + Induced					
Agriculture									
Crop farming	\$21,633,089	21	35	57	\$40,678	\$50,633	\$39,827	\$6,542,312	\$41,786
Agriculture & forestry services	\$3,943,093	1	31	32	\$43,427	\$55,477	\$39,501	\$5,635,102	\$42,647
Mining									
Oil & gas extraction	\$44,205,843	132	76	207	\$38,222	\$53,825	\$39,533	\$13,904,948	\$45,270
Mining services	\$42,748,939	114	86	200	\$67,488	\$60,714	\$39,580	\$15,925,348	\$53,104
Construction									
Construction - commercial and health buildings	\$15,418,091	38	48	86	\$61,088	\$50,056	\$39,592	\$8,982,632	\$47,959
Construction - manufacturing buildings	\$16,214,220	38	49	84	\$52,203	\$53,502	\$39,690	\$9,083,457	\$49,163
Construction - residential buildings	\$13,142,590	44	43	87	\$45,108	\$42,088	\$39,718	\$8,052,912	\$43,163
Construction - maintenance & repair	\$10,630,218	21	44	65	\$54,758	\$45,824	\$39,717	\$8,185,723	\$49,635
Manufacturing									
Food products	\$33,023,055	68	40	108	\$28,788	\$45,088	\$39,714	\$7,625,857	\$36,206
Wood products	\$15,605,852	34	38	72	\$40,216	\$47,782	\$39,768	\$7,155,814	\$41,607
Printing & related	\$14,542,828	32	39	71	\$42,521	\$47,757	\$39,654	\$7,319,478	\$42,829
Chemical manufacturing	\$114,089,248	197	174	371	\$134,302	\$80,238	\$39,587	\$32,201,188	\$88,308
Nonmetal mineral production	\$37,283,882	85	80	165	\$89,873	\$55,880	\$39,724	\$14,903,535	\$58,236
Primary metal manufacturing	\$57,278,512	163	107	270	\$81,088	\$57,408	\$39,728	\$19,712,285	\$63,284
Fabricated metal production	\$24,749,008	45	54	99	\$58,422	\$48,473	\$39,765	\$10,168,272	\$51,103
Machinery manufacturing	\$45,278,406	108	100	208	\$88,536	\$58,180	\$39,743	\$16,815,246	\$61,080
Computer & other electronic equipment	\$49,504,581	183	128	311	\$88,739	\$59,498	\$39,748	\$23,565,406	\$60,873
Electrical equipment & appliances	\$42,322,609	72	77	149	\$72,698	\$68,480	\$39,784	\$14,391,126	\$57,843
Transportation equipment	\$49,985,737	75	98	171	\$89,461	\$55,823	\$39,780	\$17,948,692	\$58,289
Aircraft manufacturing	\$108,089,780	294	205	499	\$117,004	\$83,611	\$39,761	\$39,533,059	\$64,361
Aircraft engine and engine parts manufacturing	\$79,134,378	203	158	361	\$118,688	\$86,832	\$39,747	\$29,689,931	\$64,367
Other aircraft parts and auxiliary equipment	\$45,724,822	132	105	237	\$85,396	\$52,970	\$39,747	\$19,731,832	\$58,459
Guided missile and space vehicle manufacturing	\$58,707,971	226	181	407	\$157,644	\$48,908	\$39,744	\$34,009,782	\$87,081
Miscellaneous manufacturing	\$20,868,249	45	56	101	\$80,882	\$48,885	\$38,748	\$10,587,197	\$52,519
Trade & Transportation									
Wholesale trade	\$16,823,279	37	54	91	\$82,342	\$45,686	\$39,743	\$10,067,831	\$52,746
Motor vehicle & parts dealers	\$8,813,248	13	39	52	\$82,454	\$43,538	\$39,757	\$7,388,086	\$48,423
Food & beverage stores	\$7,576,113	15	26	42	\$32,245	\$43,161	\$39,740	\$4,830,140	\$34,817
Miscellaneous retailers	\$5,219,207	8	21	29	\$26,865	\$42,837	\$39,684	\$3,838,518	\$29,885
Air transportation	\$27,175,730	80	72	151	\$67,778	\$45,985	\$39,702	\$13,282,026	\$52,884
Rail transportation	\$42,553,984	99	103	202	\$107,433	\$45,881	\$39,755	\$19,393,089	\$64,150
Truck transportation	\$13,046,094	33	42	75	\$46,940	\$43,203	\$39,693	\$7,778,733	\$44,502
Pipeline transportation	\$80,114,256	141	130	272	\$123,956	\$48,480	\$39,723	\$24,428,390	\$65,713
Warehousing & storage	\$10,884,752	12	47	59	\$64,162	\$44,213	\$39,752	\$6,809,366	\$58,470
Information									
Publishing industries	\$25,309,238	89	67	156	\$60,045	\$42,437	\$39,658	\$12,431,721	\$48,592
Broadcasting	\$20,167,200	128	71	199	\$82,287	\$33,010	\$39,742	\$13,277,964	\$44,380
Telecommunications	\$49,591,845	180	102	282	\$77,449	\$45,430	\$39,744	\$19,072,877	\$52,673
Internet & data process services	\$21,788,150	86	59	145	\$49,569	\$43,777	\$39,698	\$11,056,899	\$45,151
Financial Activities									
Monetary authorities	\$20,473,577	46	49	95	\$55,828	\$37,270	\$39,753	\$9,271,623	\$47,379
Credit intermediation & related	\$15,427,750	40	55	95	\$64,584	\$43,021	\$39,760	\$10,391,324	\$53,108
Insurance carriers & related	\$17,892,775	41	54	95	\$80,864	\$46,547	\$39,760	\$10,128,760	\$52,073
Funds- trusts & other finances	\$39,398,911	308	99	407	\$48,222	\$31,282	\$39,671	\$18,388,763	\$36,269
Services									
Real estate	\$37,424,553	82	39	121	\$27,509	\$46,450	\$39,615	\$7,176,280	\$35,708
Professional services	\$11,393,780	34	49	84	\$58,172	\$42,053	\$39,688	\$9,225,972	\$50,178
Scientific & tech services	\$15,814,775	47	75	122	\$89,826	\$43,100	\$39,681	\$13,987,673	\$62,951
Management of companies	\$17,114,479	57	61	118	\$68,085	\$45,782	\$39,760	\$11,543,425	\$52,934
Admin support services	\$5,824,371	13	24	37	\$29,711	\$40,922	\$39,726	\$4,451,508	\$32,824
Waste management & remediation services	\$18,803,747	55	58	113	\$59,758	\$48,784	\$39,673	\$10,775,458	\$50,987
Educational services	\$5,748,437	12	24	36	\$30,075	\$46,088	\$39,755	\$4,488,770	\$33,166
Hospitals	\$12,023,407	27	49	76	\$80,290	\$45,634	\$39,788	\$9,224,983	\$52,290
Nursing & residential care	\$4,318,996	8	22	30	\$30,710	\$43,414	\$39,782	\$4,225,687	\$32,888
Amusement- gambling & recreation	\$9,217,084	37	28	65	\$24,907	\$42,928	\$39,736	\$5,203,976	\$31,487
Accommodations	\$9,494,742	25	29	53	\$31,878	\$43,072	\$39,721	\$5,390,086	\$35,143
Food services & drinking places	\$5,798,230	12	17	29	\$19,580	\$44,503	\$39,738	\$3,182,879	\$24,533
Repair & maintenance	\$9,936,037	19	30	49	\$35,439	\$45,915	\$39,674	\$5,808,822	\$37,628
Utilities	\$55,666,632	48	89	136	\$104,907	\$58,248	\$38,746	\$18,700,906	\$70,819
Government/Non-Profit									
Religious- grantmaking- & similar organizations	\$5,647,936	24	34	57	\$40,591	\$39,118	\$39,756	\$9,324,080	\$40,181
Government & non NAICS	\$13,218,808	0	61	61	\$80,238	N/A	\$39,775	\$11,438,854	\$71,173



4.2.1 Generation of Jobs

Aerospace and defense related industries within the Tucson region are all considered high-wage, high-skill industries with higher than average ripple effects in the regional economy. Many of these businesses are also base industries which generate income by exporting products outside the region. The table lists the additional “spin off” jobs that would be created for each 100 newly created regional jobs in aerospace and defense related industries.

Total annual economic output for each 100 jobs within the aerospace and defense related industries in the Tucson region range from \$45.7 million all the way up to \$108.1 million. Average wages for direct employees range from \$85,400 to \$157,600.

The table identifies that for every 100 jobs in the aircraft manufacturing industry, spending by the business and its employees would create another 499 jobs throughout the region. For every 100 jobs in the aircraft engine & engine parts manufacturing industry, another 361 jobs is supported throughout the region. For 100 jobs in the other aircraft parts and auxiliary equipment manufacturing industry, spending by the business and its employees would create another 238 jobs. Finally, for every 100 jobs in the guided missile and space vehicle manufacturing industry, an additional 407 jobs throughout the region would be supported.

Addition of 100 Jobs to Aerospace & Defense Industries Tucson Region							
Aerospace & Defense Manufacturing Industry	Total Output of 100 direct jobs	Addition of 100 Jobs to Industry			Direct Annual Wages	Indirect Annual Wages	Induced Annual Wages
		Indirect Jobs	Induced Jobs	Indirect + Induced			
Aircraft	\$108,090,760	294	205	499	\$117,004	\$83,811	\$39,751
Aircraft engine and engine parts	\$79,134,378	203	158	361	\$118,568	\$56,832	\$39,747
Other aircraft parts and auxiliary equipment	\$45,724,822	132	105	238	\$85,396	\$52,970	\$39,747
Guided missile and space vehicle	\$58,707,971	226	181	407	\$157,644	\$48,908	\$39,744

Source: IMPLAN; Elliott D. Pollack & Co.

4.2.2 Generation of Revenue

Businesses provide income to their employees and a portion of that income is collected through taxes to government entities. The following table illustrates the fiscal (tax) impacts of the four selected aerospace and defense industries listed above on a representative city in the Tucson region (in this example the City of Tucson is used). Only the impacts from 100 employees in each industry were estimated, which leaves out the estimated impact from many taxes generated by a company itself. Excluded tax categories could include corporate income taxes (a portion of which are shared with counties and municipalities), property taxes on buildings and equipment, sales/use taxes from taxable purchases, among others. Thus, among employee related impacts, employee spending sales taxes, residential property taxes on occupied homes, and state shared



revenues from a variety of sources are the main benefits to a city or town from the existence of these employees.

Displayed in the following table are the entire impacts (direct, indirect and induced) of every 100 employees in the selected industries. Differences in impacts occur as a result of varying ripple effects (how many spin-off jobs the direct jobs create) and the average wages within each industry. In total, every 100 jobs in the aerospace and defense industry can be worth \$170,800 to \$314,300 in tax revenue each year for the community in which they live. Again, this excludes additional significant impacts from the company itself.

Annual Fiscal Impact from Employees Impact of 100 Aerospace Industry Jobs City of Tucson Revenues (Ongoing Annually) (2010 dollars)				
	Employees Sales Tax	Residential Property Tax	State Shared Revenues	Total Annual Revenues
Aircraft manufacturing				
Direct	\$51,800	\$17,600	\$9,384	\$69,400
Indirect	\$101,700	\$51,700	\$15,723	\$153,400
Induced	\$55,400	\$36,100	\$8,402	\$91,500
Total	\$208,900	\$105,400	\$33,509	\$314,300
Aircraft engine and engine parts manufacturing				
Direct	\$52,300	\$17,600	\$9,472	\$69,900
Indirect	\$65,900	\$35,700	\$10,251	\$101,600
Induced	\$42,700	\$27,800	\$6,471	\$70,500
Total	\$160,900	\$81,100	\$26,194	\$242,000
Other aircraft parts and auxiliary equipment				
Direct	\$41,600	\$17,600	\$6,942	\$59,200
Indirect	\$41,400	\$23,300	\$6,461	\$64,700
Induced	\$28,400	\$18,500	\$4,304	\$46,900
Total	\$111,400	\$59,400	\$17,707	\$170,800
Guided missile and space vehicle manufacturing				
Direct	\$64,800	\$17,600	\$11,680	\$82,400
Indirect	\$67,600	\$39,800	\$10,346	\$107,400
Induced	\$48,900	\$31,900	\$7,416	\$80,800
Total	\$181,300	\$89,300	\$29,442	\$270,600

1/ The total may not equal the sum of the impacts due to rounding. Inflation has not been included in these figures. All of the above figures are representative of the major revenue sources for the City. The figures are intended only as a general guideline as to how the City could be impacted by the project. The above figures are based on the current economic structure and tax rates of the City.

Source: Elliott D. Pollack & Co.; IMPLAN; AZ Dept of Revenue; Arizona Tax Research Association



5.0 Strategic Drivers in Site Selection

Site Selection Magazine conducts an annual survey of corporate real estate executives from a broad array of industries. This survey asks each executive to list the main site selection factors they consider when evaluating a location decision.

Top Site Selection Factors	
2009 Corporate Real Estate Executive Survey	
1	Transportation infrastructure
2	Existing workforce skills
3	State and local tax scheme
4	Utility infrastructure
5	Land/building prices & supply
6	Ease of permitting & regulatory procedures
7	Flexibility of incentives programs
8	Access to higher education resources
9	Availability of incentives
10	State economic development strategy

Source: Site Selection Magazine

Infrastructure, workforce, and tax climate are on the top of the list. Following these items are availability and cost of real estate and regulatory concerns. Overall, relative to all items most corporate real estate executives consider, economic incentives tend to be one of the final factors in a location decision.

The results of this Corporate Executive Survey are indeed practical and realistic in site selection today. Based on a fifteen year history of site selection engagements conducted by the CBRE Labor Analytics Group and Economic Incentives Group, the availability and cost of adequate labor, land, and facilities are usually the most important site selection factors. Incentives can become more decisive when competing markets have relatively similar labor costs and skill levels.

For recruiting and retaining aerospace and defense industries, the top two controllable factors at the local level are workforce (Items #2 & #8) and economic incentives (Item #9). Keeping and expanding a pool of qualified, well-trained aerospace and defense workers in the Tucson region acts as a moth to a flame. Relative to other aerospace hubs in the U.S., if the Tucson region becomes known for its abundance of well-trained workers, aerospace companies will likely follow, all else being equal. Similarly, after showing the region's infrastructure and workforce are of high quality, economic incentives act as the last card to be played to make or break a location decision. Incentives are a necessary component of recruitment / retention policy because aerospace firms are constantly searching for a location with the lowest long term total

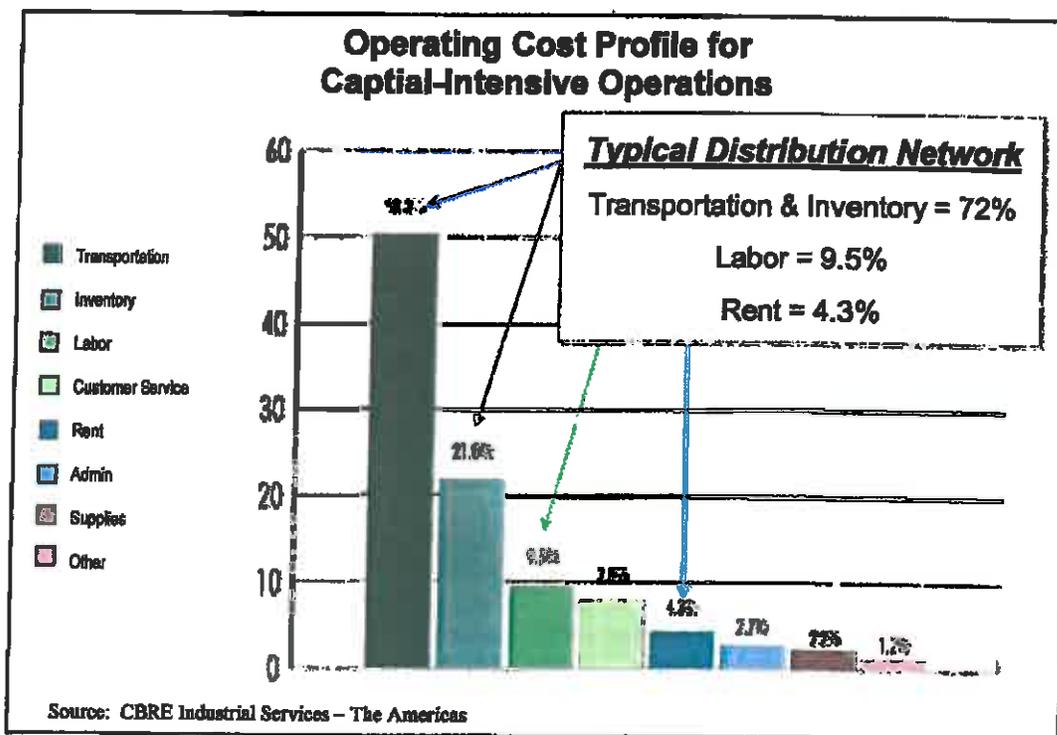


cost of doing business. Since they are designed to either reduce start-up investment or lower on-going operating costs, incentives are a necessary piece of the equation.

5.1 Capital-Intensive Operations

Capital-intensive operations, like many within the aerospace and defense industry, tend to invest heavily in infrastructure, machinery, and equipment for operations. These capital-intensive operations include manufacturing, distribution, life science/bio science facilities, research & development, and data centers. In general, start-up investment in machinery and equipment (part of business personal property) tends to be over \$50 million for most significant capital-intensive operations around the U.S. For example, according to the CBRE Economic Incentives Group, the capital investment profile of a high-end, mission-critical data center can be \$800 million with machinery and equipment accounting for 75% of total (or \$600 million). The remaining 25% consists of real property investment (i.e. land acquisition, construction costs).

As shown on the following chart, *transportation and inventory costs account for nearly 72% of the total cost of doing business for typical manufacturing and distribution operations. According to CBRE's Industrial Services division, location decisions for these operations start and stop with an evaluation of logistics (transportation and infrastructure) as well as proximity to suppliers and customers. Overall, labor costs are very small component to the total cost of operations equation but can sometimes still be the difference between making a normal profit and incurring a loss.*



Marketing and providing solutions for transportation costs, infrastructure, inventory taxes, sales and property taxes, and real estate (to an extent) is much more effective in recruiting these types of industries to the Tucson region. Targeting incentives to offset the costs of these strategic



drivers is critical for successful business recruitment or retention. Even more, if the region is relatively equal in any (or all) of these location attributes, overall labor costs tend to be one of the top deciding factors even though they very small component to the total cost of operations equation.

5.2.1 Tax Structure Comparisons – How Does Arizona/Tucson Compare?

The following tables display Arizona's largest main tax categories in comparison to other states identified as aerospace cluster competitors. Most of the tax rates in Arizona are relatively competitive to the selected states. Property taxes on residential housing and individual income taxes are the most competitive and the corporate income tax rate is competitive but appears to be an area of potential improvement. Additionally, while the state sales tax rate is currently lower than most states, the combined state and local sales tax rate bumps the State into the top ten highest tax rates in the nation. *As demonstrated in a later section, Arizona compares quite poorly regarding business personal property taxation.*

State	State Tax Rate	Rank	Average Local Rate	Combined Rate	Rank
Alabama	4%	39	2.15%	6.15%	31
Arizona	5.6%	29	2.32%	7.92%	9
Florida	6%	13	1.01%	7.01%	18
Kansas	5.3%	32	1.65%	6.95%	23
North Carolina	5.75%	27	2.32%	8.07%	8
Oklahoma	4.5%	37	3.94%	8.44%	4
South Carolina	6%	13	1.04%	7.04%	16
Texas	6.25%	10	1.14%	7.39%	12
Utah	5.95%	26	0.66%	6.61%	26

Source: Tax Foundation; forms and tables published by state revenue departments.

State	Taxes as % of Home Value	Rank
Alabama	0.32%	48
Arizona	0.57%	39
Florida	0.65%	24
Kansas	1.25%	13
North Carolina	0.75%	30
Oklahoma	0.72%	31
South Carolina	0.49%	44
Texas	1.76%	1
Utah	0.56%	40

Source: U.S. Census Bureau; Tax Foundation calculations



State Income Taxes, As of February 1, 2010								
State	Individual Income				Corporate Income			
	Rates	Brackets	State & Local Collections Per Capita	Ranking	Rates	Brackets	State & Local Collections Per Capita	Ranking
Alabama	2% 4% 5%	\$0 \$500 \$3,000	\$661	37	6.5%		\$110	38
Arizona	2.5% 2.8% 3.3% 4.2-4.6% 4.5%	\$0 \$10K \$25K \$50K \$150K	\$997	27	6.98%		\$157	24
Florida	none		\$0	-	5.5%		\$134	31
Kansas	3.6% 6.25% 6.45%	\$0 \$15K \$30K	\$983	19	4% 7.05%	\$0 \$50K	\$191	15
North Carolina	6% 7% 7.75%	\$0 \$12,750 \$60K	\$1,181	13	6.9%		\$175	21
Oklahoma	0.5% 1% 2% 3% 4% 5% 5.5%	\$0 \$1,000 \$2,500 \$3,750 \$4,900 \$7,200 \$8,700	\$772	30	6.0%		\$156	25
South Carolina	0% 3% 4% 5% 6% 7%	\$0 \$2,740 \$5,480 \$8,220 \$10,960 \$13,700	\$739	34	5.0%		\$71	45
Texas	none		\$0	-	none		\$0	-
Utah	5%	\$0	\$976	20	5.0%		\$152	27

Source: Tax Foundation; state tax forms and instructions

2009 State Tax Collection by Source (Percentage of Total)												
	Property		Sales		Selective Sales*		Individual Income		Corporate Income		Other	
	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	
Alabama	3.8	12	24.9	38	25.7	4	32.1	28	5.9	13	7.6	31
Arizona	7.4	6	50.4	7	19.2	28	17.4	40	5.3	19	11.2	26
Florida	0	33	60.2	3	23.9	7	-	-	5.7	15	10.2	19
Kansas	1.2	17	33.3	18	12.2	41	40.8	14	5.5	17	7	34
North Carolina	-	-	24.2	40	16.9	23	48.6	8	4.4	27	7.8	30
Oklahoma	-	-	26.5	32	12.2	42	31.2	31	4.2	31	25.9	6
South Carolina	0.1	31	40.7	11	16.3	25	32.9	25	3.1	42	6.8	36
Texas	-	-	51.6	6	25.8	3	-	-	-	-	22.7	8
Utah	-	-	32.2	20	12.1	43	42.8	13	4.5	24	8.5	25
U.S. Total	1.8		31.9		16		34.4		5.6		10.3	

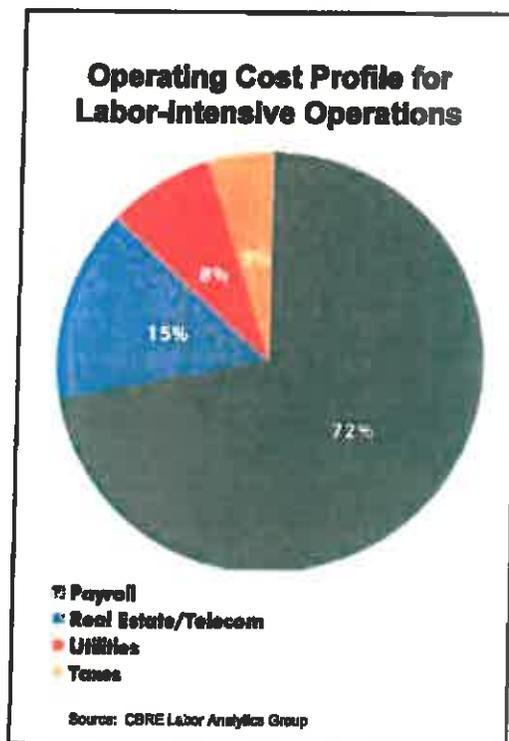
Source: U.S. Census Bureau



5.2 Labor-Intensive Operations

While aerospace and defense is not considered a typical labor intensive sector, labor cost differentials between the Tucson region and out-of-state competitors is now more closely scrutinized than in prior years. Therefore, labor cost differences must be examined closely.

Labor-intensive operations tend to invest heavily in workforce and job training rather than machinery and equipment. These labor-intensive operations arise from industries such as financial services, business services, healthcare, information, insurance, and outsourcing just to name a few. *Labor cost is at the forefront of a labor intensive operation's success and is the key driver in a location decision. Since payroll costs can be upwards of 70% to 80% of total operating costs, the savings benefit to locating in a more cost effective labor market is essential.* For example, a savings of just \$1 per hour for an aerospace company in Tucson compared to Huntsville yields annual labor savings of more than \$1 million a year for a 500-job operation. Practically speaking, no amount of economic incentives or real estate cost savings could counteract the impact of labor costs in the long term.



For recruiting and retaining aerospace and defense industries, the Tucson region could have the best tax structure, most financially significant economic incentives, and the most flexible pro-growth government. But, without a well trained aerospace workforce today and the educational structure to maintain a plentiful supply in the near future, nothing else matters at the end of the day. Economic development decisions truly consider multiple areas and a well balanced community economic profile is key determinant of success.



5.2.1 Labor Market Comparisons – How Does the Tucson Region Compare?

About 15 metro areas other than the Tucson region appear to have created aerospace and defense clusters. When considering expanding or relocating, companies tend to look to existing presence of similar companies and supplier networks. Labor costs are indeed consideration in the location decision. The following table evaluates average wages for six, randomly selected aerospace-related occupations in the Tucson region versus the 15 competitive metro areas. Average wages are reported by the U.S. Bureau of Labor Statistics for 2008 – the latest available data.

- **Aircraft Mechanics** in the Tucson region have an average wage of \$22.66 per hour. By comparison, 5 of the 13 competitive markets that reported data in the survey have lower wages for this occupation. These markets include Huntsville, Fort Lauderdale, Miami, and Charleston.
- **Avionics Technicians** in the Tucson region earn \$22.50 per hour, on average. By comparison, 44% of the markets that reported wages in the BLS survey have lower average wages. These markets include Huntsville, Miami, Dallas-Fort Worth, and Salt Lake City.
- **Electrical Engineers** in the Tucson region have an average hourly wage of \$42.44. By comparison, approximately 73% (or 11 of 15) of the competitive markets have lower wages, on average. The only markets that have wages higher than Tucson are Fort Lauderdale, Austin, Dallas-Fort Worth, and Houston.
- **Software Engineers** in the Tucson region earn \$41.52 per hour, on average. Average wages for software engineers were lower in 9 out of the 15 competitive markets. The markets that had higher wages, on average, for this occupation include Huntsville, Gainesville, Charlotte, and the Texas communities.
- **Machinists** in the Tucson region have an average wage of \$19.09 per hour. By comparison to the 15 competitive markets, all have lower average wages for this occupation.
- **Tool & Die Makers** in the Tucson region earn \$22.75 per hour, on average. Average wages for this occupation in 11 of the competitive communities were lower than Tucson.

While the selection of occupations is not exhaustive, the Tucson region appears to have a general labor cost disadvantage compared to its peer competitive markets. In these cases, economic development tools that assist in mitigating these costs through training grants or other subsidies are very important. With the exception of the Texas communities, the markets in Alabama, Florida, Kansas, Oklahoma, the Carolinas, and Utah appear to have a lower labor cost structure. Consider an example with an aerospace company needing to hire 100 electrical engineers with Tucson and Oklahoma City on the short list. Oklahoma City has an \$11.50/hour cost advantage yielding annual savings of \$2.4 million compared to Tucson.

From a competitive standpoint, the Tucson region's apparent competitive disadvantage in aerospace labor costs can be a detriment to recruiting and retaining aerospace and defense companies. Unless a prospective company sees a strategic advantage with locating in the Tucson area, economic incentives can be the only other controllable factor in a location decision.



**Aerospace Wage Comparison
Metro Tucson vs. Aerospace Hubs
2008 Average Wages for Select Aerospace Occupations ***

Community	Aircraft Mechanics	Avionics Technicians	Electrical Engineers	Software Engineers	Machinists	Tool & Die Makers
Metro Tucson	\$22.60	\$22.50	\$42.44	\$41.52	\$19.09	\$22.75
AL-Mobile	\$16.50	n/a	\$38.74	\$31.00	\$18.69	n/a
AL-Huntsville	\$19.84	\$19.79	\$40.42	\$41.77	\$18.19	\$30.25
FL-Fort Lauderdale	\$21.69	\$22.98	\$43.55	\$37.16	\$17.61	\$20.18
FL-Gainesville	n/a	n/a	\$39.24	\$42.64	\$17.13	n/a
FL-Miami	\$21.08	\$21.09	\$36.02	\$33.06	\$15.62	\$21.06
FL-Orlando	\$25.23	\$25.95	\$33.57	\$35.94	\$16.76	\$19.76
KS-Wichita	\$24.79	\$23.14	\$35.09	\$28.74	\$16.53	\$25.21
NC-Charlotte	\$25.44	n/a	\$38.63	\$43.93	\$16.14	\$19.38
OK-Oklahoma City	\$22.74	\$22.68	\$30.94	\$32.23	\$17.19	\$20.65
OK-Tulsa	n/a	n/a	\$32.53	\$32.68	\$16.80	\$18.05
SC-Charleston	\$22.34	n/a	\$38.46	\$35.12	\$16.69	\$16.63
TX-Austin	\$22.95	n/a	\$47.37	\$44.83	\$17.07	\$19.04
TX-Dallas-Fort Worth	\$25.75	\$21.91	\$44.01	\$43.91	\$16.23	\$22.65
TX-Houston	\$25.15	\$24.87	\$45.84	\$42.92	\$17.08	\$19.97
UT-Salt Lake City	\$25.31	\$21.49	\$38.17	\$37.60	\$17.97	\$22.30

Less Inclusive Markets	Number of Total	%	41%	73%	60%	100%	85%
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* 2008 occupational wage data is the latest available.

Source: U.S. Bureau of Labor Statistics (BLS)

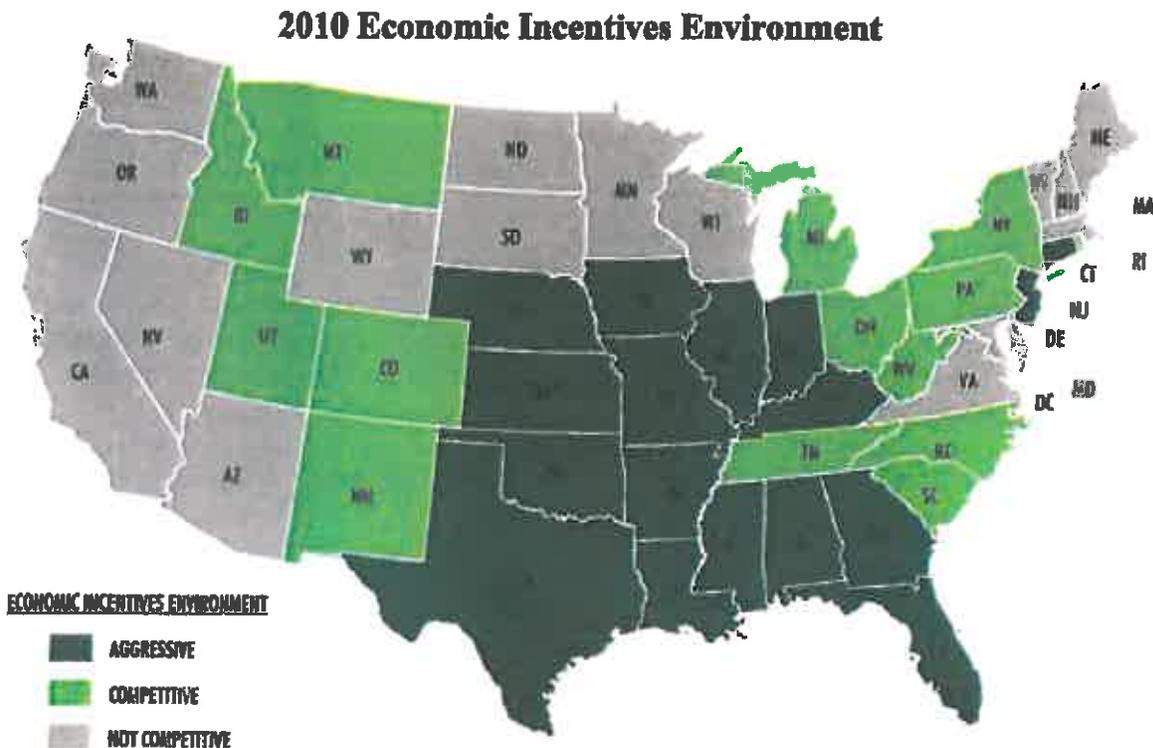


6.0 Economic Incentives – What Works?

As previously noted, the Tucson region has excellent physical and intellectual resources and already has a strong aerospace and defense cluster. *This is important since the best external indicator of expansion potential is if an area already has a well developed cluster. But, the existence of a current cluster is no longer enough in terms of recruiting potential.* What makes the Tucson region different is that Arizona as a whole currently lacks the economic development tools that are necessary to retain and recruit higher value added “base” sector companies. The following section examines this competitiveness dilemma. Section 7.0 examines what a local area can do to recruit and maintain businesses when state support is lacking.

6.1 National Economic Incentives Environment

All things considered (including geography, transportation infrastructure, supply chain, labor cost and availability, and other factors), economic incentives plays a critical role in recruiting and retaining strong economic development prospects across the U.S. The following map illustrates each state’s relative competitiveness with economic incentives. This map is produced by CBRE’s Economic Incentives Group and is based on the Group’s extensive experience with economic incentive negotiations across the U.S. during the past five years, each state’s main economic incentive programs, and recent precedence for offering discretionary incentives. Each state is ranked as Aggressive, Competitive, or Not Competitive.



Source: CBRE Economic Incentives Group



Aggressive states tend to have incentive programs that produce the most financially significant and varied incentive savings. These aggressive states range from Nebraska down to Texas, most of the Midwest (Iowa, Missouri, Illinois, Indiana, and Kentucky, and nearly the entire Southeast (Mississippi, Alabama, Georgia, Louisiana, and Florida). These states have a deep economic incentives toolbox to pull from including tax credit, job training grants, cash, and local incentives programs (free land, property tax abatements, forgivable loans).

Competitive states have some usable incentive programs but not as many as the Aggressive states (in general) and potential savings are most significant for pre-determined industries. Competitive states range from states in the Northeast (Ohio, Michigan, Pennsylvania and New York) to Tennessee and the Carolinas to Idaho, Montana, and Utah. In general, these states have taken the policy position they do not want to be one of the most aggressive states but need to be competitive on a case by case basis to win business recruitment.

States that are Not Competitive do not have many economic incentive programs and are mostly situated in the West and Northeast. These states have taken the position they do not play the incentives game or historically have not needed incentives to lure businesses. When competing for an economic development prospect also looking at Texas, Indiana, or New York (for example), the Not Competitive states do not have the resources to win the business, all things being equal.

Arizona is currently considered Not Competitive. This is very relevant to the Tucson region since the most aggressive incentive packages across the country come at the state level in the form of income tax incentives, sales tax abatement, property tax abatement, and job support programs that are funded by separate or redirected taxes. However, it should be noted that if the incentive programs proposed in House Bill 2250 in the spring of 2010 are later resurrected, Arizona could be "Competitive" relative to other states. This reform is not probable in 2010 and will need extensive support in 2011 to again gain traction at the State Capitol.

6.2 Arizona's (limited) Incentives Toolbox

Only 5 of Arizona's 20 incentive programs are considered useful to compete in today's world of business recruitment and retention. These programs include Enterprise Zone Program, Job Training Program, Renewable Energy Tax Incentive Program, Government Property Lease Excise Tax, and Additional Depreciation.

Enterprise Zone Program: This statutory tax incentive program is designed to provide tax benefits to businesses creating jobs and private investment in areas of the Arizona with relatively high poverty and unemployment rates. The Enterprise Zone Program offers two benefits. Corporate income tax credits are offered equal to \$3,000 per new job created. Residency and wage thresholds exist to earn these credits. In addition, some manufacturing and commercial printing businesses are provided a real and personal property tax reduction. Only MWBE (also called minority or women owned business enterprises) and independently owned operations are eligible. General commercial development is excluded from participating.

Job Training Program: Subject to annual legislative funding, this incentive program provides reimbursement grants to offset a business's training costs for new employees and existing



employees. Grants can reimburse up to 75% of eligible costs for new employee training (50% for existing employees). In 2009, the Job Training Grant Program was suspended and funding was redirected.

Renewable Energy Tax Incentive Program: This statutory tax incentive program was enacted in 2009 to attract renewable energy headquarters and manufacturing operations to Arizona. Benefits under this program include refundable corporate income tax credits up to 10% of eligible investment and real and personal property tax reductions for operations with more than \$25 million in capital investment.

Government Property Lease Excise Tax: This tax incentive program, known as GPLET, allows for property tax reductions on qualified real property investment. Property tax benefits under this program are only available when a qualified business leases land from a City. GPLET is not available to general commercial development where a City does not own land.

Additional Depreciation: This statutory incentive program allows for accelerated depreciation of business personal property over a period of five years. Most corporate executives do not factor in depreciation into a location decision. The accounting effects appear to be a “nice to have” and not a “need to have.” Additional depreciation does not necessarily offer an offset in start-up investment or cash-based operating expenses.

The table on the following page compares Arizona’s primary incentive programs with the rest of the U.S.



Inventory of State Economic Incentive Programs (Most widely used economic development programs)							
State	Job Tax Credit	Investment Tax Credit	Job Training Grant	Payroll Rebate	Cash Grant / Closing Fund	Sales/use tax exemption or rebates	Other Tax Exemptions
Alabama	X	X	X			X	X
Alaska			X				
Arkansas	X	X	X	X	X	X	
California	X		X				X
Colorado	X	X	X			X	
Connecticut	X	X	X		X		X
Delaware	X		X	X			
Florida	X	X	X		X	X	
Georgia	X	X	X		X		X
Hawaii	X	X	X				X
Idaho	X	X	X			X	
Illinois	X	X	X		X	X	
Indiana	X	X	X				X
Iowa	X	X	X		X	X	
Kansas	X	X	X	X	X	X	X
Kentucky	X	X	X				
Louisiana	X	X	X	X	X	X	
Maine		X	X			X	
Maryland	X	X	X		X		
Massachusetts		X	X				
Michigan	X	X	X				
Minnesota	X		X			X	X
Mississippi	X		X	X			
Missouri	X	X	X	X		X	X
Montana	X	X	X		X		
Nebraska	X	X	X			X	
Nevada			X			X	
New Hampshire			X				
New Jersey	X	X	X	X		X	
New Mexico	X	X	X		X		
New York	X	X	X			X	X
North Carolina	X	X	X	X	X		
North Dakota	X		X				
Ohio	X	X	X				X
Oklahoma		X	X	X			
Oregon			X		X		X
Pennsylvania	X		X		X	X	X
Rhode Island	X	X	X				X
South Carolina	X	X	X		X		X
South Dakota			X				
Tennessee	X		X				X
Texas			X		X	X	
Utah	X	X	X		X		
Vermont	X	X	X			X	
Virginia	X		X		X		
Washington			X				
West Virginia		X	X		X		X
Wisconsin	X		X				
Wyoming			X				

Source: CBRE Economic Incentives Group.



6.3 Impact of Incentives on a Location Decision

In late 2007, Medco Health Solutions announced the creation of the world's largest automated pharmacy fulfillment center in Indianapolis. Medco searched for a community with a substantial labor base of existing pharmacists and pharmacy techs and a university with a strong Pharmacy program. This operation is projected to employ 1,300 pharmacist and pharmacy tech jobs with an average salary of \$53,000. This company planned to build a 318,000 square foot facility and invest approximately \$150 million in real and personal property. The State of Indiana and Indianapolis presented a \$32.0 million incentive package including tax credits, job training grant, a 10-year real and personal property tax abatement, and \$5 million cash grant.

By comparison, the incentive package in the Tucson region would likely have totaled slightly more than \$4.5 million including tax credits from the Enterprise Zone and a job training grant from the Job Training Program. All things being equal, Arizona and the Tucson region would have more than a \$27 million shortfall and would have lost the business. See the table on the following page for additional detail.

Overall, the foregone impact of this economic development opportunity on Arizona includes 2,237 total jobs, \$106.3 million in annual wages, and \$42.9 million in new tax revenues to the State over a period of ten years. During the same period, approximately \$45 million in County and City tax revenues would have been generated.

Economic & Fiscal Impact of Lost Economic Development Opportunity - Metro Tucson			
Company	Medco Health Solutions		
Operation Type	Automated Pharmacy		
Economic Impact		Fiscal Impact (10yr Total)	
Direct Jobs	1,300	State of AZ	\$42.9m
Annual Wages	\$69m	Pima County	\$33.2m
		City of Tucson	\$11.7m
Total Jobs	2,237		
Annual Wages	\$106.3m		
Source: Elliott D. Pollack & Company			



Economic Development Prospect
Metro Tucson
Current Arizona Incentives

Prospect Overview

Company	Medco Health Solutions
Credit Quality	Fortune 45
Operation	Automated Pharmacy
Job types	Pharmacists, Pharm Techs
Year Announced	2007

Operations Summary

Total Jobs	1,300	Project Type	Distribution
Average Salary	\$53,000	Existing or New	New
Annual Payroll	\$69m	Lease or Own	Own
Total Capital Investment	\$150m	Building size (sf)	318,000
		Land area (ac)	25

Incentive Overview

	Indianapolis, IN	Metro Tucson	Advantage (Shortfall)
Tax Credits	\$16,200,000	\$3,900,000	
Job Training Grant	\$800,000	\$650,000	
Payroll Rebate	\$0	\$0	
Sales Tax Exemptions	\$0	\$0	
Cash Grant	\$0	\$0	
Real Property Tax Abatement	\$10,000,000	\$0	
Personal Property Tax Abatement	Included above	\$0	
TIF Grant	\$5,000,000	\$0	
Utility Incentives	\$0	\$0	
Other Local Incentives	\$0	\$0	
Total Incentive Package	\$32,000,000	\$4,550,000	(\$27,450,000)

1 Incentive package for Medco is based on a 2007 incentive package negotiated by the CBRE Economic Incentives Group. Job tax credits = 10 year payout; Job training grant = 2 year payout; Property tax abatements = 10 year term; TIF Grant = Upfront.

2 Metro Tucson incentives include job tax credits of \$3,000 per job under the Arizona Enterprise Zone program and \$500 per job from the Arizona Job Training Program. Job tax credits = 3 year payout and Job training grant = 2 year payout.

Source: Elliott D. Pollack & Company, CBRE Economic Incentives Group.

6.4 Business Personal Property Tax Exemption

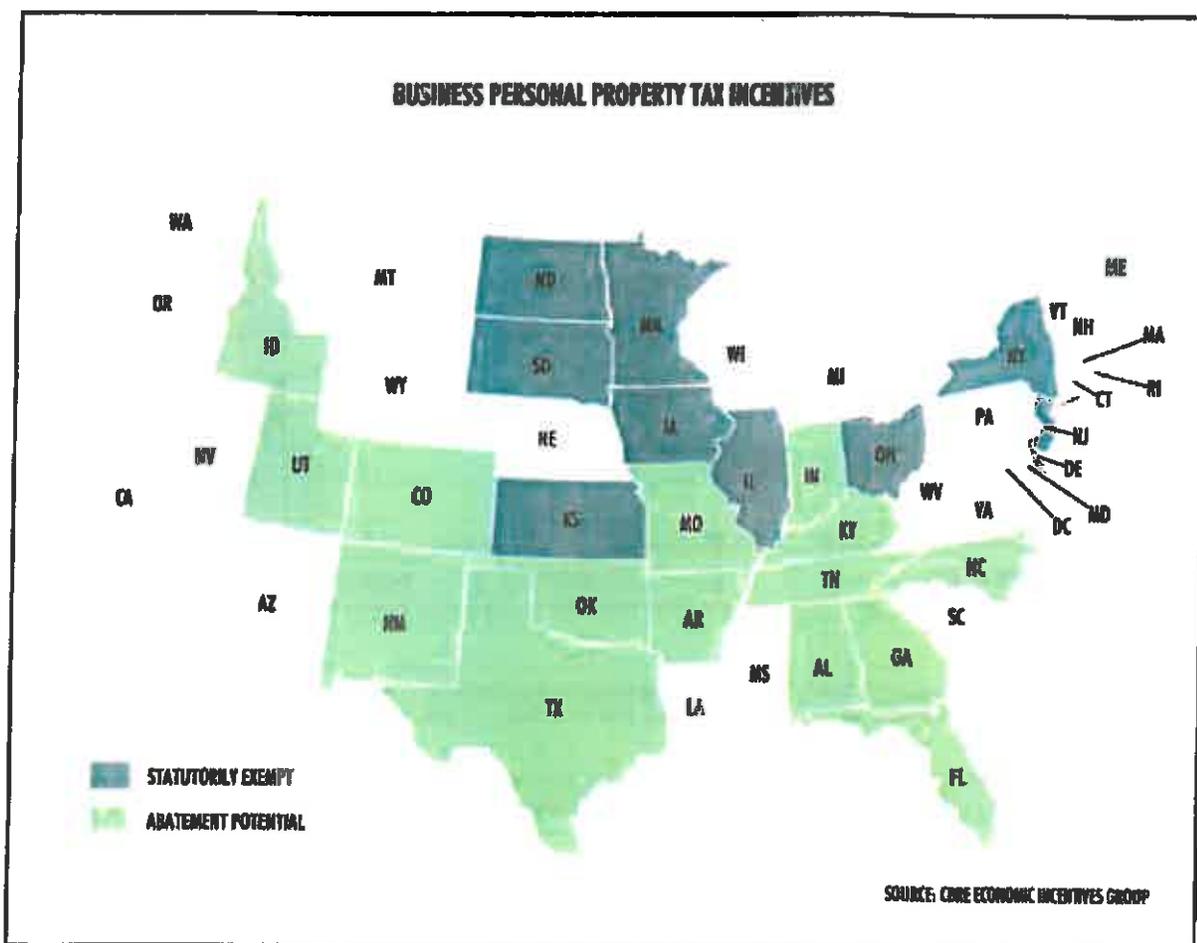
Recognizing the need to help reduce a company's total cost of doing business, about 10 states have statutorily eliminated ad valorem taxes on business personal property for commercial and



industrial uses. This means that neither a municipality, county, nor school district accrue property tax revenue from business personal property. The statutorily exempt states include Delaware, Illinois, Iowa, Kansas, Minnesota, and New Jersey. Other states include New York, North Dakota, Ohio, and South Dakota.

Additionally, there are 16 states that have granted counties and municipalities the ability to offer discretionary abatement of business personal property taxes. According to the CBRE Economic Incentives Group, abatement incentives can typically range anywhere from 20% to 100% for up to 10 years in these states. Abatements apply to municipal and county property taxes only. School district property taxes are not allowed to be abated with very few exceptions.

The states that allow for local abatement of property taxes on business personal property include Alabama, Arkansas, Colorado, Florida, Georgia, Idaho, Indiana, and Kentucky. Other states include Missouri, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Utah.



Aerospace and defense companies tend to have relatively high investments in business personal property. With this investment comes two significant taxes – property and sales/use. The



following table highlights the property and sales/use taxes on a \$1 million investment in business personal property.

- In the Tucson region, a \$1 million investment will yield \$19,900 in annual property taxes excluding consideration of depreciation. In addition, about \$56,000 in State use taxes will be payable.
- Annual property taxes on \$1 million of business personal property range from \$12,500 in Oklahoma City up to \$37,820 in Austin. Nine of the 15 aerospace communities have lower property taxes than the Tucson region. Despite the actual property taxes ordinarily due on new investment, most of the competitive markets have established incentive policy in place to provide additional abatements. Abatements currently range 50% to 100% and from 3 years in the Florida communities up to 10 years in the Texas communities. Indeed, among the group of competitive markets, Kansas is the only state that statutorily exempts business personal property from property taxes.
- On-time sales/use taxes on \$1 million of business personal property range from \$40,000 in Huntsville up to \$62,500 in the Texas communities. 6 of the 15 aerospace communities have lower sales taxes than the Tucson region. While sales tax exemptions are less common than property tax abatements, most of the competitive States have incentives policy in place to provide discretionary consideration of sales tax rebates for aerospace companies.

Taxes on Business Personal Property \$1 million of Investment				
Community	Property Tax (Annual)	Potential Incentives	Sales/Use Tax (one-time)	Potential Incentives
Metro Tucson	\$19,900	No	\$56,000	No
AL-Mobile	\$13,900	Yes	\$40,000	Yes
AL-Huntsville	\$12,700	Yes	\$40,000	Yes
FL-Fort Lauderdale	\$20,800	Yes - 3 years	\$60,000	Yes
FL-Gainesville	\$21,300	Yes - 3 years	\$60,000	Yes
FL-Miami	\$23,500	Yes - 3 years	\$60,000	Yes
FL-Orlando	\$19,500	Yes - 3 years	\$60,000	Yes
KS-Wichita	\$0	Exempt	\$53,000	100% Exempt
NC-Charlotte	\$14,300	Yes - 5 years	\$57,500	No
OK-Oklahoma City	\$12,500	Yes - 5 years	\$45,000	Yes
OK-Tulsa	\$13,400	Yes - 5 years	\$45,000	Yes
SC-Charleston	\$15,600	Yes	\$60,000	No
TX-Austin	\$37,820	Yes - 10 years	\$62,500	No
TX-Dallas-Fort Worth	\$27,400	Yes - 10 years	\$62,500	No
TX-Houston	\$26,600	Yes - 10 years	\$62,500	No
UT-Salt Lake City	\$13,200	Yes	\$47,000	Yes

Source: CBRE Economic Incentives Group; County Assessor & Tax Offices.



6.5 Aerospace Clustering and Incentive Programs

Certain states have been identified as being highly competitive (both generally and compared to Arizona) as it relates to aerospace and defense operations. This information is tabulated below. Note that these states have tools that Arizona (and therefore the Tucson region) does not.

UTAH

Communities: Salt Lake City

Cluster: Aerospace & Defense

Major Players: Boeing, Northrop Grumman, Lockheed Martin, Raytheon, ATK, L-3 Communications, Spectrum

Primary State Incentive Programs

- (1) **Sales tax exemption** → Up to 100% of sales/use taxes on personal property purchases
- (2) **Economic Development TIF (EDTIF)** → Discretionary program that provides refundable tax credits up to 30% of net new State revenues each year for up to 10 years.
- (3) **Industrial Access Fund (IAF)** → Governor's deal-closing fund that provides cash grants on a case-by-case basis.

Local Incentive Opportunities

- (4) Infrastructure grants through TIF
- (5) Real and personal property tax abatements

OKLAHOMA

Communities: Oklahoma City, Tulsa

Cluster: Companies tied to Tinker AFB in Oklahoma City. Tinker AFB emphasizes maintenance, repair, and overhaul of aircraft and engines. DOD, FAA, Air Force contracts are fulfilled out of Oklahoma. The State has the largest testing of unmanned aerial systems in the U.S. Lawton OK has the largest unrestricted airspace in the U.S. (40 square miles).

Major Players: Boeing, Northrop Grumman, Spirit Aerosystems, Nordam, American Airlines, Pratt & Whitney, Lear, Allied Signal

Primary State Incentive Programs

- (1) **Quality Jobs Program** → Payroll rebate up to 5% of gross payroll annually for 10 years.
- (2) **Prime Contractor Program** → Payroll rebate up to 5% of gross payroll for federal contractors. Annual rebates offered for 10 years.
- (3) **21st Century Quality Jobs** → Payroll rebate up to 10% of gross payroll for highly paid engineers. Annual rebates offered for 10 years.
- (4) **Investment Tax Credit** → 1% of business personal property investment
- (5) **Sales Tax Exemption** → 100% of sales/uses taxes on business personal property

Local Incentive Opportunities

- (6) 5-year property tax exemption



TEXAS

Communities: Austin, Dallas-Fort Worth, Houston

Cluster: Aerospace/Defense companies tied to Air Force contracts. Big fighter jet manufacturing operations.

Major Players: Boeing, Bombardier, General Dynamics, Gulfstream, Honeywell, Northrop Grumman, Raytheon, Lockheed, Bell Helicopter, Vought Aircraft, L-3 Integration Systems, BAE Systems, Weber Aircraft

Primary State Incentive Programs

- (1) **Texas Enterprise Fund** → Governor's deal-closing fund

Local Incentive Opportunities

- (2) **Property tax abatements** → Up to 100% of City and County property taxes (real and personal) for up to 10 years.
- (3) **School property tax exemption** → Up to 100% of School property taxes (real and personal) for high-wage manufacturing operations.
- (4) **Economic development grants** → Depending on the community, cash grants for job creation.

CAROLINAS

Communities: Charlotte NC, Charleston SC

Cluster: Aerospace & Aviation

Major Players: Boeing, Cessna, Fedex, General Electric, Honda Aircraft, Honeywell, Northrop Grumman, Spirit Aerosystems, US Airways, Raytheon

Primary State Incentive Programs

- (1) **Investment Tax Credits** → Up to 7% of business personal property investment
- (2) **Jobs Tax Credits** → Up to \$8,000 per new job
- (3) **Governor's Closing Funds** → Deal-closing funds tied to employee withholding taxes
- (4) **Cash Grants** → Matching cash grant with community

Local Incentive Opportunities

- (5) **Economic Development Grants** → Discretionary grants used to refund a percentage of new property taxes on real and personal property;
- (6) **Infrastructure Grants** → Grants for enhancing water, sewer, and roads
- (7) **Cash Grants** → Matching cash grant with the State



KANSAS

Communities: Wichita

Cluster: Aviation. Wichita produces up to 50% of domestic general aviation aircraft and about 40% of global aircraft.

Major Players: Airbus, Boeing, Bombardier, Cessna, GE, Goodrich Aviation, Hawker Beechcraft, Learjet, Raytheon

Primary State Incentive Programs

- (1) **Investment Tax Credits** → Up to 10% of total property investment
- (2) **Jobs Tax Credits** → \$1,500 per new job
- (3) **Sales Tax Exemption** → 100% sales/use tax exemption on construction materials and personal property investment.
- (4) **Cash Grants** → Cash grants tied to withholding taxes of new jobs

Local Incentive Opportunities

- (5) **Personal Property Tax Abatement** → Statutorily exempt
- (6) **Real Property Tax Abatement** → Up to 50% for 10 years
- (7) **Cash Grants** → Cash grants offered on a case by case basis

ARKANSAS

Communities: Little Rock

Cluster: Aviation.

Major Players: Lockheed, Hawker Beechcraft, Raytheon, BF Goodrich, Spectra

Primary State Incentive Programs

- (1) **Jobs Tax Credits** → Up to 10% of new payroll
- (2) **Sales Tax Exemption** → 100% sales/use tax exemption on construction materials and personal property investment.
- (3) **Cash Grants** → Annual cash grants up to 4.5% of new payroll for up to 7 years
- (4) **Governor's Closing Fund** → Cash grants available on a case by case basis

Local Incentive Opportunities

- (5) **Sales Tax Exemption** → 100% sales/use tax exemption on construction materials.
- (6) **Real Property Tax Abatement** → Offered on a case-by-case basis
- (7) **Infrastructure grants** → Cash grants for extension of water, sewer, roads



ALABAMA

Communities: Mobile, Huntsville

Cluster: Aviation, Space & Defense, Maintenance & Repair. Cluster tied to major government facilities including Redstone Arsenal, Fort Rucker, Maxwell AFB, and Marshall Space Flight Center

Major Players: Boeing, Lockheed, Aegis Technologies, Northrop Grumman, Teledyne Motors

Primary State Incentive Programs

- (1) **Investment Tax Credits** → Up to 100% of total investment over 20 years;
- (2) **Infrastructure grants** → Discretionary cash grants for infrastructure development;
- (3) **Sales tax exemption** → Discretionary exemption of sales taxes on manufacturing equipment;

Local Incentive Opportunities

- (4) **Sales Tax Exemption** → Discretionary exemption of local sales taxes
- (5) **Real Property Tax Abatement** → Offered on a case-by-case basis
- (6) **Infrastructure grants** → Cash grants for extension of water, sewer, roads
- (7) **Land Donations**

FLORIDA

Communities: Orlando, Miami, Fort Lauderdale, Gainesville

Cluster: Space & Defense, Maintenance & Repair, Aviation

Major Players: Honeywell, Northrop Grumman, Lockheed Martin, Raytheon, GE, Timco Aviation, L-3 Aerospace, Pratt & Whitney

Primary State Incentive Programs

- (1) **Tax Refunds** → Up to \$3,000 per new job
- (2) **Infrastructure grants** → Discretionary cash grants for infrastructure development;
- (3) **Sales tax exemption** → Discretionary exemption of sales taxes on manufacturing equipment;
- (4) **Quick Action Closing Fund** → Deal closing fund
- (5) **High Impact Performance Incentive Grant** → Deal closing fund
- (6) **Capital Investment Tax Credit** → Discretionary tax credit up to 100% of investment

Local Incentive Opportunities

- (7) **Real and Personal Property Tax Abatement** → Offered on a case-by-case basis
- (8) **Infrastructure grants** → Cash grants for extension of water, sewer, roads
- (9) **Land Donations**



COLORADO

Communities: Colorado Springs

Cluster: Space & Defense

Major Players: Lockheed Martin, Raytheon, Ball Corp, Goodrich Corp, Woodward Governor, Boeing, GE,

Primary State Incentive Programs

- (1) **Jobs Tax Credits** → \$500 to \$1,200 per new job
- (2) **Investment Tax Credits** → 3% of total capital investment
- (3) **Sales tax exemption** → Discretionary exemption of sales taxes on manufacturing equipment;
- (4) **Job Growth Incentive Tax Credit** → Discretionary based on new withholding taxes

Local Incentive Opportunities

- (5) **Sales Tax Exemption** → Discretionary exemption of local sales taxes
- (6) **Property Tax Abatement** → Offered on a case-by-case basis for both real and personal
- (7) **Infrastructure grants** → Cash grants for extension of water, sewer, roads

VIRGINIA

Communities: Arlington, Alexandria, Virginia Beach

Cluster: Aviation, Space & Defense

Major Players: BAE Systems, Boeing, General Dynamics, GE, Gulfstream, Harris Corp, Lockheed, L-3 Communications, Northrop Grumman, Raytheon

Primary State Incentive Programs

- (1) **Tax Credits** → \$1,000 per new job
- (2) **Job Training** → Job training grants up to \$1,000 per new job
- (3) **Opportunity Fund** → Deal closing fund

Local Incentive Opportunities

- (4) **Real and Personal Property Tax Abatement** → Offered on a case-by-case basis
- (5) **Infrastructure grants** → Cash grants for extension of water, sewer, roads



6.6 Recent Aerospace Site Acquisitions

A review was also conducted of recent business location deals in the aerospace and defense sector. This was done to provide still further perspective into the quantity of monies that are needed to relocate or expand a business in this field. *Typical site location deals across the country involve tens of millions of dollars, if not hundreds of millions of dollars, in incentives. Arizona does not currently have the tools to compete with such inducement.*

Unlike with many other industries, the authors of this report found the task of gathering specifics on aerospace business location deals to be more cumbersome as compared to the review of other industries. Anecdotal information identifies that companies in this sector may be disproportionately less willing to completely relocate versus remaining in their current communities. Expansion deals related to maintaining a company's presence are more politically controversial and fewer public reports tend to be available for review.

On the surface this bodes well for the Tucson region. However, large aerospace employers tend to have a presence in multiple communities. Therefore, it is not as burdensome to reduce activity in one location in favor of expanded activity in another. This would have the same economic impact as losing a company to a competing state. This also means that advocates in the Tucson region need to take great care in just maintaining current operations. This may need to be the primary focus until the State of Arizona enacts quality economic development reform.

Selection of Recent Aerospace Incentive Packages							
Year	Company	Community	Operation	Jobs	Capital Expenditure	Potential Incentives	Incentive Types
2002	Raytheon - Aircraft	Little Rock, AR	Production - Hawker Horizon	350	n/a	n/a	Sales tax rebates, cash grants, tax credits
2003	Bombardier	Wichita, KS	Retention - manufacturing	n/a	n/a	\$1,000,000	Rent reduction, federal grant, infrastructure grant
2008	Spirit Aerosystems	Kinston, NC	Manufacturing - Composite Fuselage for Airbus jets	1,031	\$570,500,000	\$250,000,000	Cash grant, Payroll Rebate, job training, sales tax exemptions, tax credits, infrastructure grants, property tax abatements, water rate reductions, Tobacco Settlement Grant
2008	Spirit Aerosystems	Wichita, KS	Manufacturing - production & testing of Cessna Citation	700	\$260,000,000	\$34,200,000	Tax credits, sales tax exemptions, cash, job training grant, property tax abatements
2008	Pratt & Whitney	Connecticut	Retention - manufacturing	1,000	n/a	\$100,000,000	Tax credits, job training grant, sales tax exemptions. Offered only. Plant Closure Announced.
2008	Bombardier	Kansas City, MO	Production	2,100	\$375,000,000	\$240,000,000	Tax credits, payroll rebates, property tax abatements, rent reduction, City land donation. Lost Deal to Canada.
2009	Boeing	Charleston SC	Assembly - 787 Dreamliner	3,800	\$750,000,000	\$900,000,000	Sales tax exemptions on fuel/construction/equipment, tax credits, low interest forgivable loan, infrastructure grants, job training
2009	ATK Aerospace	Iuka, MS	Expansion - Production	800	\$175,000,000	\$25,000,000	Cash, sales tax rebates
2010	Northrop	Virginia	Headquarters	300		\$15,000,000	Tax credits, cash, job training
2010	Raytheon	Louisville KY	Expansion - Production	30	\$3,000,000	\$500,000	Tax credits, wage assessments

Source: Elliott D. Pollack & Co.



7.0 Strategies for the Tucson Region– Where Should TREO Focus?

On the positive side, the Tucson region is home to a well established aerospace and defense industry cluster, strong military presence, industry demanded educational programs to supply and support a highly educated workforce, and favorable weather and climate. This represents many desirable attributes to the industry and provides legitimate resources for continued prosperity in the future. *However, the Tucson region's shortcomings are directly related to the State's lack of economic development tools.*

In such cases there are two broad based strategies that a community can follow. First, a community with a weak state economic development portfolio will need to concentrate efforts on business retention. Retention is far less costly than business recruitment. Second, a community must use an array of local economic development tools. Any one of these tools by itself will not result in significant change. However, when multiple items are combined into a package, a community's economic development strategy can work. This will be most likely to occur in select cases where the community has many other positive business attributes that are demanded by a particular industry.

For the Tucson region, this means stating the obvious: *TREO will need to initially dedicate many of its limited resources towards just maintaining the Tucson region aerospace and defense industry until the State of Arizona takes economic development more seriously.* This industry is a very large part of the economy as demonstrated in the accompanying economic and fiscal impact modeling exercise, already enjoys quality, Tucson-region business inputs, but will be under great pressure to expand and/or relocate in other competitor states during the next several years. The following items that are more directly related to business retention should be priority #1, while those items related to expansion and relocation into the Tucson region should be priority #2.

Given the lack of support at the State Capitol regarding matters of economic development, TREO will need to cleverly assemble a retention package based on what the aerospace and defense industry currently needs. If an aerospace and defense manufacturer is having a difficult time filling positions due to its inability to pay above competitive wages and still make a normal profit, then some form of a wage subsidy can be considered. In lieu of direct wage subsidies, other cost reduction programs can be implemented with the goal of subsidizing an amount equal to the needed wage subsidy. This is one specific example, but the idea will be the same regardless of what void needs to be filled through economic development programming.

Fortunately, the broader economic foundations for the aerospace and defense industry remain sound. The industry has a bright future in the local and global marketplace. When confronted with managing the maintenance and expansion of an industry with sound economic fundamentals, the level of economic incentives can be reduced slightly (but is still dependent on competitor relocation offers). The Tucson region has an opportunity to market itself and potentially capture some of this projected growth and can offset a portion of the State's shortcomings through focused economic development strategies, some of which have already been recommended by TREO.



Case studies are also provided below. These case studies are examples of what communities have negotiated to recruit/retain significant economic development prospects. The “deal terms” are provided by CBRE’s Economic Incentives Group and have been redacted due the confidential nature of the project.

Property Tax Abatement

Any reduction in property taxes on real and business personal property would be an attractive incentive. This is a matter of great concern for most manufacturers. Outside of implementing a new property tax class into State law, directly abating property taxes appears problematic.

TREO can work with municipalities and private entities to utilize the recently approved filing for general purpose Foreign Trade Zone (FTZ) status for all of Pima County. The expanded FTZ opens up more of Pima County to FTZ benefits than the previous zone allowed. FTZ status yields a reduction in assessment ratio from 21% to 5%. This reduction could yield a 76% reduction in property taxes for both real and personal property.

While the broadened FTZ is an excellent new tool for economic development, even property tax relief through FTZs can be politically problematic since decisions must be made about current company operations. One option is to designate a zone that offers favorable benefits to new or expanded business operations. Thus, the incentive would only be relevant for expansion and relocation, but not retention. Since the Tucson region is at considerable risk of losing a portion of its aerospace and defense base, it is worth exploring how the FTZ can also be used as a retention tool for some current operations. Other states have successfully implemented new tax laws that specify government industry codes to identify very specific eligibility.

Apart from Foreign Trade Zone expansion, becoming familiar with the opportunities and constraints of GPLET should be a priority. As TREO and its stakeholders fully understand how to maximize the application of this incentive within municipalities throughout the Tucson region, there may be potential for marketing and implementation of significant property tax relief to business recruitment or retention targets.

According to the CBRE Economic Incentives Group, recent examples of states where communities target property tax abatement policies to select industries include Texas, Kansas, Oklahoma, North Carolina, Iowa, and Indiana. At the end of the day, these states are not hindered by either constitution or statute to implement property tax abatements for select employers.

Example Case Study: Project Gator involves a regional financial services company that had an existing business unit in a Midwest community. The existing business unit included 170 jobs. Project Gator was an initiative to expand its regional presence and plan for projected increased demand for its services over the next five years. In total, Project Gator was planned to grow to over 1,100 jobs. The community with the existing jobs was presented an opportunity to retain the existing business unit and benefit from the significant growth potential.

In addition to significant State incentives, a property tax abatement was considered for an existing 185,000 square foot building. The building was originally built for a mortgage company in 2007 that went bankrupt. This community originally sold economic development revenue



bonds to trigger a payment in lieu of taxes (PILOT) for 55% abatement of real property taxes for 10 years. Since the original company was out of compliance of the employment thresholds, the City was under no obligation to pass along the PILOT to Project Gator. Due to the credit quality of the company, retention of existing jobs, and net new jobs, the City used its discretion to assign the PILOT to Project Gator as part of its incentives package. In all, the remaining 7 years on the PILOT amounted to about \$3.3 million in property tax savings to Project Gator. This offer was what made the business case work for Project Gator. In addition, personal property is statutorily exempt from property taxes in the state.

Land Banking & Land Donations

Land donations or banking normally involve a municipality purchasing desirable vacant land for expanded business use by a private sector entity. An example area could be land in proximity to the Tucson International Airport or Davis Monthan Air Force Base. Providing low-cost to no-cost land to qualified aerospace and defense companies is a significant financial incentive that most of the identified competitive markets do not offer. With land donations, property remains an asset to the City/ County and the company can reallocate funds to capital inputs that otherwise would be spent on land acquisition. Land donations can also be structured as loans forgiven by the creation and maintenance of high quality jobs and investment in significant capital.

There were no identifiable cases where the local economic development entity financially participated, but in partnership through the local industrial development authority with management by TREO is a possibility.

According to the CBRE Economic Incentives Group, land banking and donations are actively being used by communities in Texas, Kentucky, and Alabama, just to name a few.

Example Case Study: Project Utility is a telecommunications company that was recruited by a company in the Rocky Mountain West. This operation included 1,300 jobs and required new construction of a 120,000 square foot building. Total construction cost for the facility was estimated at \$10 million. The community provided a donation of a 13-acre site in its multi-tenant industrial park. In addition, the local industrial development authority issued revenue bonds to provide 100% construction financing. The State redirected personal income tax withholdings of the 1,300 jobs over 10 years to cover debt service. Another \$2.3 million in grants from State CDBG and the US EDA were provided to offset the cost of infrastructure improvements.

Create an Industrial Park

Depending on the ability to assemble a significant amount of land, consider developing an Aerospace Industrial Park. Development could be arranged directly or as a joint venture with a private developer. With a sufficient assemblage, TREO can adequately plan for and manage the City's installation of infrastructure that is needed such as power, water/sewer, and telecommunications. Planning for heavy uses should be considered in this case. However, purchasing land and investing in infrastructure with no private sector partner "at the table" can be a risky proposition. Instead, TREO can have a plan in place and can both respond and aggressively market a particular site.



According to the CBRE Economic Incentives Group, communities within Texas, Alabama, and West Virginia have again shown the more foresight in planning for multi-tenant industrial parks for use as an economic incentive.

Example Case Study: Same project as Project Utility as described above.

Local Job Training Fund / Quality Jobs Fund

TREO should consider establishing a local Aerospace and Defense Job Training Fund. Assuming the State's job training program will not be in full effect for some time, applying for Department of Labor funding could be useful in maintaining the local aerospace workforce.

The *Tucson: Job One* action plan published in April 2009 included an employer-driven job training program as one key element to job attraction and retention. This program proposed partial reimbursement of training costs depending on the wage level of the employee. The anticipated funding need was set at \$1.0 million annually. The continuation of this action plan is encouraged and TREO would best be suited to coordinate this effort among the entire industry cluster and training resources. This effort would couple with TREO's promotion of job openings between displaced workers and open positions in the region.

Tangentially, the job training program may be coupled with a quality jobs program that reimburses companies for the hiring of highly paid, net new workers in this field. This would be a secondary means of bridging the gap between what an employer can pay workers to expand in the Tucson region versus what workers will ultimately demand to relocate.

In both cases, TREO would need to establish a well crafted application process that also includes a cost benefit analysis of the program. In no situation should any entity provide subsidies in excess of what are being derived from the target operation.

Example Case Study: There were no identified examples from across the country where a local entity provided job training and quality job creation subsidies without the help from the respective state. This is due to the inability of local communities to provide funding for such endeavors. However, if a funding source were indeed identified the potential program could be effective.

Conduit Financing

TREO may consider a strategy to utilize unallocated Private Activity Bonds to construct facilities for high quality aerospace companies. Again, this relates to expansion and less to retention. Issuance of industrial revenue bonds can be structured with the County or a municipality as the landlord offering an operating lease to a prospective company. Debt service of the bonds can be directly tied to a triple net operating lease (a way of reducing rents and taxes for a company) with a company of good credit quality and sufficient credit backing. This type of creative financing started in the Midwest and has been used to attract high quality prospects looking to offset start-up capital investment.

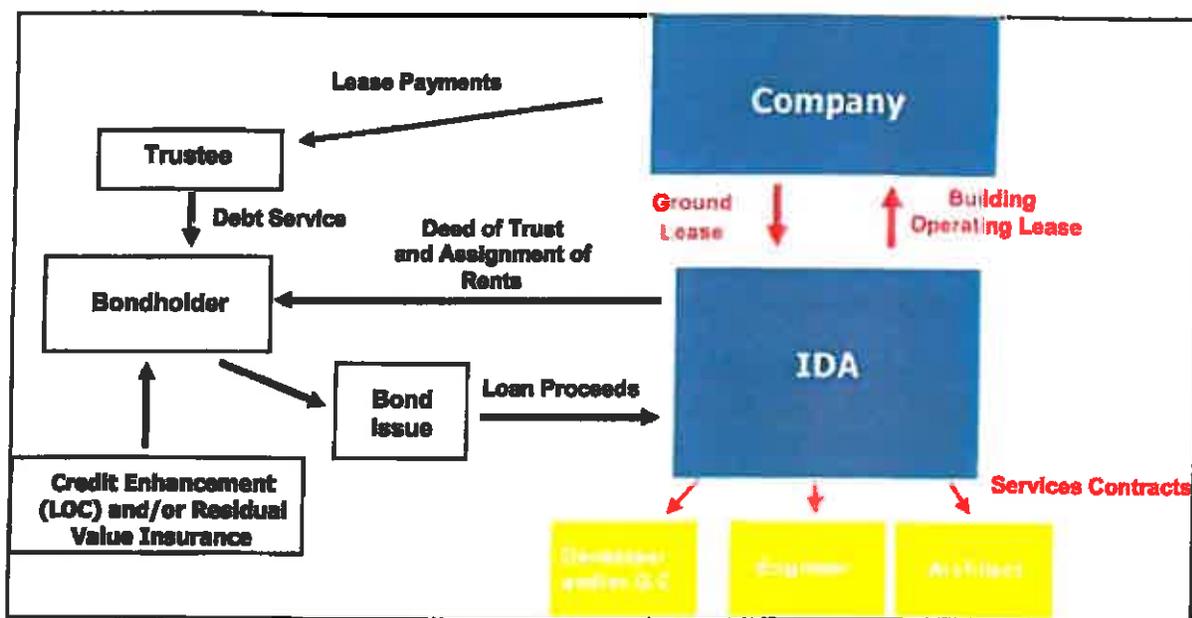
States that are actively using conduit financing today include Wisconsin, Ohio, Indiana, Missouri, and Kentucky, just to name a few. According to the CBRE Economic Incentives



Group, other states and communities have not grasped how conduit financing can be used as a no-opportunity-cost incentive to qualified economic development prospects.

Additional Background and Example Case Study: A Company has the option of considering financing of the repairs on the existing garage and construction of the new garage using Conduit Financing (also called Port Development financing). In most communities, this conduit would be the Industrial Development Authority (IDA) or any other eligible conduit entity. The IDA issues taxable floating rate lease revenue bonds backed by a Letter of Credit from an acceptable bank. In lieu of this funding, the Company enters into an Operating Lease for the facility. The lease revenue bonds will be sold to third-party investors (i.e. the bonds will not be purchased by the Company).

The Conduit Alternative can be offered by the IDA to support the City's desires to retain the Tenant and its job base in a community. Following is a typical transaction structure.



Conduit Financing has created a new type of property owner willing to forego cash flow and residual value benefits to create a real estate economic incentive for corporate employers. These financing vehicles are not widely promoted but are used selectively by Ports to serve economic development objectives and fulfill the Port's "public benefit" charter. Conduit financing through a Port originated in the Midwest and the trend has grown national in scope. Economic benefits from this type of transaction include new and/or retained jobs, payroll and the resulting potential retail sales, local tax revenues, State tax revenues, and construction job opportunities just to name a few. Ports that act as conduits in this type of transaction have a number of motives.

- Ability to offer economic incentives to employers without costs or risks to taxpayers;
- Ability to bind corporate employers to the local market through the long-term project lease commitment and the enticement of "gifted" project ownership at its conclusion;
- Ability to improve competitive position against incentive programs offered in other regions;



- Ability to generate new sources of income for the Port in the form of modest upfront and annual fees to support other Port programs and capital needs;
- Comfort derived from protection against construction, default, and lease non-renewal risks;

The primary benefits to the Company of the Conduit Alternative include:

1. The Conduit “monetizes” the existing garage through a sale/leaseback in addition to funding repairs of the existing garage and construction of the new garage. In other words, the Conduit transaction actually produces cash for the Company beyond funding for expansion.
2. The Conduit transaction creates an operating lease, not a capital lease, allowing preservation of balance sheet and financial ratios.
3. The Conduit transaction does not create a debt obligation for the Company.
4. Tax ownership transfers to the Conduit, relieving the Company of depreciation expense.
5. Conduit rent payments are based on 30 year bonds issued by the Conduit, and this longer amortization schedule reduces the annual rent expense for both Cash and GAAP. Rent payments are constant over the lease term and are far below current market lease rates.
6. The Company controls future property Residual Value through ground lease reversionary rights. The Company holds the right to re-acquire the property by a purchase price that matches-off to the remaining bond balance.
7. Complete financial transparency for all costs and expenses.

Economic Benefit Illustration		
“Project Arcos”		
Tenant: Not-For-Profit Healthcare Organization		
Project Capital Cost: \$ 71,068,000		
	Investor Proposal	Port Proposal
Lease Term:	20 Years	20 Years
Initial Annual Rent:	\$5.68 M	\$4.12 M
Initial Cap Rate:	8.0%	5.8%
Annual Rent Escalation:	2.0%	None
Specialized Tenant Improvement Financing:	Not Included	Included
Ground Lease with Reversionary Rights:	No	Yes
Purchase Option at Price of Debt Balance:	No. Purchase at FMV	Yes



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HealthEast

- **\$40,395,000 Sale/Leaseback of Midway Campus buildings (only). In St. Paul, Minnesota comprised of 317,175 s.f. medical, corporate office and patient care space with parking garage**
- **Monetized existing asset to increase HealthEast cash position and fund further expansion of community healthcare services**
- **Purchaser/Lessor: Port Authority of the City of St. Paul**
- **Ground Lease from HealthEast to Port Authority of City of St. Paul**
- **Fixed-Rate, Tax-Exempt, lease revenue-backed project financing**
- **25 Year Operating Lease to HealthEast**
- **Rent = Annual Project Financing Principal and Interest**



Principal
Port Authority of the City of St. Paul

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Other - Supply Chain Development

TREO should implement strategies to attract complementary users that provide goods and services to Raytheon and other manufacturers. It appears the “big players” make location decisions in part based on the location of major suppliers. This is the idea behind the multiplier analysis that was presented earlier. For each job that is created at Raytheon another three or more are created in the surrounding area. If a base industry operation indicates that its supplies are being shipped into the Tucson region then TREO should explore ways for the base industry business inputs to be produced locally. This is why certain counties across the nation have high multipliers and others have low multipliers. Local wealth generation is based on a community’s ability to contribute as much as possible to the product development process.

Other - Advocacy

It is clear that most of the competitive markets across the country rely heavily on their state as the lead for economic and tax incentives. TREO may consider a significant advocacy effort to pursue passage of local economic development legislation. Additional pursuits could include, but are not limited to: (a) new property tax class for aerospace, (b) State sales tax exemption for aerospace companies, (c) enhanced job training programs, (d) State job retention programs tied to withholding taxes.

The Arizona Legislature very nearly enacted significant economic development reforms through HB2250 this past session but lacked support among some key senators and the Governor. Additional pressure this next fall and into the next regular legislative session will be necessary if



similar legislation is to have any chance of passing in 2011. The authors of this report recommend the backing of a separate aerospace and defense pilot program that dedicates a portion of the State's job training tax for use on a separate aerospace and defense job training fund and a separate aerospace and defense retention fund. These dedicated monies could be distributed based on recommendations developed by TREO.

Other - Marketing

As the official agency responsible for promoting and marketing the region to the national and international business community, TREO should build upon the successful 2009 National Marketing Campaign that generated positive press coverage for the bioscience and solar industries. It is recommended that TREO adopt a similar strategy for the aerospace and defense sector. Targeted marketing to site selection consultants, aerospace industry trade groups, economic development publications, and key companies will be critical. It should be noted that other competitive markets and states are seen as much more aggressive and forward-facing than the Tucson region. If Tucson is not top-of-mind to these targeted groups, the region may be forgotten.

TREO may also consider a strategic shift to fostering job growth and investment with existing aerospace and defense companies. This will be critical in retaining current jobs in targeted sectors. It is suggested that TREO directly engage in conversations about how to attract investment that otherwise might be going to a competitive market. This was recommended as a first priority in TREO's Economic Blueprint and the research conducted within this report concurs given the highly competitive recruiting efforts occurring globally.

TREO has already recognized the importance of marketing and "top of mind" awareness for business recruitment. The *Tucson: Job One* action plan introduces its strategy with consistent marketing efforts focused on desired industries and markets with real recruiting potential. TREO has already partnered with the Greater Phoenix Economic Council in this effort and has maintained consistent contact with national site selectors. A centralized, constant, and unified marketing effort led by TREO will maximize advertising effectiveness and give the region the greatest prospects to succeed in this effort.

Other - Funding

It is unclear if State policymakers will have the ability to enact economic development legislation to make the State more competitive. This puts more pressure on economic development entities such as TREO. The organization will need significant commitment, meaning financial support, from both public and private entities in the Tucson area. In addition, while private sector donations and public sector appropriations will assist with covering TREO's administrative costs, the public entities in the Tucson area will need to support TREO's efforts as they pertain to the establishment many of the recommendations contained in this report.

