



GREATER SAN MARCOS VISION 2020 TARGET BUSINESS ANALYSIS

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OVERVIEW

In recent decades, Greater San Marcos, Texas has emerged as an increasingly prominent area home to new businesses and one of the fastest-growing universities in the country, Texas State. Nearly equidistant from the thriving cities of Austin and San Antonio, the area sits in a “garden spot,” allowing it to take advantage of economic opportunities generated by both metros while maintaining its own unique character.

In 2009, *Market Street Services* partnered with the City of San Marcos and its economic development team, Economic Development San Marcos, to coordinate a plan aimed at elevating economic prosperity for the residents, businesses and elected/appointed leadership of the Greater San Marcos area known as “Partners for Progress.” One of the first strategic initiatives successfully implemented was the creation of the Greater San Marcos Partnership (GSMP), which is funded by a strong collaboration of originating investors.

Since 2009, GSMP has made important headway on several fronts and began establishing its credibility and value position within the region. Now, as part of a comprehensive effort to make the community as competitive as possible for new jobs, talent, and corporate investment, the Greater San Marcos Partnership is taking the next step in its evolution by launching a process to enhance economic development activities and programs in the two-county region comprised of Hays and Caldwell Counties. At the end of the eight-month process, Greater San Marcos will have a consensus-based, achievable Vision 2020 Strategy to guide its path to short- and long-term prosperity.

PHASE 1: COMPETITIVE ASSESSMENT

The goals of the first phase were to identify how Greater San Marcos has grown as a community and to gather feedback from leaders and stakeholders in the area about how various changes and developments should be integrated into the new Strategy. The goal of this data-driven component of the process was to tell the area’s story in a way that clearly identifies competitive advantages, niche opportunities, challenges to prosperity, and strategic considerations that should frame the Partnership’s program of work. Greater San Marcos trends were benchmarked against Rutherford County, Tennessee; Brazos County, Texas; York County, South Carolina; Texas, and the United States.

PHASE 2: TARGET BUSINESS ANALYSIS & MARKETING REVIEW

The purpose of this Target Business Analysis is to identify economic sectors that will drive future employment growth and opportunity in Greater San Marcos. *Market Street* is taking a look at the Partnership’s current strategic economic development targets and analyzing them to ensure that these sectors continue to hold value for the community and are defined accurately.

The Marketing Review complements the target business research by analyzing the Partnership’s current marketing efforts. The Review will take a look at the Partnership’s website and internal and external marketing programs to evaluate its effectiveness as a marketing tool and to gauge how strongly it positions the Partnership’s existing target business sector opportunities.

PHASE 3: VISION 2020 STRATEGY

Upon completion of the two research phases, *Market Street* will work with the Steering Committee to identify the key strategic priorities for Greater San Marcos based on all of the quantitative and qualitative research performed to date. The Strategy will serve as a consensus blueprint to move the Greater San Marcos area forward and will provide measurable and actionable goals and tactics needed to achieve success.

PHASE 4: IMPLEMENTATION PLAN

While the Strategy represents “what” Greater San Marcos needs to do, the Implementation Guidelines determines “how” to do it. The Guidelines will serve as the “road map” for putting the Strategy into motion. The Guidelines outline the activities of the Strategy’s objectives on a day-by-day, month-by-month, and year-by-year basis.

INTRODUCTION

Targeting key employment sectors for growth and potential development into “clusters” of economic activity has become a nearly universal method of expanding and diversifying local economies. “Targets” represent segments of an economy where competitive advantages exist, prospects for future growth are greatest, and return on investment is likely highest. While targets are comprised of groups of categorically linked businesses strategically pursued by an economic development organization and its partners, clusters represent groups of interrelated businesses that co-locate due to “economies of scale” in multiple competitive factors. There are a variety of different catalysts that support these agglomerations, which can occur among competing or cooperative firms. A group of suppliers may choose to locate in proximity to a major manufacturer for research and development efficiencies and reduced transportation costs. Other firms may co-locate in a specific area in order to take advantage of a specialized labor pool or to be in close proximity to specific infrastructure. The advantages derived by firms from these catalysts, coupled with the network effects that often exist within clusters, often result in comparatively high potential for employment growth and wealth creation. Due to limited economic development resources, it is sensible for regions to strategically target those sectors with the greatest potential to create new jobs and raise incomes. While not all targets will eventually become clusters, growth in these sectors will nevertheless help drive local wealth-creation. Strategically targeting these business categories helps communities take advantage of their particular strengths in existing companies, workforce capacity, research investment, infrastructure, and other resources.

This report proposes target sectors for the two-county Greater San Marcos region of Hays and Caldwell counties. While the region’s assets and existing/emerging employment sectors factored greatly into the analysis and ultimate target recommendations, *Market Street* also included assessment of a broader labor shed in the decision-making process, acknowledging Greater San Marcos’ incredibly strategic location between Austin and San Antonio on the I-35 corridor and the reality that San Marcos area firms can legitimately tap into a labor shed inclusive of both Austin and San Antonio metro counties to supply their

talent needs. This is also because the San Marcos area's most concentrated current sectors, including real estate, retail (not including the outlet malls), and construction, are primarily driven by local growth and demand. Employment of this type tends to be lower-paying and does not bring outside money into the economy where it can create "multiplier" effects to drive additional wealth creation. This is an important concept as the need to create good-paying jobs that help to drive down regional poverty rates was a key conclusion of the Vision 2020 Competitive Assessment.

The Greater San Marcos Partnership currently focuses on six core industries: Advanced Manufacturing and Materials, Aerospace and Aviation, Clean Technology, Corporate and Professional Operations, Life Sciences, and Supply Chain Management. For this process, *Market Street* started with a clean slate and evaluated employment and wage data for the two-county region by NAICS classification codes, occupational data for a 10 Austin and San Antonio metro counties within a 50 mile radius of the City of San Marcos, Texas State University degree programs and research assets, and areas of focus for the Austin Chamber, San Antonio Economic Development Foundation, and the San Antonio Chamber.

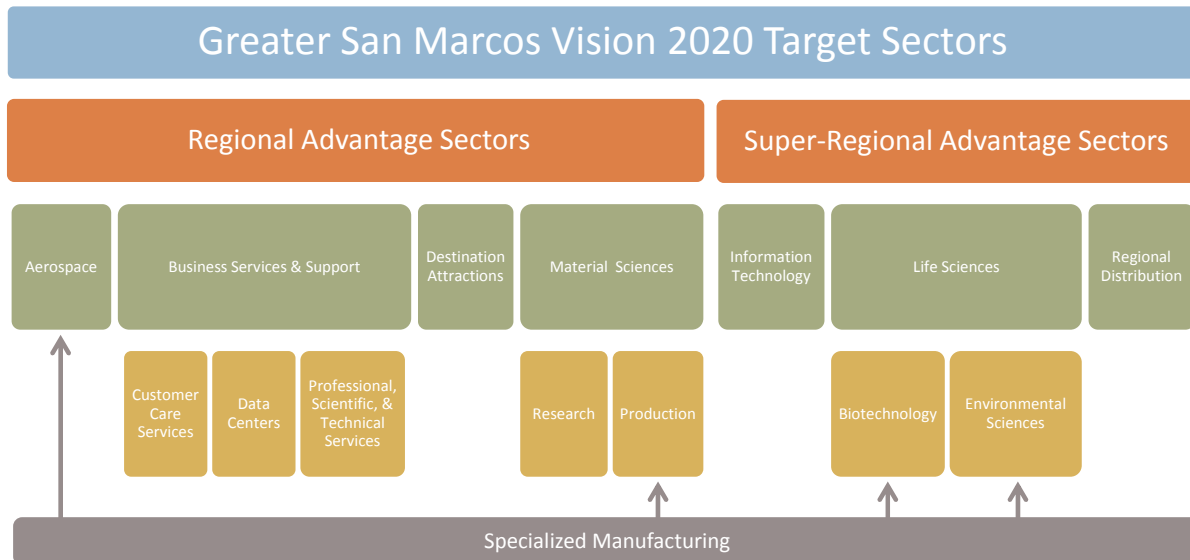
Target sectors proposed for Greater San Marcos emerged from this research as well as the data and findings of the Competitive Assessment, public input process, and Steering Committee feedback to date.

Key criteria in target sector identification were:

- Current employment totals and concentrations for all sectors and subsectors
- Occupational concentrations and trends at a 10-county geography representing a 50-mile labor shed around the City of San Marcos
- Education and training capacity, principally in Greater San Marcos institutions
- Future development opportunities
- Research and commercialization capacity
- Presence of top employers capable of being "magnets" for buyers and suppliers
- Average wage data and ability to raise levels of local wealth
- Provision of employment and advancement opportunities for adults at a broad spectrum of current skill and educational levels

Market Street proposes four targets that we believe will achieve the aforementioned objectives: **Aerospace; Business Services and Support; Destination Attractions;** and **Material Sciences**. We also propose three Super-Regional Advantage Sectors that more broadly leverage Greater San Marcos' geographic centrality between Austin and San Antonio: **Information Technology, Life Sciences**, with niches in biotech and environmental sciences, and **Regional Distribution**.

The following graphic represents Greater San Marcos' proposed targets. Sectors are listed alphabetically and not by priority. The successful development of all key opportunity sectors will be critical for the San Marcos region to realize its full potential.



Target “**niches**,” illustrated by the golden boxes in the previous graphic, represent sub-categories that can be differentiated in terms of compositional subsectors and growth dynamics, but nevertheless share complimentary strategic concerns and competitive advantages such as talent, buyer/supplier networks, infrastructure, technologies, marketing messaging, and others, that warrant them being considered under the same overarching target category.

SPECIALIZED MANUFACTURING

Though not called out as a specific target area, **various specialized manufacturing subsectors are critical components of three Greater San Marcos targets:** Aerospace, Materials Science, and Life Sciences. Aerospace and Life Sciences have very specific production areas, including but not limited to aerospace products and parts manufacturing in Aerospace and medical equipment and supplies manufacturing in Life Sciences. Lists of manufacturing subsectors within these targets are available in the Employment Trends tables in these target sections of this report.

Because of the nature of Materials Science research, which focuses on both materials and processes, the applicable manufacturing subsectors are nearly limitless. Advances in Materials Science can benefit components manufacturing, such as cement and cement product manufacturing and semiconductor and other electronic component manufacturing, and final product manufacturing, such as motor vehicle parts manufacturing, electric lighting equipment manufacturing, and machinery manufacturing. Because there are many specialized manufacturing areas that can grow as a result of the Materials Science target, an Employment Trends table is not included in that section. However, there is a table that connects the top 10 Materials Science research areas in the nation with examples of production applications that illustrates the wide-reaching impact that the sector can have on manufacturing in Greater San Marcos. It is important to note that Materials Science can also connect to Aerospace and Life Sciences in terms of advancing research and commercialization in those specialized fields.

Though certain strategic implications are noted for each proposed sector, this Target Business Analysis is a research document, **not** a strategy. Collectively, these targets can help Greater San Marcos become more specialized in areas of existing strength, grow jobs that can support economic diversification, and nurture and create the community's identity. This research report will analyze each target in detail and more fully explain why they merit strategic attention and what kind of strategic attention **may** be appropriate based on the research findings. Specific actions to grow the San Marcos region's recommended target sectors will be included in the Vision 2020 Strategy and must include a holistic focus on the three legs of the economic development "stool": existing business services, new enterprise creation, and marketing and attraction programs.

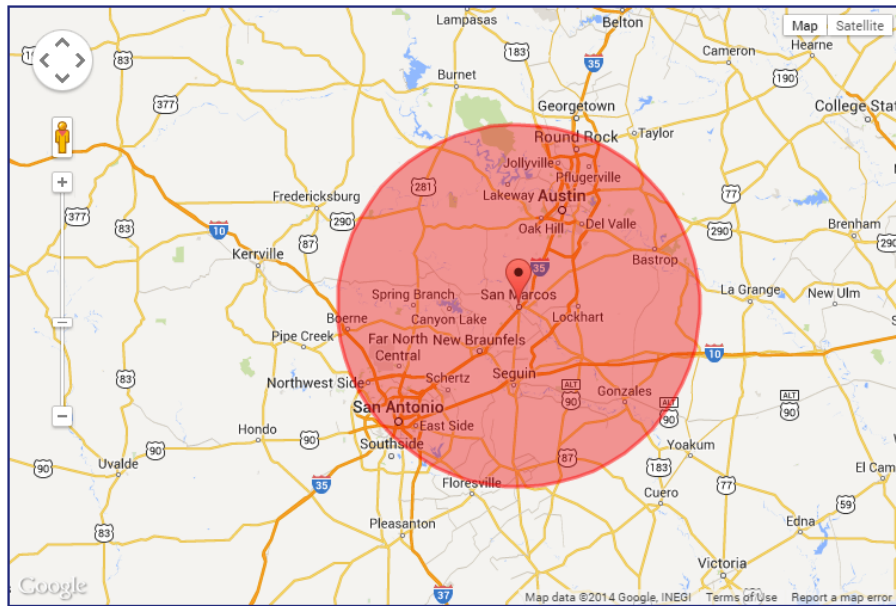
METHODOLOGY AND CONCEPTS

In the field of economic development, there are many methods used to identify targets but most are based on incomplete or strictly industry-focused (business-sector-focused) methodologies. Such approaches ignore the variety of important issues from workforce attributes to educational assets to geographic advantages, all of which are vital to businesses. *Market Street's* approach to target identification is rooted in a broader examination of the region's workforce—the occupations and types of knowledge that support the region's business activities—as opposed to strictly focusing on business sector composition and growth. It is complemented by an evaluation of the region's business climate, infrastructure, research assets, educational programs, and many other items that factor into site location decisions for specific types of business activity.

CLASSIFICATION: Our approach does not strictly define targets based on North American Industry Classification System (NAICS) codes or Standard Occupational Classification (SOC) codes. Though these codes are used to help quantify important trends and activity within each target, they should not be interpreted as rigid definitions of the composition of economic activity within a given target. Classification codes are helpful in understanding target composition and growth, but they cannot adequately capture niche technologies and opportunities that may deserve strategic attention in certain communities.

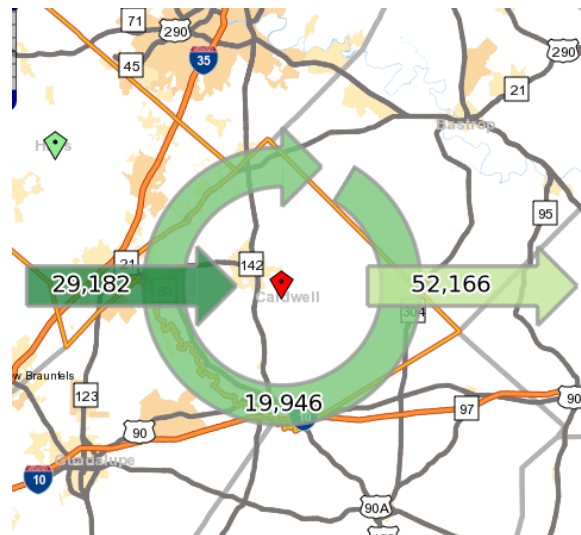
GEOGRAPHIES: For **employment data**, *Market Street* utilized the Greater San Marcos Partnership's service region consisting of Hays and Caldwell Counties as the geography of analysis. However, for **occupational data**, we felt it was important to acknowledge the San Marcos region's access to a wider, more diverse labor force. A 50-mile radius is a widely accepted measure of distance for labor sheds because employees will generally drive within 50 miles to commute for a quality job. For this analysis, *Market Street* included the ten Austin MSA and San Antonio MSA counties that are (wholly or partially) within 50 miles of Greater San Marcos: Hays and Caldwell in Greater San Marcos; Bastrop, Travis, and Williamson which comprise the rest of the Austin MSA; and Bexar, Comal, Guadalupe, Kendall, and Wilson in the northeastern portion of the San Antonio MSA. Within this radius are several high-capacity municipalities, particularly Austin and San Antonio, with high concentrations of trained workers in diverse areas.

50-MILE RADIUS OF CITY OF SAN MARCOS, TEXAS



Because of this labor shed accessibility, existing and potential employers in Greater San Marcos have legitimate access to a **much larger workforce** (nearly 2.0 million) than the 72,240 workers in the two-county region. In 2011, the most recent commuting data available from Census OnTheMap, 72.3 percent of Greater San Marcos residents leave the two-county region to work, while 59.4 percent of the region’s employees do not live in Hays or Caldwell counties.

COMMUTING PATTERNS IN GREATER SAN MARCOS, 2011



Thus, by marketing the Greater San Marcos region’s access to a broader, more highly-skilled labor pool, local economic developers could more compellingly communicate the strategic advantages of the San Marcos region’s location on the dynamic I-35 corridor.

LOCATION QUOTIENTS: Location quotients (LQs) are used to measure the relative concentration of local employment in a given business sector or occupation. When applied to business sector employment, they measure the ratio of a business sector's share of total local employment to that business sector's share of total national employment. A business sector with an LQ equal to 1.0 possesses exactly the same share of total local employment as that business sector's share of national employment. When a local business sector possesses a location quotient greater than 1.0, this signals that the business sector is more heavily concentrated in the community than it is nationwide. Those business sectors with relatively large LQs are often assumed to benefit from one or more sources of competitive advantage derived from locating in the community being studied. Location quotients can also be applied to occupational employment in the same manner that they are applied to business sector employment, helping to determine which occupations and corresponding skill sets—irrespective of the business sectors that employ them—are highly concentrated in the local workforce.

DATA SOURCES: The Target Business Analysis presents a variety of data on business sector employment composition, wages, establishments, occupational composition, workforce demographics, exports, inter-industry expenditures, job openings, and degree completions. All of the aforementioned quantitative data is sourced from Economic Modeling Specialists, Inc. (EMSI), an industry-leading provider of proprietary data, aggregated from public sources such as the Census Bureau, the Bureau of Labor Statistics, the Bureau of Economic Analysis, the National Center for Education Statistics, CareerBuilder, and many others. EMSI was acquired by CareerBuilder in 2012.

SELECTED OCCUPATIONS: Occupations featured in the Occupation Statistics tables are those that provide the skills and knowledge that could potentially supply targeted companies and are the most prevalent within the subsectors listed in the Employment Trends tables. Please note: all workers in the occupations featured are not necessarily employed within the target's relevant subsectors. These tables are intended to illustrate the volume of talent available.

REGIONAL ADVANTAGE SECTORS

Aerospace

Though not currently a highly concentrated sector in Greater San Marcos, Aerospace presents dynamic opportunities to fuel regional economic diversification, raise wage and income levels, and capitalize on super-regional assets.

As defined for this report, the Aerospace target encompasses **aviation**—in terms of the operation of aircraft—as well as the design and production of **aircraft, space mission, and national defense and security-related products and parts**, as well as a variety of subsectors that provide unfinished inputs or supply finished components to the core aerospace products sectors. These supplying – or “upstream” – sectors consist of two tiers. The first tier provides finished components such as electronic, optical, and navigational components. The second tier provides other inputs derived from raw materials that are used

in the production of finished aerospace and defense-related products. These second-tier suppliers include providers of metal, aluminum, nuts and bolts, rubber tubing, and other inputs that may be used in the manufacture of a variety of goods. The term “advanced equipment” captures a variety of these first and second tier suppliers as well as manufacturers of other electrical products and finished goods that are not used by the aerospace sector but become consumer goods or integrated into other types of transportation equipment.

Many of the affiliated and supporting sectors that transform raw materials such as metal, aluminum, steel, and rubber for use in aerospace product and parts manufacturing, as well as a variety of other forms of advanced equipment, often co-locate in close proximity to their end market (such as major defense-related and aerospace manufacturers like *C-FAN*, a joint venture between GE Aircraft Engines and SNECMA (a French multinational aircraft and rocket engine manufacturer). One of the region’s largest employers, *C-FAN* produces GE90 engine fan blades that power the Boeing 777 airliner. This type of clustering has been observed in other metropolitan areas with a major industry-leading defense contractor. A good example is St. Louis, where hundreds of first and second tier suppliers have co-located near Boeing Integrated Defense Systems (IDS) to minimize transportation costs, leverage a common labor pool, and take advantage of the research and development synergies and expertise of Boeing IDS.

Data related to economic trends of the subsectors within this target indicates that a clustering effect to the magnitude of St. Louis has not yet taken place in Greater San Marcos, but has indeed begun with much room to grow. Nurturing this clustering effect by working with the region’s major employers and Texas State to identify potential suppliers that could benefit from co-location is a natural step in the development of this target.

SUBSECTOR PERFORMANCE

Greater San Marcos’ Aerospace target is comprised of subsectors related to the development of aerospace products and equipment and the components needed for assembly, as well as air transportation and support activities. **The region has clear strengths due to the presence of its major employers.** Though product and process design is not prevalent in the region, Aerospace clustering activities should include strategies to develop this value-added presence in Greater San Marcos **Key firms supporting the Aerospace target include but are not limited to:**

- *C-FAN* – profiled in the introduction.
- *UTC Aerospace Systems* has its Aerostructures office in the City of San Marcos, where they provide engine outer casings and aftermarket support for the world’s newest large commercial twinjets, the Boeing 787 Dreamliner and the Airbus A350 XWB.
- *Mensor Corporation* designs and manufactures precision measuring instruments and automatic pressure test and calibration equipment. The company developed the first quartz manometer, a tool to measure pressure, designed for the aerospace industry.

With nearly 800 employees, aerospace products and parts manufacturing is the largest subsector within the target. The target has grown significantly in terms of regional employment over the last 10 years, more than doubling while national employment in equivalent subsectors grew by only 10 percent. All but one of the relevant subsectors in Greater San Marcos grew exponentially, as shown in the table on page 9. Using shift share analysis to pare out the source of job growth or loss over a five-year period, *Market Street* found that **local competitive characteristics in Greater San Marcos (as opposed to national factors) contributed to job growth in all Aerospace business sectors.** This is a positive finding because it speaks to opportunities to leverage these factors for additional regional growth.

Employment concentrations, measured by location quotients, are often used as an indication of clustering by firms in local business sectors. **Data suggests that the Aerospace target in Greater San Marcos is starting to develop into a cluster.** Four subsectors have location quotients of over 2.0, or double the employment concentration in the average U.S. community: nonscheduled air transportation (4.59), other electrical equipment and component manufacturing (4.38), aerospace product and parts manufacturing (3.33), and industrial machinery manufacturing (2.05). The architectural and structural metals manufacturing sector has a location quotient of 1.98. With very strong concentrations in several subsectors within this target and high average wages across the board, the region has an opportunity to continue developing Aerospace into a significant cluster by understanding supplier needs within the larger super-region, connecting research initiatives with existing companies, attracting prospective companies with existing assets, training and reskilling workers to fill jobs, and working to grow subsectors with low employment concentrations.

When the relevant subsectors are aggregated, the average annual wage of the Aerospace target (\$64,586) is nearly double the regional average. A closer look reveals that the average annual wage of each business sector included in this target greatly exceeds the regional average annual wage of \$32,990. This helps to dispel a myth that is commonly associated with manufacturing in the United States. Although there are undoubtedly low-wage occupations that support manufacturing operations, there are also an abundance of higher-wage occupations that require varying levels of training and/or education and provide the opportunity to elevate the average wage for a community across all related sectors.

Greater San Marcos' 2012 output of Aerospace-related exports is strong, contributing significantly to the exports generated by the larger 10-county super-regional labor shed. Greater San Marcos' Aerospace target generates \$738 million in exports, or 11.5 percent of the two-county region's total. This percentage of exports is nearly *double* the percentage of the 10-county region's exports generating from these subsectors (6.6 percent) and is higher than the percentage of state exports from these subsectors (9.0 percent). The greatest volume of exports within this target in the Greater San Marcos region is from aircraft engine and engine parts manufacturing (\$164 million in exports), current-carrying wiring device manufacturing (\$150 million), nonscheduled chartered passenger air transportation (\$81 million), aircraft manufacturing (\$65 million), and scheduled passenger air transportation (\$44 million).

EMPLOYMENT TRENDS, AEROSPACE TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%
3323	Architectural and Structural Metals Manufacturing	330	1.98	68%	(9%)	\$58,492	117.2%
3332	Industrial Machinery Manufacturing	105	2.05	NA	(14%)	\$40,362	53.6%
3336	Engine, Turbine, and Power Transmission Equipment Mfg	57	1.20	(22%)	6%	\$35,533	46.6%
3344	Semiconductor and Other Electronic Component Mfg	83	0.46	177%	(19%)	\$69,343	75.8%
3345	Navigational, Measuring, Electromedical, & Control Instruments M	187	0.99	171%	(9%)	\$76,358	82.1%
3359	Other Electrical Equipment and Component Mfg	265	4.38	279%	(9%)	\$77,819	124.1%
3364	Aerospace Product and Parts Mfg	796	3.33	84%	14%	\$68,269	74.3%
481	Air Transportation	195	0.90	786%	(14%)	\$79,147	114.2%
4811	Scheduled Air Transportation	106	0.54	NA	(15%)	\$41,485	60.5%
4812	Nonscheduled Air Transportation	89	4.59	324%	(9%)	\$127,962	163.9%
4881	Support Activities for Air Transportation	25	0.30	9%	24%	\$48,557	99.0%
54133	Engineering Services	241	0.54	194%	17%	\$68,404	77.2%
5415	Computer Systems Design and Related Services	327	0.38	206%	42%	\$60,846	59.8%
Total, Aerospace Target		2,611	1.02	136%	10%	\$64,586	78.7%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

OCCUPATION TRENDS

According to Aerospace International, roughly two-thirds of the American aerospace workforce is aged 50 or older. Without question, the development of a sustainable workforce is among the most critical issues, if not the single most critical issue, facing the aerospace sector today. New projects will demand that regions have an adequate pool of workers with precision skills in areas like engineering, information technology, fabrication, and assembly, as well as high quality and high capacity education and training programs to generate a consistent pipeline. Greater San Marcos benefits from its geographic location between Austin and San Antonio in that its labor shed includes counties from two metros with valuable training and workforce assets. This section will explore occupational data and training opportunities in the 10-county area within driving distance of Greater San Marcos.

Across almost all occupations, the larger super-regional labor shed has experienced more favorable growth trends than those nationwide. While these occupations saw a national increase of only 0.2 percent over the 10-year period, the 10-county Austin-San Marcos-San Antonio super-region experienced a 19 percent increase of this group of occupations. This is a positive sign that the region is effectively training workers to fill the demands of relevant companies.

The 10-county super-region has a high concentration of computer-related and electrical occupations. Since computer systems design and related services is an underrepresented subsector in Greater San Marcos, marketing the region's proximity to a strong workforce trained in computer science fields may help with attracting aerospace companies requiring those skills and knowledge base. The supply

of workers with electrical expertise support the concentrated subsectors of other electrical equipment and component manufacturing and could help to attract jobs in the less concentrated areas of semiconductor and other electronic component manufacturing and navigational, measuring, electromedical, and control instruments manufacturing.

As expected, occupations in the Greater San Marcos 10-county super-region requiring more education and training provided higher wages. Many production jobs provide wages that are lower than the regional average hourly wage of \$20.72—keeping in mind that these occupational statistics cover *all* production jobs irrespective of the sector because these skills are often translatable between subsectors, potentially with additional in-house training. These lower wage positions have very low concentrations, signaling a dearth of job opportunities in production, which is a key component of the Aerospace target. Despite the lower wages of production-related jobs, these positions are important opportunities for entry-level workers and for workers with lower levels of skills training.

If current demographic trends continue, workforce gaps are projected in several occupations in the super-region relevant to the Aerospace target. Of the 29 occupations for which age data is available, 14 have a greater percentage of workers aged 45+ than those aged 25-44. These include higher wage positions such as industrial production managers, architectural and engineering managers, aerospace engineers, and industrial engineers, as well as lower wage positions such as electrical and electronic equipment assemblers, engine and other machine assemblers, and general maintenance and repair workers. In addition, several mid-tier skills-focused jobs are at risk of workforce sustainability, including many technician and mechanic positions, including aircraft mechanics and service technicians, industrial machinery mechanics, mechanical engineering technicians, and engineering technicians. Talent retention efforts, new degree development, and provision of increased access to Austin Community College and Gary Job Corps training opportunities will continue to be vital strategies to ensure Greater San Marcos employers have replacement workers for future retirees.

OCCUPATIONAL STATISTICS, AEROSPACE TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
11-2021	Computer and Information Systems Managers	3,724	0.89	21%	11%	\$60.23	98.0%
11-3051	Industrial Production Managers	1,299	0.61	(0%)	(13%)	\$49.26	106.0%
11-9041	Architectural and Engineering Managers	2,738	1.11	15%	2%	\$63.70	99.6%
15-1121	Computer Systems Analysts	11,499	1.71	47%	20%	\$38.58	97.1%
15-1142	Network and Computer Systems Administrators	5,494	1.18	23%	6%	\$34.18	93.6%
15-1143	Computer Network Architects	3,170	1.72	27%	3%	\$49.03	109.0%
15-1151	Computer User Support Specialists	10,093	1.31	32%	14%	\$24.59	102.1%
15-1152	Computer Network Support Specialists	4,004	1.70	22%	4%	\$29.59	97.9%
17-2011	Aerospace Engineers	370	0.34	1%	14%	\$43.08	85.5%
17-2061	Computer Hardware Engineers	3,178	3.00	6%	0%	\$44.18	89.1%
17-2071	Electrical Engineers	2,010	0.95	11%	1%	\$43.27	98.3%
17-2072	Electronics Engineers, Except Computer	2,435	1.37	9%	(4%)	\$44.62	97.6%
17-2112	Industrial Engineers	2,245	0.78	11%	(5%)	\$39.74	100.7%
17-2141	Mechanical Engineers	1,655	0.49	9%	(1%)	\$38.73	95.3%
17-2199	Engineers, All Other	1,927	1.07	24%	5%	\$44.06	101.4%
17-3012	Electrical and Electronics Drafters	907	2.40	29%	(1%)	\$34.82	124.1%
17-3013	Mechanical Drafters	329	0.39	(4%)	(9%)	\$25.77	100.9%
17-3019	Drafters, All Other	222	1.11	19%	(4%)	\$24.66	105.0%
17-3021	Aerospace Engineering and Operations Technicians	136	1.07	8%	2%	\$29.64	99.5%
17-3023	Electrical and Electronics Engineering Technicians	4,134	2.20	10%	(5%)	\$24.94	89.5%
17-3024	Electro-Mechanical Technicians	78	0.35	(13%)	3%	\$25.10	97.7%
17-3026	Industrial Engineering Technicians	363	0.41	(14%)	(11%)	\$28.23	110.7%
17-3027	Mechanical Engineering Technicians	449	0.73	18%	(2%)	\$22.56	87.3%
17-3029	Engineering Technicians, Except Drafters, All Other	1,177	1.34	23%	7%	\$31.00	106.1%
49-3011	Aircraft Mechanics and Service Technicians	2,102	1.31	12%	6%	\$21.67	81.3%
49-9041	Industrial Machinery Mechanics	2,526	0.61	29%	7%	\$21.17	91.2%
49-9071	Maintenance and Repair Workers, General	17,767	1.00	22%	3%	\$15.69	87.8%
51-2011	Aircraft Structure, Surfaces, Rigging, & Systems Assemblers	565	1.04	31%	33%	\$17.08	73.2%
51-2021	Coil Winders, Tapers, and Finishers	92	0.50	(3%)	(11%)	\$15.19	98.7%
51-2022	Electrical and Electronic Equipment Assemblers	6,148	2.44	(3%)	(15%)	\$13.03	87.5%
51-2023	Electromechanical Equipment Assemblers	549	0.84	(3%)	(12%)	\$14.86	93.8%
51-2031	Engine and Other Machine Assemblers	117	0.22	4%	(5%)	\$15.27	84.2%
51-2041	Structural Metal Fabricators and Fitters	414	0.40	(2%)	(9%)	\$16.59	92.6%
51-2091	Fiberglass Laminators and Fabricators	117	0.49	17%	(14%)	\$12.44	86.1%
51-2092	Team Assemblers	6,540	0.49	12%	(14%)	\$12.24	85.0%
53-2011	Airline Pilots, Copilots, and Flight Engineers	157	0.18	5%	(7%)	\$61.66	100.0%
53-2012	Commercial Pilots	307	0.65	23%	5%	\$43.04	113.5%
53-2021	Air Traffic Controllers	214	0.66	21%	17%	\$40.49	71.1%
53-2022	Airfield Operations Specialists	43	0.45	5%	4%	\$30.51	126.2%
53-2031	Flight Attendants	222	0.20	1%	(10%)	\$21.56	105.9%
53-6051	Transportation Inspectors	243	0.73	15%	12%	\$31.22	97.7%
Total, Aerospace Target		101,759	1.04	19%	0.2%	\$29.85	99.7%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

EDUCATIONAL PROGRAMS

Thriving Aerospace clusters typically require close proximity to research universities with strengths in fields including engineering, advanced materials, and aeronautics. This provides not only long-term research and development partnership opportunities (discussed in the next section), but also professional development options for existing and future workers.

- Within its College of Science and Engineering, **Texas State University** offers undergraduate degrees in computer science, computer engineering, electrical engineering, industrial engineering, general manufacturing engineering, semiconductor manufacturing, engineering technology, industrial technology, mathematics, applied mathematics, and physics. Graduate degree programs include the PhD in Materials Science, Engineering, and Commercialization and master's degrees in applied mathematics, computer science, engineering, materials physics, mathematics, physics, software engineering, and technology management. The university's Department of Aerospace Studies has an Air Force Reserve Officer Training Corps (ROTC), which provides an opportunity for students to become Air Force officers upon graduation.
- **Austin Community College's Hays County campus** offers courses in Computer Information Technology, Computer Science, Geography, and Mathematics that may have applicability or can ultimately support the Aerospace sector. At the main ACC campus, associate degree and certificate programs are offered in architecture and engineering computer aided design, computer information technology, computer science, electronics and advanced technologies, engineering, mathematics, physics, and welding technology.
- In addition to these programs, employers can draw from recent graduates from nearby research institutions: **University of Texas-Austin** and **University of Texas-San Antonio**. Among the abundance of relevant undergraduate and graduate programs offered at the two, there are aerospace-specific programs. UT-Austin has a Bachelor of Science in Aerospace Engineering with technical area options in atmospheric flight and space flight as well as a Master of Science in Engineering (MSE) and a PhD in aerospace engineering. UT-San Antonio offers an aerospace studies minor through its Air Force Reserve Officer Training Corps (ROTC).

PLACE-BASED ASSETS AND OPPORTUNITIES

Partnerships between universities and industry often provide foundations for aerospace equipment manufacturers, prime defense contractors, or other large employers to attract federally-funded research centers or heavily influence existing research centers or vice versa. Through these partnerships, funded academic research can lead to innovative developments in technology and information, which can be used to improve processes and end products.

In Greater San Marcos, Texas State recently entered into a multi-million dollar contract with Jacobs Engineering to collaborate on advanced engineering and science work for NASA, which will provide students and faculty applied research opportunities. Currently, Jacobs will provide the funding for Texas State to employ a full-time engineering staff on-site in Houston. However, the university and Jacobs have

started discussing the possibility of establishing presence on the Texas State campus or in STAR Park as well as the potential for funding and commercialization collaboration with startups at STAR Park.

In addition to Texas State University and the region's major aerospace employers, Greater San Marcos benefits from the presence of the San Marcos Municipal Airport, which has 1,340 acres of developable land as well as its Redbird Skyport, a 27,000 square foot training space and flight school. The designated "reliever" facility for San Antonio's and Austin's international airports, the San Marcos Municipal Airport is the largest general aviation airport in the area and is an important asset for the region for many reasons. Because of the Municipal Airport and its staffed air traffic control tower, three asphalt runways exceeding 5,200 feet, a 100-foot wide parking ramp, executive hangars, security fencing, and on-site fixed-base operator, the region has enhanced transportation access, exiting infrastructure, and technology capacity. The airport also has a 40-acre Foreign Trade Zone (FTZ) Magnet Site where businesses can locate and be eligible to take advantage of duty and ad valorem tax exemptions on goods shipped there, and 17 operating businesses, including *Berry Aviation*. Berry Aviation is a growing special aviation provider with a customer base that includes the U.S. government, for which the company provides international flight support by transporting personnel and other materials to defense sites. The *Redbird Skyport* is not only a training space and flight school, but also designs and tests flight simulators and hosts an annual flight industry and design conference, which supports innovation related to flight training.

Greater San Marcos is also in close proximity to San Antonio's world-class aerospace assets, which include two active air force bases: Lackland AFB, the Air Force's largest training wing, and Randolph AFB, the headquarters for Air Education and Training Command. Also nearby is *Port San Antonio*, a 1,900-acre Foreign Trade Zone-designated aerospace complex. Its nearly eight million square feet of leased facilities house over 80 private and public organizations focused on aerospace, logistics, manufacturing, government, and military as well as hangars, warehouses, training centers, and workforce housing. Boeing, Lockheed Martin, Northrop Grumman, Raytheon, and other major aerospace firms all have presence in San Antonio, which should be leveraged by the Greater San Marcos region.

STRATEGIC IMPLICATIONS

Clustering activities for Greater San Marcos' Aerospace target will need to be multi-faceted and aggressive. Certainly, working with the region's existing businesses to retain and expand employment will be a critical strategy. This is especially true because Greater San Marcos does not have the critical mass of employment that would lead to buyer/supplier agglomeration effects. That said, support provided by economic development to identify potential new markets for regional employers as well as attraction opportunities for their supplier firms are viable marketing strategies.

If Greater San Marcos is to expand its Aerospace sector beyond production, it will be necessary to enhance the availability of higher-skill talent in the region. This could either be done by increasing the training opportunities for these occupations locally or tapping into the super-regional labor force to demonstrate to prospect employers that talent pools with these skill sets are available within driving distance of Greater San Marcos. The region can be marketed as an attractive location for employers in product and process design exactly because of its centrality to Aerospace capacities in San Antonio and Austin.

As such, Greater San Marcos economic development organizations can benefit from the investments currently being made by the San Antonio Economic Development Foundation and the Greater San Antonio Chamber in Aerospace and Aviation. These organizations, much like the Greater San Marcos Partnership, focus on aircraft equipment and parts manufacturing, aircraft maintenance and repair, transportation equipment and supplies manufacturing and distribution, scheduled and unscheduled air transportation, and flight school operation.

Business Services and Support

Market Street feels that Greater San Marcos is well positioned to capture opportunities in three growing sub-categories of Business Services and Support employment – namely, **Customer Care Operations, Professional, Scientific, and Technical Services,** and **Data Centers**. What ties these three categories together is the need for business and information technology (IT) centered skill sets, the storage, support, input, and analysis of business-related data, and potential development/attraction of business units in these niches from existing San Marcos area firms.

The presence of thousands of college students in and within driving distance of the region and access to new graduates are competitive assets economic developers can market to customer care firms and other professional services firms, while access to a wealth of super-regional information technology expertise would satisfy the labor demands of data centers, which typically only hire a handful of employees to run their facilities. **The two counties comprising Greater San Marcos also feature lower labor, land, and rental costs than Austin and San Antonio proper.** The benefit for Greater San Marcos stakeholders are flexible, entry-level services jobs that pay competitive wages (*customer care*), provision of opportunities for recent graduates, mid-career professionals, and small business people (*professional services*), and the potential infusion of huge capital investment, energy usage, and tax contributions (*data centers*).

Customer Care Operations include business functions that are vital to the operation of firms, such as customer support centers, financial transactions processing, and shared services. For the past several decades, companies around the world and across a variety of industry sectors have improved efficiencies in various business functions such as customer assistance and payroll management in an effort to decrease operating costs. Some companies have outsourced these tasks to third-party firms, while others have consolidated them in-house in a “shared services” setup. As a result, tasks that used to be spread out across a variety of departments are consolidated into a single internal unit, which then provides its services company-wide. It is important to note that there are two types of call centers: inbound, which provides customer service and support, and outbound, which entails sales and telemarketing. Typically, inbound service centers provide higher wages to workers and require greater levels of training to ensure the understanding of products and services in order to assist consumers and identify business solutions. College and university students have proven to be a very desirable labor pool for customer support operations. *Market Street* is recommending that Greater San Marcos **only** pursues higher-value, inbound support center firms.

Professional, Scientific, and Technical Services firms provide services and solutions to consumers as well as other businesses. Varying widely in size and scale, companies in this niche include business support functions such as legal services, advertising and public relations services, software and computer programming, and consulting operations. This niche provides a platform for tech entrepreneurs and service-oriented small business owners, which can support talent retention and attraction. It also offers recent business graduates of Texas State with potential entry-level opportunities at good wages.

The third Business Services and Support niche – Data Centers – collects, processes, stores, and monitors valuable data for clients. With almost infinite bytes of data streaming daily across the internet and stored in cloud-based systems, data centers have become de facto operational necessities for companies purveying data-intensive processes and products. Because stored data must have redundancies, companies must constantly invest in additional data centers in multiple locations so as to reduce risks that their entire data storehouse is compromised by a single event. Though its electricity rates are not as low as some other U.S. locations, Central Texas’ comparatively lessened risk of natural disasters, weather events, or other potentially catastrophic disruptors to data center operations also enhances its competitiveness for these facilities. Indeed, Central Texas has proven to be a competitive location overall for data centers, with multiple announcements in recent years.

Currently, the Greater San Marcos Partnership targets Corporate and Professional Operations, which encompasses corporate headquarters, regional offices, and financial services firms. At this time, however, *Market Street* feels it is premature for the region to target corporate headquarter operations. These projects are increasingly concentrating in major metropolitan areas with access to international airports with multiple direct connections to domestic and international business centers. While Greater San Marcos has access to two international airports, which will be discussed in the Place-Based Assets and Opportunities section, the region does not have the hub-level flight capacity typically considered competitive for major corporate headquarters. Greater San Marcos must also work to enhance the skill levels of its professional workforce, provide adequate executive housing stock, and facilitate development of thousands of square feet of Class-A office space to have sufficient product to market to headquarters firms. *Market Street* believes that opportunities related to *regional offices* are encompassed by the proposed customer care operations and professional, scientific, and technical services niches in the Business Services and Support target.

SUBSECTOR PERFORMANCE

Because of the need for business support services for firms across sectors, this target is a key opportunity for Greater San Marcos to promote the region to potential prospects in non-targeted industries. This includes firms looking to consolidate operations in shared-services centers, outsource various professional service functions, or store data in secure off-site locations. It is important to note that the “definition” of this target is not exhaustive because some firms will be classified by their primary economic activity, rather than the targeted business function supporting the firm’s operation. For example, if one of the region’s hospitals created a shared service center, the corresponding NAICS code would likely be 62 (Health Care and Social Assistance) despite the business support functions the center would provide. Examples of Business Services and Support firms in the region are:

- *Bowman Consulting*, a national engineering, surveying, landscape architecture, and environmental consulting firm with one of its three Texas offices in the City of San Marcos;
- Austin-based firms with local presence, such as *Doucet and Associates*, a civil engineering design and consulting and surveying firm with local projects including the Red Oak Village retail development;
- *tekRESCUE, Inc.*, an IT consulting firm that repairs computers, smartphones, and enterprise level servers owned by small and mid-sized businesses, develops and maintains websites, and provides search engine optimization services; and
- *The Whitenton Group*, an environmental consulting firm that markets research and public relations services.

Despite low concentrations in the relevant subsectors for this target, employment growth has been significant over the last 10 years. While these subsectors experienced national job growth of 19 percent, employment in the two-county Greater San Marcos region doubled. This is a positive sign that the region has the ingredients for a stronger presence of these firms.

The annual average wage for the Business Services and Support target (\$43,946) surpasses the regional annual average wage of \$32,990. While there are sectors with average wages lower than the regional average wage, it is still important that opportunities exist across skill and knowledge levels. The data also reveal that currently, labor is low cost in the region for these subsectors, a key factor for prospective companies and a potential reason for lower wage rates.

EMPLOYMENT TRENDS, BUSINESS SERVICES AND SUPPORT TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%
Customer Care							
52232	Financial Transactions Processing, Reserve, & Clearinghouse Activities	28	● 0.49	NA	43%	\$42,808	● 57.5%
551114	Corporate, Subsidiary, & Regional Managing Offices	277	● 0.29	489%	26%	\$60,429	● 55.2%
5611	Office Administrative Services	123	● 0.56	98%	47%	\$59,756	● 74.8%
5614	Business Support Services	197	● 0.45	60%	12%	\$26,187	● 69.3%
Professional, Scientific, and Technical Services							
5411	Legal Services	292	● 0.45	25%	(2%)	\$54,380	● 62.3%
5412	Accounting, Tax Preparation, Bookkeeping, & Payroll Svcs	298	● 0.57	34%	9%	\$27,696	● 44.2%
5413	Architectural, Engineering, & Related Services	377	● 0.55	79%	8%	\$56,262	● 69.9%
5414	Specialized Design Services	120	● 1.01	85%	(1%)	\$33,864	● 80.6%
5415	Computer Systems Design & Related Services	327	● 0.38	206%	42%	\$60,846	● 59.8%
5416	Management, Scientific, & Technical Consulting Svcs	624	● 0.90	144%	54%	\$47,682	● 61.4%
54161	Management Consulting Services	520	● 0.99	146%	42%	\$47,636	● 59.2%
5417	Scientific Research & Development Services	40	● 0.13	90%	18%	\$62,454	● 54.8%
5418	Advertising, Public Relations, & Related Services	70	● 0.28	(20%)	(5%)	\$35,209	● 46.1%
5419	Other Professional, Scientific, & Technical Services	621	● 1.77	142%	25%	\$25,667	● 59.7%
Data Centers							
518210	Data Processing, Hosting, and Related Services	86	● 0.67	91%	(6%)	\$25,907	● 28.7%
Total, Business Services and Support Target		3,480	● 0.56	100%	19%	\$43,946	● 54.0%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

A quarter of the employment in 2013, or 855 jobs, in this target can be attributed to entrepreneurs.

This is a 35 percent increase in the number of self-employed individuals working in the included business sectors between 2003 and 2013. Region-wide, only 9 percent of jobs are attributed to the self-employed, an indication that this target is a prime opportunity to focus on small business support and connecting small businesses with large employers across business sectors to spur innovation in business support technologies and processes.

OCCUPATION TRENDS

The Business Services and Support target is comprised of a diverse variety of occupations requiring multiple skill sets and educational backgrounds ranging from management to finance to sales to computer-related training. There is already a large presence of occupations key to customer care operations in the 10-county Austin-San Marcos-San Antonio labor shed, including customer service representatives, non-technical wholesale and manufacturing sales representatives, insurance sales agents, and services sales representatives, which total nearly 84,000 workers in just these four occupational categories.

The Professional, Scientific, and Technical Services niche is also supported by high concentrations of occupations with average hourly wages that significantly surpass the regional average, including surveying and mapping technicians, architectural and civil drafters, public relations specialists, human resources specialists, training and development specialists, and architects. The Data Center niche can be supported by the large presence of applications software developers, computer systems analysts, and computer user support specialists in the larger region. It is important to note, though, that due to the growing importance of technology across most business sectors, the computer-related occupations included in this niche are relevant to all three Business Services and Support niches. Of the 56 occupations examined in this analysis, only two (both requiring only a high school diploma) have experienced employment losses over the last 10 years: advertising sales agents and order clerks. Both occupations have also experienced declines nationwide.

With an overall target occupational location quotient of 1.17, employers in Greater San Marcos can access a strong concentration of hireable candidates in the 10-county super-region. Among the highest levels of concentration are credit authorizers, checkers, and clerks (LQ = 3.16), surveying and mapping technicians (2.00), computer and information research scientists (1.96), new accounts clerks (1.77), computer network architects (1.72), computer systems analysts (1.71), and computer network support specialists (1.70). Consistent with the earlier notion that this target provides opportunities across skill and knowledge levels, this target is supported by occupations at a range of hourly wages.

Another positive characteristic of this target is that it is not at risk of workforce shortages upon impending retirements. All but one occupation (administrative services managers) in the Customer Care and Data Center niches has more workers between the ages of 25 and 44 than workers ages 45 and older. Within the Professional, Scientific, and Technical Services niche, which depends more heavily on experienced professionals, there are five at-risk occupations: management analysts; tax preparers; lawyers; bookkeeping, accounting, and auditing clerks; and legal secretaries.

OCCUPATIONAL STATISTICS, BUSINESS SERVICES AND SUPPORT TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
Customer Care							
11-2022	Sales Managers	4,108	0.88	18%	(0.3%)	\$58.49	103.7%
11-3011	Administrative Services Managers	5,965	1.68	30%	8%	\$45.42	106.6%
13-1199	Business Operations Specialists, All Other	12,846	1.03	23%	8%	\$34.62	102.1%
15-2031	Operations Research Analysts	1,245	1.29	44%	23%	\$38.52	100.4%
41-3011	Advertising Sales Agents	1,920	0.85	(20%)	(20%)	\$22.74	84.3%
41-3021	Insurance Sales Agents	13,564	1.50	53%	23%	\$26.16	90.0%
41-3031	Securities, Commodities, and Financial Services Sales Agents	4,830	1.03	35%	(4%)	\$37.99	81.3%
41-3099	Sales Representatives, Services, All Other	13,358	1.35	22%	(1%)	\$25.79	89.6%
41-4011	Sales Reps, Wholesale & Mfg, Technical & Scientific Products	8,086	1.60	23%	1%	\$40.15	98.3%
41-4012	Sales Reps, Wholesale & Mfg, Exc Technical & Scientific Products	16,298	0.84	14%	(2%)	\$28.04	91.9%
41-9031	Sales Engineers	1,206	1.32	12%	(5%)	\$45.63	95.6%
43-3011	Bill and Account Collectors	5,737	1.12	8%	2%	\$15.30	92.6%
43-3021	Billing and Posting Clerks	6,145	0.92	33%	11%	\$16.31	97.7%
43-4041	Credit Authorizers, Checkers, and Clerks	2,105	3.16	18%	(7%)	\$14.34	83.6%
43-4051	Customer Service Representatives	40,419	1.32	24%	4%	\$14.57	91.4%
43-4131	Loan Interviewers and Clerks	3,418	1.32	18%	(7%)	\$18.25	104.6%
43-4141	New Accounts Clerks	1,246	1.77	43%	(5%)	\$14.90	94.1%
43-4151	Order Clerks	1,640	0.60	(13%)	(6%)	\$14.00	92.4%
43-4171	Receptionists and Information Clerks	9,898	0.75	24%	8%	\$12.17	93.0%
43-9041	Insurance Claims and Policy Processing Clerks	4,787	1.61	15%	(0.5%)	\$16.73	93.2%
Professional, Scientific, and Technical Services							
11-2021	Marketing Managers	2,432	1.00	28%	10%	\$57.61	95.5%
13-1071	Human Resources Specialists	7,493	1.38	24%	5%	\$28.92	99.1%
13-1111	Management Analysts	9,441	1.02	46%	19%	\$38.50	97.8%
13-1151	Training and Development Specialists	4,012	1.37	35%	12%	\$27.22	94.8%
13-1161	Market Research Analysts and Marketing Specialists	4,524	0.81	43%	25%	\$34.40	107.0%
13-2011	Accountants and Auditors	17,147	1.03	29%	7%	\$31.86	95.3%
13-2051	Financial Analysts	4,192	1.29	35%	7%	\$42.10	98.8%
13-2082	Tax Preparers	1,208	1.04	48%	9%	\$19.08	94.1%
17-1011	Architects, Except Landscape and Naval	1,760	1.27	20%	(12%)	\$30.97	89.6%
17-2051	Civil Engineers	3,980	1.12	29%	10%	\$41.53	104.2%
17-3011	Architectural and Civil Drafters	1,843	1.60	17%	(16%)	\$23.16	95.7%
17-3031	Surveying and Mapping Technicians	1,365	2.00	38%	3%	\$17.93	87.7%
19-3022	Survey Researchers	274	1.13	38%	17%	\$16.42	67.1%
23-1011	Lawyers	11,514	1.15	13%	1%	\$47.94	84.1%
23-2011	Paralegals and Legal Assistants	3,860	1.06	19%	7%	\$23.60	96.8%
27-1024	Graphic Designers	3,231	0.94	10%	(5%)	\$20.76	95.1%
27-1025	Interior Designers	1,103	1.05	15%	(6%)	\$20.86	93.3%
27-3031	Public Relations Specialists	4,111	1.45	28%	9%	\$30.03	101.3%
43-3031	Bookkeeping, Accounting, and Auditing Clerks	21,562	0.93	24%	3%	\$17.89	101.7%
43-6012	Legal Secretaries	2,475	0.88	3%	(8%)	\$20.28	95.1%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

OCCUPATIONAL STATISTICS, BUSINESS SERVICES AND SUPPORT TARGET, 2013, CONTINUED

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
Data Centers							
11-3021	Computer and Information Systems Managers	3,724	0.89	21%	11%	\$60.23	98.0%
15-1111	Computer and Information Research Scientists	682	1.96	29%	19%	\$42.33	85.0%
15-1121	Computer Systems Analysts	11,499	1.71	47%	20%	\$38.58	97.1%
15-1122	Information Security Analysts	1,467	1.49	59%	31%	\$43.28	100.8%
15-1131	Computer Programmers	5,006	1.14	24%	8%	\$39.61	107.5%
15-1132	Software Developers, Applications	12,877	1.61	35%	21%	\$46.36	104.0%
15-1133	Software Developers, Systems Software	8,393	1.59	26%	15%	\$49.32	100.7%
15-1134	Web Developers	2,711	1.52	57%	31%	\$26.58	91.8%
15-1141	Database Administrators	2,272	1.51	33%	11%	\$37.60	98.8%
15-1142	Network and Computer Systems Administrators	5,494	1.18	23%	6%	\$34.18	93.6%
15-1143	Computer Network Architects	3,170	1.72	27%	3%	\$49.03	109.0%
15-1151	Computer User Support Specialists	10,093	1.31	32%	14%	\$24.59	102.1%
15-1152	Computer Network Support Specialists	4,004	1.70	22%	4%	\$29.59	97.9%
15-1199	Computer Occupations, All Other	4,214	1.61	26%	8%	\$37.43	96.4%
43-9011	Data Entry Keyers	3,899	1.37	5%	(15%)	\$13.95	96.3%
43-9021	Computer Operators	909	0.90	7%	(10%)	\$17.87	92.4%
Total, Corporate Support Target		346,762	1.17	25%	5.5%	\$29.60	98.1%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

EDUCATIONAL PROGRAMS

Higher education institutions in most communities typically offer a competitive supply of business- and IT-focused degree and training programs. Greater San Marcos is no exception; the following comprise the principal two- and four-year degree options in the region.

Austin Community College's Hays County Campus offers programs in: Accounting, Computer Information Technology, Computer Science, Economics, English for Speakers of Other Languages, Management, Mathematics, Office Administration, Spanish, Speech, and Writing.

Relevant **Texas State** undergraduate major offerings include accounting, advertising and mass communication, art, communication design, computer information systems, electronic media and mass communication, finance, graphic design, health information management, interior design, management, marketing, marketing with sales concentration, marketing with services concentration, political science, and public relations and mass communication. Graduate programs include an MBA, a Master of Science in Accounting and Information Technology, and master's degrees in computer science, legal studies, software engineering, technical communication, and technology management. The institution also has paralegal certificate and mediation certificate programs.

In addition to local assets, Greater San Marcos benefits from its proximity to the many colleges and universities in Austin and San Antonio. There are 18 public and private, non-profit colleges and

universities that grant four-year and/or graduate degrees and three public two-year colleges within a 50-mile radius of the City of San Marcos, where students can receive training in an array of relevant fields supporting customer care. There are also two law schools: the School of Law at UT-Austin and St. Mary's University School of Law in San Antonio in the 10-county super-region.

PLACE-BASED ASSETS AND OPPORTUNITIES

While Vision 2020 input respondents noted that Greater San Marcos currently features a dearth of Class-A office product to accommodate customer care and professional services firms, there is ample developable land in the region appropriately zoned for commercial and office uses. This includes sites for data centers. There is more flexibility relative to space for small businesses as they can locate in Class-B and –C properties if necessary and can also launch operations from home, a storefront, or some other type of more readily available space. Land and rental costs are also lower in Hays and Caldwell Counties than in the Austin and San Antonio core counties.

Broadband access is vital to the viability of the Business Services and Support target. **The Greater San Marcos region has access to 25 broadband providers, including mobile providers; according to Broadband Now, the average connection speed in the region is 7 percent faster than the state's average speed.** One provider, City of San Marcos-based Grande Communications, announced in February 2014 that it plans to roll out a new Internet service that offers speeds of one gigabit per second, up to 20 times faster than existing top-tier service. However, despite being headquartered in San Marcos, Grande will initially launch the service in West Austin.

Data centers are facilities that house computer systems that require enormous amounts of energy to operate. Accordingly, electricity costs are an important consideration for these operations. **When compared to other states, commercial and industrial electricity costs in Texas are competitive.** As of July 2014, the commercial electricity costs in Texas were \$8.20 per kilowatt-hour, tied for 3rd nationally and below the average for the United States (\$11.16). Though Texas' rates are competitive, among Central Texas cities, San Marcos' commercial and industrial electricity rates were the highest on average in the most recent available data.

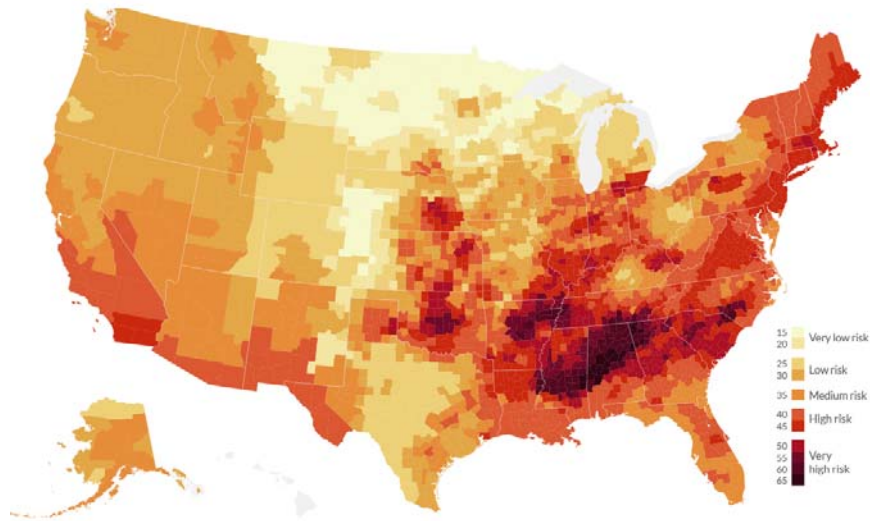
UTILITY RATES BY PROVIDER, 2012

		Commercial	Industrial
Greater San Marcos, TX	Bluebonnet Electric Coop, Inc	\$11.67	\$8.31
	City of Lockhart	\$10.50	\$8.31
	City of San Marcos	\$8.74	\$8.56
	Pedernales Electric Coop, Inc	\$10.74	\$8.41
	TXU Energy Retail Co LP	\$12.49	\$7.01
City of Austin	Austin Energy	\$9.34	\$6.17
	Entergy Texas	\$6.80	\$4.80
City of San Antonio	First Choice Power	\$10.54	-
	City of San Antonio	\$7.67	\$6.47

Source: U.S. Energy Information Administration

Firms also prefer to locate their data centers in areas that are at a relatively low risk from natural disasters. These centers must be constantly online, so any natural phenomenon that could physically threaten a building or cause a long-term disruption (such as a flood, tornado, or earthquake) to the power grid is a significant threat. According to CNN and RealtyTrac, Hays and Caldwell counties each have risk scores of 25, meaning they are low risks for natural disasters; this is an advantage for the region.

NATURAL DISASTER RISK BY COUNTY



Source: RealtyTrac, CNN Money

In terms of Professional, Scientific, and Technical Services, another critical location factor is proximity to a major airport due to the high rate of business travel required. In this regard, Greater San Marcos benefits from its proximity to two international airports. Though there are overlaps, Austin-Bergstrom International, just over 30 miles away from the region’s core city center, has over 40 nonstop destinations, while San Antonio International, approximately 45 miles away, features over 30 nonstop destinations. Additionally, this position between two airports gives travelers flexibility in terms of airfares and carriers.

STRATEGIC IMPLICATIONS

Growing this target, as with other prioritized sectors, will involve multi-faceted strategies. External marketing is certainly a component to promote Greater San Marcos cost advantages and quality of life amenities to firms looking to locate in Central Texas but without the need to be anchored to Austin or San Antonio. Not only should the San Marcos area tell its story related to Business Services and Support opportunities, but it will be critical to capitalize on and leverage high-capacity efforts in Austin and San Antonio. The former targets the following sectors applicable to Business Services and Support: Corporate Headquarters and Regional Offices and Data Management. San Antonio’s related targets include: IT/Cybersecurity and Financial Services.

Because professional services firms are often smaller, including many sole proprietorships, small business development support capacity and strategies will also be impactful to grow Greater San Marcos' target.

Lastly, the San Marcos region must aggressively develop more competitive capacity for Class A office space, executive housing, and a deeper pool of talent for professional services and support.

Destination Attractions

Destination Attractions seeks to leverage world-class shopping concentrations at the region's outlet malls, natural assets, downtowns, historical districts, and activity centers in the City of San Marcos and other Hays and Caldwell municipalities to draw travelers for multi-day stays and generate national attention for the region. With its location between Austin and San Antonio, Greater San Marcos could potentially attract developments similar to those in Arlington, Texas, which has leveraged its centrality to Dallas and Ft Worth to be a major destination for sports and entertainment attractions.

A key component of the Destination Attractions target is the presence of two adjacent San Marcos outlet malls, *San Marcos Premium Outlets* and the *Tanger Outlets of San Marcos*, located off Interstate 35. Together, these outlets comprise over 200 stores that attract approximately 14 million visitors annually.

- *San Marcos Premium Outlets* touts itself as one of the state's top shopping destinations and provides consumers access to luxury brands. Among its 140 stores on its 741,000 square foot property are designer brands such as Diane Von Furstenberg, Giorgio Armani, Gucci, Michael Kors, Last Call by Neiman Marcus, Prada, Saks Fifth Avenue Off 5th, Salvatore Ferragamo, and Tory Burch.
- *Tanger Outlets of San Marcos* offers a more traditional factory outlet mall experience with low prices for over 100 brand names, including recognizable names for apparel, shoes, accessories, housewares, and other goods at various price points. Examples of the stores located at Tanger Outlets are Adidas, Aldo, American Outfitters, Corningware, Eddie Bauer, Fossil, Jos. A. Bank, Kenneth Cole, Levi's, Old Navy, Perfumania, Stride Rite, and Toys "R" Us.

The outlet mall complex is consistently ranked among the top five most popular tourist attractions in the state and enjoys close proximity to major visitor destinations in Austin, the state capital, and San Antonio, home of the Alamo and Riverwalk. In 2006, ABC's *The View* named the San Marcos Outlets the third best place to shop in the world behind complexes in New York and Dubai; this represented a major earned media "win" for the region.¹

Complementing the malls, the *San Marcos River* and the *Blanco River* are popular tourism attractions for water activities such as canoeing and kayaking. *Jacob's Well Natural Area* is known for its limestone caves. Dripping Springs has branded itself the "Wedding Capital of Texas" and has 34 wedding venues.² According to Sherrie Parks, the executive director of the Dripping Springs Chamber of Commerce and

¹ "TV show: San Marcos outlets among best places to shop." *Austin Business Journal*. 27 July 2006.

² "Dripping Springs: The "Wedding Capital of Texas." myFOXAustin. 4 August 2014. Accessed online at <http://www.myfoxaustin.com/story/26206795/dripping-springs-the-wedding-capital-of-texas>.

Visitors Bureau, more than 1,400 couples were married in Dripping Springs in 2013. The city also has several craft breweries and distilleries. Additional attractions include wineries, such as *Three Dudes Winery* in the City of San Marcos, *Bell Springs Winery* and *Solaro Estate Winery* in Dripping Springs, and the *Bella Vista Ranch* in Wimberley. Lockhart has been garnered national and international attention, featured on Food Network and Travel Channel, and was proclaimed the “Barbecue Capital of Texas” by the Texas Legislature in 1999. These are just a few of the assets that the region can leverage to attract visitors and make improvements to the region’s quality of life for existing and prospective residents and talent.

Market Street believes that Destination Attractions warrants inclusion as a Greater San Marcos target sector because of the visibility and exposure provided to the region that can be leveraged for follow-on marketing as well as the dynamic investment opportunities represented by adjacent properties. In addition to hospitality development – the most logical category to capitalize on based on the mall’s visitation totals – the potential exists to attract a wide variety of retail, entertainment, dining, and even cultural amenities that public input respondents said are lacking in Greater San Marcos. Dense mixed-use development with residential components could also be viable investments that would add to the housing product mix in the region. In these ways, benefits generated by the outlet malls are accrued beyond just the City of San Marcos itself and, eventually, can spread beyond activity centers into neighborhood and strip commercial districts. Coordinated marketing between the outlets and other regional attractions could be impactful for growing the Destination Attractions sector.

SUBSECTOR PERFORMANCE

There are 14,500 workers in Greater San Marcos employed in the region’s Destination Attractions subsectors, which include the region’s strongest areas of retail along with entertainment, lodging, and food services categories. The region has a significant concentration of employment in these subsectors, with an overall target location quotient of 1.61. **The retail component alone has a concentration of 2.96, nearly triple the nationwide figure**, with nearly 6,000 workers employed in retail subsectors. The most concentrated retail subsectors are shoe stores, clothing stores, and sporting goods, hobby, and musical instrument stores. Nationwide, this group of subsectors took a hit in both sales and employment during and after the Great Recession and has bounced back since then, achieving 10 percent overall growth over a 10-year period. However, **this target has thrived in Greater San Marcos**, experiencing 86 percent employment growth over time. The two outlet malls are among the region’s top employers and helped to buffer the region from the impacts of the Great Recession.

Understandably, wages are lower than the region’s average annual wage of \$32,990. However, it is important to note that these jobs are often part-time and provide earning opportunities for unskilled workers, retired workers looking for supplemental income, and for college students to offset educational costs. Although this target features low-wage jobs, many of which are retail salesperson and cashier positions, it has been a key sector buffering the region’s economy from cyclical fluctuations, particularly those during the recession. In addition, **the target generates significant sales tax and property tax revenues for the region and attracts outside dollars to the economy. It is estimated that the two outlet malls generate 45 percent of the entire sales tax revenue for the City of San Marcos.**

In 2012, the Destination Attractions target generated \$537 million in sales. Of that amount, 57.6 percent were exports, meaning that sales were from customers who are not residents of Greater San Marcos. More specifically, the eight retail subsectors included in this analysis generated \$289 million in sales, and 65.2 percent of that amount were exports. Thus, **Destination Attractions can be categorized as a “traded” sector that brings new money into the community;** this is typically not the case for employment of this type. As a point of comparison, only 22.7 percent of statewide total sales for these subsectors were driven by non-resident consumers from both the U.S. and Mexico. Rebecca Ybarra-Ramirez, executive director of the San Marcos Convention and Visitor Bureau, estimates that 30 percent of the outlets’ market is from Mexico.

In 2012, Texas State researchers found that, during the holiday season, the outlet malls in San Marcos attract international shoppers from Mexico who spend approximately twice as much as domestic shoppers from outside of the Austin and San Antonio metros.³ According to the study, the average group of Mexican shoppers spent \$1,568 per trip day, contributing 44 cents to the local economy and 68 cents to the regional economy for each dollar spent. Mexican shoppers were also more likely to stay overnight than domestic visitors and visited on average 2.45 times per year.

³ Sullivan, Bonn, Bhardwaj, and DuPont. “Mexican national cross-border shopping: Exploration of retail tourism.” *Journal of Retailing and Consumer Services*. November 2012. Accessed online at https://www.academia.edu/1991331/Mexican_national_cross_border_shopping_Exploration_of_retail_tourism.

EMPLOYMENT TRENDS, DESTINATION ATTRACTIONS TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%
4481	Clothing Stores	3,090	5.90	173%	10%	\$15,067	80.8%
4482	Shoe Stores	585	6.23	120%	8%	\$14,609	72.8%
4483	Jewelry, Luggage, and Leather Goods Stores	153	1.92	51%	(16%)	\$24,002	73.3%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	741	2.88	323%	10%	\$22,672	113.0%
4512	Book, Periodical, and Music Stores	76	1.26	(56%)	(45%)	\$16,061	67.1%
4521	Department Stores	763	1.15	648%	(14%)	\$19,433	92.7%
4422	Home Furnishings Stores	171	1.43	(35%)	(15%)	\$20,523	72.6%
4539	Other Miscellaneous Store Retailers	207	1.31	99%	(8%)	\$24,054	88.0%
711	Performing Arts, Spectator Sports, and Related Industries	264	0.74	20%	9%	\$20,125	36.1%
712	Museums, Historical Sites, and Similar Institutions	37	0.53	42%	22%	\$15,085	44.6%
713	Amusement, Gambling, and Recreation Industries	280	0.38	(7%)	12%	\$21,409	96.6%
721	Accommodation	704	0.79	110%	3%	\$20,087	70.2%
722	Food Services and Drinking Places	7,429	1.49	62%	19%	\$15,430	91.5%
7221	Full-Service Restaurants	3,269	1.40	69%	19%	\$15,972	86.1%
7222	Limited-Service Eating Places	3,321	1.56	64%	22%	\$15,286	106.4%
7223	Special Food Services	583	1.72	46%	15%	\$14,068	65.3%
7224	Drinking Places (Alcoholic Beverages)	257	1.46	11%	(6%)	\$13,381	84.1%
Total, Destination Retail Target		14,500	1.61	86%	10%	\$16,617	79.8%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

OCCUPATION TRENDS

Destination Attractions is comprised by a number of occupations that have transferability to other regional employment sectors. In this way, experience and skills accrued through retail, dining, and entertainment-related employment can make workers more competitive for higher-paying positions in professional services and other non-retail categories. The most prominent of these occupations in the ten-county Greater San Marcos super-region are general and operations managers; sales managers; art directors; and meeting, convention, and event planners. Collectively, these positions have grown quickly, feature solid concentrations, and employ over 470,000 super-regional workers.

Data show that the 10-county Greater San Marcos super-region has strong occupational concentrations across the board for retail, hospitality, and food services occupations, with the majority featuring LQs above 1.0. Occupational growth from 2003 to 2013 has also been positive for all but one category (Jewelers and Precious Stone and Metal Workers), a direct contrast to national trends. On the other hand, many of the entertainment-related occupations are less concentrated but have still experienced higher levels of growth than the nation.

OCCUPATIONAL STATISTICS, DESTINATION ATTRACTIONS TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
11-2022	Sales Managers	4,108	0.88	18%	(0.3%)	\$58.49	103.7%
11-9051	Food Service Managers	4,585	1.27	43%		\$20.83	102.1%
11-9081	Lodging Managers	645	1.26	25%	(17%)	\$27.86	121.6%
11-1021	General & Operations Managers	27,140	1.07	26%	4%	\$53.89	98.1%
13-1121	Meeting, Convention, & Event Planners	1,408	1.26	58%	33%	\$23.58	98.0%
27-1011	Art Directors	837	1.03	4%	(7%)	\$23.87	77.7%
27-1012	Craft Artists	282	0.97	(1%)	(11%)	\$10.62	130.6%
27-1013	Fine Artists, Including Painters, Sculptors, & Illustrators	254	0.72	1%	(4%)	\$15.44	92.3%
27-1014	Multimedia Artists & Animators	905	1.16	17%	0%	\$19.86	89.5%
27-1026	Merchandise Displayers & Window Trimmers	1,530	1.51	25%	3%	\$12.85	94.3%
27-1027	Set & Exhibit Designers	123	0.89	35%	6%	\$26.90	108.3%
27-2011	Actors	793	0.69	68%	10%	\$29.54	91.9%
27-2012	Producers & Directors	1,017	0.73	15%	3%	\$24.85	62.2%
27-2022	Coaches & Scouts	2,820	0.94	49%	18%	\$19.00	109.8%
27-2031	Dancers	103	0.47	12%	8%	\$16.57	91.4%
27-2032	Choreographers	74	0.64	51%	42%	\$20.34	96.3%
27-2041	Music Directors & Composers	832	0.94	15%	3%	\$23.69	99.6%
27-2042	Musicians & Singers	2,293	0.98	17%	8%	\$20.95	84.4%
33-9032	Security Guards	12,984	0.90	34%	12%	\$11.64	88.6%
35-1011	Chefs & Head Cooks	1,649	1.15	42%	12%	\$20.10	94.9%
35-1012	First-Line Supervisors of Food Prep & Serving Workers	15,449	1.40	49%	18%	\$14.90	98.1%
35-2010	Cooks	29,725	1.05	40%	16%	\$10.12	94.8%
35-2020	Food Preparation Workers	8,983	0.85	30%	9%	\$9.62	95.7%
35-3010	Bartenders	7,144	1.00	36%	7%	\$9.67	93.0%
35-3020	Fast Food & Counter Workers	60,024	1.33	50%	21%	\$8.98	99.3%
35-3031	Waiters & Waitresses	38,755	1.26	43%	14%	\$8.97	90.2%
35-3041	Food Servers, Nonrestaurant	2,259	0.72	34%	16%	\$9.60	90.7%
35-9011	Dining Room & Cafeteria Attendants & Bartender Helpers	7,118	1.35	42%	15%	\$8.84	93.3%
35-9021	Dishwashers	6,330	0.95	36%	14%	\$8.68	95.4%
35-9031	Hosts & Hostesses, Restaurant, Lounge, & Coffee Shop	5,725	1.27	46%	15%	\$8.94	94.8%
37-2012	Maids & Housekeeping Cleaners	19,827	1.02	46%	10%	\$9.10	90.5%
39-3031	Ushers, Lobby Attendants, & Ticket Takers	1,324	0.88	16%	5%	\$8.33	85.3%
39-3091	Amusement & Recreation Attendants	4,326	1.22	30%	10%	\$9.56	98.7%
39-3093	Locker Room, Coatroom, & Dressing Room Attendants	184	0.70	25%	6%	\$9.84	94.8%
39-3099	Entertainment Attendants & Related Workers, All Other	285	1.60	30%	9%	\$14.16	106.0%
39-5091	Makeup Artists, Theatrical & Performance	42	0.72	40%	22%	\$27.87	97.5%
39-6011	Baggage Porters & Bellhops	455	0.83	30%	8%	\$9.57	86.2%
39-6012	Concierges	445	1.27	52%	19%	\$11.97	85.0%
39-7011	Tour Guides & Escorts	520	1.02	33%	13%	\$11.57	87.2%
39-7012	Travel Guides	44	0.54	22%	(2%)	\$23.36	122.5%
39-9032	Recreation Workers	3,100	0.67	27%	15%	\$11.55	95.1%
41-1011	First-Line Supervisors of Retail Sales Workers	19,756	1.05	18%	(3%)	\$18.93	103.7%
41-2011	Cashiers	36,761	0.85	22%	1%	\$9.67	98.7%
41-2031	Retail Salespersons	62,396	1.09	25%	(0.2%)	\$12.39	101.6%
41-9012	Models	285	2.20	48%	21%	\$9.75	71.8%
41-9099	Sales & Related Workers, All Other	2,054	1.06	25%	9%	\$17.66	106.6%
43-4051	Customer Service Representatives	40,419	1.32	24%	4%	\$14.57	91.4%
43-4081	Hotel, Motel, & Resort Desk Clerks	3,036	1.01	40%	7%	\$11.01	104.3%
43-5071	Shipping, Receiving, & Traffic Clerks	8,359	0.92	11%	(6%)	\$13.53	91.6%
43-5081	Stock Clerks & Order Fillers	19,565	0.84	17%	(2%)	\$12.26	104.2%
51-6052	Tailors, Dressmakers, & Custom Sewers	687	1.06	7%	(12%)	\$12.50	99.7%
51-9071	Jewelers & Precious Stone & Metal Workers	625	1.43	(21%)	(20%)	\$17.05	99.2%
Total, Destination Retail Target		470,389	1.08	32%	7%	\$14.56	96.1%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Hourly wages for Destination Attractions occupations as detailed in the previous table are slightly below the super-regional average, but are arguably higher due to the part-time nature of certain retail positions. As has been noted in this analysis, Destination Attractions occupations also provide important opportunities for students working their way through college and workers with entry-level skills.

EDUCATIONAL PROGRAMS

Destination Attractions skills run the gamut from so called “soft” skills focused on attitude, dress, customer relations, professional behavior, and hygiene to specific occupational competencies. As such, a wide spectrum of academic programs can have applicability in a retail context.

Austin Community College, Hays Campus provides the following programs that can be leveraged for Destination Attractions occupations:

- Accounting
- Computer Information Technology
- Computer Science
- Economics
- English for Speakers of Other Languages
- Academic
- Management
- Mathematics
- Office Administration

Texas State majors with applicability to Destination Attractions include:

- Accounting
- Advertising and Mass Communication
- Computer Information Systems
- Computer Science (with or without teacher certification)
- Consumer Affairs
- Economics
- Fashion Merchandising
- Finance
- Graphic Design and Communication Design
- Interior Design
- Management (with or without teacher certification)
- Marketing

PLACE-BASED ASSETS AND OPPORTUNITIES

By far Greater San Marcos’ most significant geographic advantage for Destination Attractions is its key location along the **I-35 corridor** between Austin and San Antonio. Those markets, in addition to access provided to the two cities’ international airports, means that travel to the outlet malls is relatively manageable for regional, domestic, and international visitors. However, highway frontage and ease of access are less favorable for downtown San Marcos and other regional downtowns and activity centers. Providing some type of circulator service between the outlet malls and other regional activity centers could be an opportunity to boost visitation to destinations off the principal highways.

The presence of **Texas State University** is an advantage for Destination Attractions employers, not only because of the incumbent student, faculty, and staff populations, but the visitors the institution draws to Greater San Marcos for football games and other events.

The aforementioned **natural amenities and attractions** in the region, most prominently its rivers, are not draws for Destination Attractions visitors, per se, but can nevertheless help extend travelers stays and attract tourists to the outlet malls who might not otherwise visit the region.

The region has several **downtown districts, historical areas, and activity centers** that can support this target. Greater San Marcos' principal activity center is downtown San Marcos, which has multiple bars, restaurants, clubs, and other largely student-serving retail. Other districts include the Downtown Buda Historic District, the Dripping Springs Downtown Historic District, and the Caldwell County Courthouse Historic District in Lockhart. All of these districts are undergoing improvements and will be key to providing lifestyle amenities, including hotels, diverse housing options, a larger portfolio of restaurants and retail, and other attractions for residents, all of which were identified by stakeholders as necessary to keep and attract talent.

STRATEGIC IMPLICATIONS

The major strategic focus for this target is leveraging the tremendous potential for follow-on investment around principal Destination Attractions assets. There is an abundance of developable property along I-35 near the outlet complex, including over 400 acres at Posey Park, nearly 80 acres at Outlet West, and several other large properties ripe for commercial, office, and residential uses. Research has shown that retail locations are increasingly including entertainment options in their overall "shopping experience," providing a variety of food options and "theme" restaurants, multiplex cinemas, children's play areas, and the like to draw traffic from a broader customer base.⁴ The millions of visitors to the outlet malls are a captive audience to be capitalized on for additional spending. As developments come online, the region will also have increased opportunities to also improve its gateways and appearance along the interstate.

Additionally, as the region continues to build external awareness of its assets, film production will be another opportunity area. Film production can be a lucrative field because of the revenue that it can spur. The various subsectors within this area include production and distribution to theaters, television networks, and/or cable operators and post production, which entails editing, titling and closed caption, animation, and developing and processing film. Currently, the region's existing film production capacity is limited and does not yet warrant inclusion in the data tables presented in previous sections. Success in this field will be contingent on relationship-building with the Austin, San Antonio, and state film offices.

There may even be future opportunities to leverage Destination Attractions visitation to promote other Greater San Marcos targeted economic opportunities. This is especially true for the thousands of higher-income Mexican tourists who travel to the outlet malls multiple times per year. In order to maximize the impact of Destination Attractions, partners such as the San Marcos Convention and Visitor's Bureau (CVB),

⁴ ICSC. *2014 Economic Impact of Shopping Centers*. Accessed online at <http://www.icsc.org/uploads/default/2014-Economic-Impact-Kit.pdf>.

economic development organizations, government, and local and regional merchants associations will need to develop collaborative approaches to tourism product development, place marketing, and event promotion. The CVB and its partners must also continue to leverage the marketing efforts of the Austin CVB, the San Antonio CVB, and state entities including the Office of the Governor, Economic Development and Tourism, also known as Texas Tourism.

Materials Science

Materials science involves the use of the physical and chemical properties of solid materials, inclusive of metals and alloys, ceramics, magnetic materials, polymers, optical materials, semiconductors, superconductors, and composites, to create or improve end-products. Research in the field examines how the microstructure of a material can be changed to influence the strength, electrical conductivity, optical, or magnetic properties of a material. Technological innovations in research at the nanoscale⁵ have greatly advanced opportunities in materials science, especially for discoveries with commercial applications. Because of the complex nature of this scientific discipline, it is intrinsically multidisciplinary, encompassing mechanical, chemical, biomedical, civil, electrical, and aerospace engineering, physics, and chemistry. Materials Science is recommended as a Greater San Marcos target sector because of the region's existing base of manufacturers and the fast-growing innovation capacity at Texas State University and its affiliated STAR Park research complex.

The region also benefits from its strategic presence along the I-35 corridor and investments by the San Antonio Economic Development Foundation in materials and electricity manufacturing and Austin Chamber in advanced manufacturing, which includes high tech manufacturing. As a further example, in October 2014, San Antonio was the site for the third annual International Conference and Exhibition on Materials Science and Engineering, which brought together scientists, engineers, C-level executives, and student researchers from around the world to exchange knowledge and ideas.

Greater San Marcos' Materials Science target is comprised by two niches, **Production** and **Research**. Production incorporates existing regional firms leveraging Materials Science technologies to advance production processes, while Research is focused on in-house innovation at these companies as well as the world-class faculty, facility, and equipment capacity at Texas State.

Production

Because of its multi-disciplinary nature and the inability of the federal government's current employment codification system (NAICS) to effectively capture Materials Science-specific jobs, defining Greater San Marcos target and estimating the actual number of related employment and earnings is not possible. Instead, *Market Street* has attempted to assess and report regional companies engaged in this sector and examine the teaching, research, and physical capacity at Texas State to advance Materials Science competitiveness and job creation. There are also dynamic super-regional opportunities to

⁵ Nanoscience and nanotechnology are the study and application of science, engineering, and technology at the nanoscale, which is about 1 to 100 nanometers. A nanometer is a billionth of a meter. (Source: U.S. National Nanotechnology Initiative)

supplement local innovation and training with programs at UT-Austin in nanotechnology and materials science.

A value-add of pursuing a Materials Science target is that a community's manufacturing sector can also benefit from discoveries in the field. In fact, the discipline is relevant to multiple aspects of the manufacturing process, from component-design and development to the creation of finished end-products. **Materials Science is applicable across an array of products in environmental, biological, medical, electronic, packaging engineering, automotive and other transportation manufacturing, and other fields.** In the following table, the top 10 materials science research focus areas in the nation⁶ are listed alongside applicable product areas.

TOP TEN MATERIALS SCIENCE RESEARCH AREAS AND PRODUCTION APPLICATIONS

Research Topics	Applicable Production Areas
Electronic properties of graphene	Bioelectric sensory devices; LCD touchscreens for smartphones, tablets, desktop computers, and televisions; water filtration systems; aerospace composites; energy storage
Polymer solar cells	Renewable energy; solar energy harvesting; organic photovoltaic devices; semitransparent solar cells in windows
Multiferroic and magnetoelectric materials	Actuators; switches; magnetic field sensors; electronic memory devices; magnetic field sensors; microwave devices such as filters and oscillators
Titanium dioxide nanotube arrays in dye-sensitized solar cells	Low-cost excitonic photovoltaic cells; water photoelectrolysis; solar energy use; electrical ceramics; chemical intermediates
Polymer synthesis	Packaging; adhesives; biodegradable polyesters; biomedical products; medical diagnostics; optoelectronics; drug delivery; waterborne paints
Graphene oxide sheets	Water treatment; graphene oxide paper; Perforene graphene filters; water filters; graphene-coated plastic films for medical packaging
High-Tc ferromagnetism in zinc oxide diluted magnetic semiconductors	X-ray diffraction; x-ray spectroscopy; DC and AC conductivity; transmission electron microscopy; spin electronics
Highly selective fluorescent chemosensors	Imaging; detection of toxic pesticides; neuroscience applications; glucose sensing
Electrospun nanofibrous scaffolds for tissue engineering	Nanofiber; electrospinning; drug delivery; bone tissue engineering; biomedical patches or grafts to induce wound closure and tissue regeneration
Ductile bulk metallic glasses	High efficiency transformers; amorphous steel creation; electronic article surveillance, such as theft control passive ID tags; nanocomposites; field electron emission devices; biomaterials to fix bone fractures

Source: Thomson Reuters, Market Street Services

⁶ Thomson Reuters. Global Research Report: Materials Science and Technology. June 2011. Accessed online at researchanalytics.thomsonreuters.com/m/pdfs/grr-materialscience.pdf.

By focusing on growth in Materials Science, the Greater San Marcos region can market to prospects employing revolutionary methods to create new and improved products and partner with existing companies to improve their current processes or develop new technologies and products. Because of its defined mission focused on industry partnerships and applied research, Texas State serves as an attractive asset for incumbent and external companies to leverage.

Existing regional manufacturers leveraging Materials Science processes include, but are not limited to:

- *Basler Plastics, LLC*, a manufacturer of injection-molded plastic components. The company designs and builds molds and offers product development support, light assembly, and secondary services.
- *Butler Manufacturing Company*, which designs, creates, and markets metal building systems for commercial construction. Over the years, Butler has developed many new products, including waterproof double-lock roof seams that add to the durability of a building and aid in energy conservation and the Castrip® thin strip steel casting process.
- *Ember Industries*, which develops printed circuit assemblies, electronic and electromechanical devices, wire, cable, and wire harness assemblies. The company employs several technologies, including automated surface-mount technology, through-hole technologies, ball-grid array placement, automatic optical inspection, and in-circuit testing.
- *Hadco*, a division of Philips Lighting and a manufacturer of outdoor lighting technologies. The company focuses on creating meaningful innovative products and solutions which enhance lives with light.
- *Heldenfels Enterprises*, which manufactures and installs pre-cast and pre-stressed concrete structures for highways and bridges, building systems, marine uses, stadiums and arenas, and more.
- *Roy Tex, LLC*, a company that provides sub-assembly, knitting and customization for manufactured products and export-ready crating.
- *TB Wood's, Inc.*, a designer and manufacturer of electromechanical power transmission equipment for industrial applications. The firm is a recognized innovator of power transmission products, including various belted drive systems and alternating current (AC) inverters.
- *Thermon Engineering*, an international company focused on heat tracing, the external application of heat to pipes, tanks, and instrumentation. Thermon specializes in developing heat tracing technology, including power distribution and control panels, mechanical thermostats, and splice kits.
- *TXI*, which is involved in every step of concrete production, from mining raw materials to refining the finished product. TXI supplies cement and aggregate and consumer product building materials used in residential, commercial, and public works construction.

In addition to the aforementioned established companies in Greater San Marcos, Texas State's STAR Park enhances the region's employment base through the incubation of startup companies with

expertise in Materials Science. In fact, nearly all the firms housed in Phase I of Texas State STAR Park (the STAR One building) are focused on Materials Science products, processes, and applications. Indeed, a key goal of STAR Park is to satisfy a regional demand for laboratory space from early stage companies. Because of its industry-friendly approach, less stringent intellectual property policies, and availability of hundreds of millions of dollars' worth of cutting-edge research equipment for contracted use, Texas State is becoming a more prominent player in the super-regional commercialization landscape.

Two specific Materials Science production firms incubating at STAR One are:

- *Quantum Materials Corporation*, which manufactures tetrapod quantum dots for products like solar cells, lasers and photonic devices, computer memory, and storage devices. Texas State's Advanced Functional Materials Laboratory assists Quantum Materials' nearby Wet Labs in special projects designed to produce department scientific papers advancing tetrapod quantum dot research.
- *MicroPower Global*, which produces semiconductor devices that convert heat directly into electricity. The company uses approximately 3,500 square feet of dedicated and shared space to house all of its production staff. In addition, the company maintains a development team on the University's campus to continue the evolution of its thermoelectric chip technology.

Research

Texas State University is the principal anchor institution for the Research niche of the Materials Science target. Texas State has made significant strides in its quest to become a major research university, including its reclassification by the Texas Higher Education Coordinating Board in 2012 as an Emerging Research University. The institution's goal is to join UT-Austin and Texas A&M as state-classified Research Universities. The university is increasingly attracting research funding, including a \$4 million grant from the Texas Emerging Technology Fund, which was added to a \$4.5 million investment by Freescale Semiconductor to create, operate, and staff the **Center for Multifunctional Materials**, which focuses on information processing, high-density, light-weight information storage, more efficient solar power generation, and other computing approaches.

Among its many notable research assets is the university's Materials Science, Engineering, and Commercialization (MSEC) program in the College of Science and Engineering, which has the largest and best-equipped group lab for polymer and nanocomposite synthesis and characterization west of the Mississippi. Its signature piece of equipment is a nine-chamber molecular beam epitaxy (MBE) machine donated by Freescale Semiconductor and subsequently enhanced by Texas State through grants and other contributions. Additional equipment includes a prototype-production metal organic chemical vapor deposition system; organic film deposition; a graphene chemical vapor deposition system; and a state-of-the-art electron microscope. True to the multi-discipline nature of Materials Science, MSEC research areas include: thermoelectric and photovoltaic materials, next-generation microelectronic materials, epitaxial oxides, power electronics and novel semiconducting, and ferroelectric and ferromagnetic materials.

The ability to access Texas State's equipment, faculty, and students is a key draw for firms both inside and outside of STAR Park. Besides the previously referenced firms incubating at STAR One, additional

companies – from startups to huge multi-nationals – have also partnered with Texas State to use the MBE and other machines either beyond their budgetary reach or infeasible to purchase. In addition to buying access time for the machines, partnering for-profit companies must commit to supporting Texas State by teaching classes, working with professors, and/or providing real-world research experience to students.

Bolstering research strengths at Texas State, the Greater San Marcos region has access to the materials science-related talent and research produced at nearby University of Texas at Austin and University of Texas at San Antonio. The following are programs currently administered by these nearby institutions:

- The University of Texas at Austin’s *Texas Materials Institute* (TMI) was established in 1998 as a “virtual” department that guides graduate education and research in materials science and engineering. The department offers degree programs at the master’s and PhD levels and provides research opportunities to both students and faculty. Current research areas are clean energy materials, nanomaterials, structural materials, electronic and photonic materials, polymers and biomaterials, and computational materials science.
- The *Center for Nano- and Molecular Science* at The University of Texas at Austin was created in 2000 and focuses on education, training, and research and development related to nanoscience and nanotechnology. Within the Center, existing doctoral students can enroll in the Doctoral Portfolio Program in Nanoscience and Nanotechnology, which is a certificate program that provides offers credentials in nanoscience and nanotechnology to doctoral students while they are completing the requirements for a doctoral degree at UT-Austin. Current research concentrations include thermomechanics, energy storage, and fuel cells.
- The *Microelectronics Research Center* at UT-Austin is focused on materials and electronic devices and is funded by the National Science Foundation through the National Nano-Technology Infrastructure Network. Current major research areas include circuit structures, hot electron transport, device processing, advanced crystal growth of compound semiconductor materials, optoelectronic and photonic applications, and device packaging.
- The *International Center for Nanotechnology & Advanced Materials* (ICNAM) is a collaboration between The University of Texas at Austin and the Consejo Nacional de Ciencia y Tecnologia de Mexico (CONACYT). The goals of ICNAM are to increase the number of Hispanic students in UT and to foster collaboration in specific research areas, including nanostructured materials nanoparticles, novel nanomaterials, modeling and simulations for applications to clean energy, biosensing, electronics, photonics, molecular machines, and environmental and other impacts of nanotechnologies on humans.
- The University of Texas at San Antonio is collaborating with Northwestern University in a *Materials Research Science and Engineering Center (MRSEC) Partnership for Research and Education in Materials (PREM)*. The main goal of PREM programs is to enhance diversity in materials research and education by pairing minority-serving colleges and universities and centers and facilities supported by the NSF Division of Materials Research. Current research centers on studying and developing biological applications of nanoscale materials.

- UT-San Antonio's *Department of Physics and Astronomy* has forged a 2+2+4 partnership with *Northwest Vista College (NVC)*, a community college in San Antonio, to create a pipeline for minority students into the materials science. Students complete a two-year nanotechnology program at NVC and enroll at UTSA to finish a bachelor's degree of science in physics. Students who complete the bachelor degree can then go on to continue studies at UTSA toward a doctorate degree in physics with an emphasis in nanotechnology.
- Another collaboration between UTSA and NVC is the *Center for Microsystems and Nanotechnology Education*. The Center focuses on STEM areas, particularly, Microsystems and nanotechnology, as they relate to the U.S. Department of Defense.
- NVC offers specialized equipment instruction through its *Nanotechniques & Instrumentations course*. Students are taught the fundamentals, operation, and maintenance of sophisticated research equipment at various scientific departments at UTSA, including scanning and transmission electron microscopes, atomic force microscopes, and Fourier-transform infrared spectrometers.

OCCUPATION TRENDS

As with Materials Science employment, calculating the sector's component occupational totals is not defensible under the current federal coding system. Because of the multiple manufacturing applications of Materials Science technologies and the lack of differentiated data for specific research focus areas, there are simply too many categories that could be applied to targeted occupations; assigning totals to the sector would be pure speculation.

Instead, ***Market Street* has attempted to demonstrate that Greater San Marcos has competitive capacity in occupations that could be applied to Materials Science.** This is especially true for certain key occupations in comparison to totals for the 10-county super-region inclusive of Austin and San Antonio-area labor sheds.

As shown in the following table, the Greater San Marcos region has strengths in several machining occupations, with higher concentrations as indicated by location quotients than in the larger 10-county Austin-San Marcos-San Antonio super-region. However, despite their high concentrations, these occupations are not heavily represented in terms of sheer numbers and comprise a low share of total super-regional occupations in the category. For example, the most concentrated of the occupations included in this analysis is computer numerically controlled machine tool programmers, metal and plastic, which has a local location quotient of 2.31 compared to a super-regional location quotient of 1.08. However, there are only 27 workers in this profession in Hays and Caldwell counties, representing 8 percent of super-regional workers.

LOCAL OCCUPATIONAL STATISTICS, MATERIALS SCIENCE TARGET, 2013

SOC Code	Description	Positions, Greater San Marcos	Percent of 10-County Region	LQ, GSM	LQ, 10-County Region	10-Year Change, GSM	10-Year Change, 10-County Region	Avg Hourly Wage, GSM	Super-Regional Earnings Ratio	National Earnings Ratio
Total, Across All Occupations in Greater San Marcos		72,240	4%			41%	23%	\$18.20	87.8%	85.1%
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal & Plastic	27	8%	2.31	1.08	42%	43%	\$17.96	84.6%	76.0%
51-9141	Semiconductor Processors	21	1%	1.86	5.20	NA	(19%)	\$17.34	90.5%	99.8%
51-9195	Plastic Crushing, Grinding, & Polishing Machine Setters, Operators, & Tenders	32	13%	1.79	0.54	45%	(14%)	\$12.54	95.1%	82.5%
51-9021	Operators, & Tenders	25	9%	1.68	0.74	79%	(8%)	\$11.43	89.6%	69.8%
51-2022	Electrical & Electronic Equipment Assemblers	146	2%	1.49	2.44	128%	(3%)	\$11.83	90.8%	78.5%
51-9041	Extruding, Forming, Pressing, & Compacting Machine Setters, Operators, & Tenders	44	8%	1.31	0.64	57%	(5%)	\$12.18	90.7%	76.0%
51-9032	Tenders	38	10%	1.29	0.53	(3%)	(19%)	\$9.34	79.4%	59.6%
17-2071	Electrical Engineers	98	5%	1.20	0.95	96%	11%	\$43.09	99.6%	96.2%
51-4121	Welders, Cutters, Solderers, & Brazers	212	5%	1.16	0.85	29%	14%	\$15.48	92.6%	83.0%
51-2031	Engine & Other Machine Assemblers	22	19%	1.13	0.22	16%	4%	\$15.47	101.3%	82.4%
51-4199	Metal Workers & Plastic Workers, All Other	10	5%	0.90	0.73	NA	19%	\$19.91	129.6%	117.3%
51-4034	Lathe & Turning Machine Tool Setters, Operators, & Tenders, Metal & Plastic	16	10%	0.78	0.32	(20%)	4%	\$16.52	111.2%	93.2%
17-2072	Electronics Engineers, Except Computer	47	2%	0.70	1.37	57%	9%	\$44.76	100.3%	95.2%
51-1011	Workers	202	4%	0.70	0.72	12%	2%	\$25.37	94.2%	91.6%
11-3051	Industrial Production Managers	54	4%	0.66	0.61	15%	(0%)	\$39.94	81.1%	84.4%
51-4033	Tool Setters, Operators, & Tenders, Metal & Plastic	23	6%	0.66	0.41	5%	(2%)	\$12.60	100.6%	77.4%
17-2112	Industrial Engineers	70	3%	0.62	0.78	35%	11%	\$38.96	98.0%	97.2%
51-2023	Electromechanical Equipment Assemblers	15	3%	0.62	0.84	NA	(3%)	\$15.88	106.9%	98.2%
51-9023	& Tenders	35	6%	0.62	0.40	25%	(4%)	\$14.53	94.5%	84.9%
51-4021	Extruding & Drawing Machine Setters, Operators, & Tenders, Metal & Plastic	21	4%	0.61	0.59	0%	17%	\$14.05	93.5%	88.1%
51-4041	Machinists	108	4%	0.57	0.55	16%	21%	\$17.10	92.5%	86.9%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Though numbers for certain Greater San Marcos occupations are low, they have nevertheless grown faster – nearly across the board – than equivalent categories at the super-regional level. Electronics engineers, which experienced job losses of 20 percent over the 10-year period is the only occupation included in this analysis to perform better in the super-region than Greater San Marcos.

Another notable statistic in the previous table is the lower average hourly wage across all occupations for Greater San Marcos compared to the 10-county super-region and the U.S. While this can be a competitive advantage in terms of firms' labor costs, it creates challenges for talent retention and attraction efforts when firms so close to the San Marcos region can offer more lucrative pay.

EDUCATIONAL PROGRAMS

Because Materials Science occupations in the Production niche can be represented by so many different manufacturing categories, specialized training for these positions will likely be done in-house. The role of education and training providers will thus be to provide core manufacturing-supportive skills that can be honed by employers based on their specific needs. **The situation is different on the**

Research side, where specific Materials Science programs are offered at the undergraduate, graduate, and doctoral levels.

The following comprise the principal Greater San Marcos training programs for Materials Science. While *Market Street* has applied four-year-degrees-and-above specifically to Materials Science, categories at the two-year level are broader.

The only programs at **Austin Community College's Hays Campus** that could legitimately be applied to Materials Science are Chemistry and Mathematics.

Texas State offers a number of *undergraduate* majors that could be applied to Master's and doctoral work in Materials Science. These include:

- Biochemistry
- Chemistry
- Clinical Laboratory Science
- Concrete Industry Management
- Construction Science and Management
- Engineering, Electrical
- Engineering, Industrial
- Engineering, Manufacturing
- Engineering Technology
- Industrial Technology - General
- Industrial Technology - Manufacturing Technology
- Physics
- Technology, Engineering
- Technology, Industrial - General
- Technology, Industrial – Manufacturing

Texas State offers *Master's* programs in Biochemistry, Chemistry, Engineering, Materials Physics, and Physics, though it could be argued that the Materials Physics degree is the most direct and applicable path to Materials Science employment.

However, it is a Texas State *doctoral* program that would be the most compelling for Materials Science firms interested in accessing trained talent. The University's PhD in Materials Science, Engineering, and Commercialization (MSEC) is an integrated curriculum based on the university's biology, chemistry and biochemistry, physics, engineering, engineering technology, and business school disciplines. MSEC's goal is to train graduate scientists and engineers to perform interdisciplinary research while equipping them to emerge as effective entrepreneurial leaders in the advancement of 21st-century global discovery and innovation. It is the only materials science-based PhD program in the country with a mandatory commercialization component and has greatly increased the profile of Texas State in the field.

Another program engaging students in learning and training opportunities in Materials Science is the Texas State Partnership for Research and Education in Materials (PREM) Center on Interfaces in Materials, whose mission is to increase participation by underrepresented groups in materials research. Classified as a Hispanic Serving Institution, Texas State Education ranks 14th in the nation for the number of bachelor's degrees and 30th in the nation for the number of master's degrees awarded to Hispanics. The PREM Center has a collaborative relationship with the Materials Research Science and Engineering Center (MRSEC) in

Raleigh-Durham, North Carolina; each summer, participating students are able to spend the summer at Duke and North Carolina State University working on cross-collaborative research projects through the Research Experience for Undergraduates (REU) program. Current research topics within the PREM Center center on photoisomerization, various types of nanostructures, polyimide membranes, and polymers.

STRATEGIC IMPLICATIONS

Growing Materials Science employment in Greater San Marcos must leverage existing companies, capitalize on dynamic research occurring at Texas State and, potentially, super-regional universities, and more effectively communicate to potential investors the region's capacity for this target.

Existing business strategies should not only be focused on identified Materials Science firms, but also other producers (in the two-county region and beyond) that could potentially benefit from new or optimized processes enabled by Texas State research. **Materials Science can become a major catalyst for growing a wide range of manufacturing operations because of the diversity of applications the materials and technologies can benefit.** Helping to facilitate these public-private partnerships by connecting interested companies with university faculty and centers eager to partner with for-profit firms can be a real value-add for economic development professionals.

Effectively telling the story of Materials Science in Greater San Marcos will also be impactful. The most important voices in this narrative will be existing firms and Texas State researchers who can speak first hand and in compelling detail of what the San Marcos region has to offer Materials Science firms.

It will also be critical that Greater San Marcos offers a business climate that is conducive to supporting Materials Science growth. Whether this is comprised by supporting STAR Park in attempts to expand and invest in new laboratory space, providing incentives and buildings for companies incubated at STAR Park or attracted to Texas State facilities to locate in the San Marcos market, or ensuring that regulatory systems accommodate the specific site requirements of Materials Science firms, there will be much work to ensure the region is competitive.

Finally, as with all Greater San Marcos' target sectors, working with educational and training institutions – in partnership with business – to accommodate the labor demands of existing and potential employers is paramount for sustainable success.

SUPER-REGIONAL ADVANTAGE SECTORS

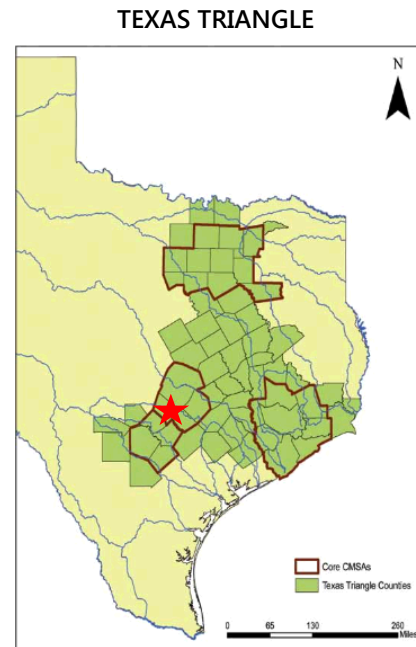
As noted in the introduction to this report, Greater San Marcos' target sector opportunities have been divided into two categories: regional and super-regional. Targets in the latter classification rely more on corporate and occupational strengths in the broader Central Texas employment shed as opposed to Greater San Marcos concentrations and assets. That is not to say that the San Marcos area is not competitive for these sectors, only that their most compelling prospects for employment growth will be

fostered by marketing the strengths accrued by capacity across the breadth of the I-35 corridor between Austin and San Antonio.

Looking even further out geographically than the Austin-San Marcos-San Antonio spine, Greater San Marcos is also strategically positioned in the so-called “Texas Triangle” formed by Dallas-Ft. Worth, Houston, and the Austin-San Antonio. San Marcos is roughly 160 miles away from Houston via the adjacent I-10 corridor and 240 miles away from Dallas on the I-35 corridor.

Currently, nearly 18 million people, or approximately 75 percent of the state’s population, live in Texas Triangle. According to the University of Texas at Austin, the population of this area is projected to grow by 10 million.⁷ The 60,000 square foot, 66-county megaregion is not only attracting residents, but also companies. All four of the anchor metros have major corporate headquarters and 10-year job growth that exceeds the national average.

Greater San Marcos’ targeted Central Texas Opportunities will not only tap into the occupational and talent advantages provided by its strategic location but also provide a viable location option for sector firms in the Austin and San Antonio markets looking to cut costs or pursue a different work/life environment. *Market Street* recommends Greater San Marcos targets three sectors benefitting from super-regional assets: **Information Technology**, **Life Sciences**, and **Regional Distribution**.



Source: UT-Austin School of Architecture Center for Sustainable Development

Targeted Opportunities

INFORMATION TECHNOLOGY

Information Technology has driven innovation that touches nearly every facet of modern life and business. Most every form of information can now be digitized, with global growth in firms of all types fostered by software, hardware, Internet applications, data processing services, and computer security and cybersecurity solutions. Though emerging, Greater San Marcos’ supply of talent is less robust than many benchmark areas and lacks the critical mass of high-end skills necessary to compete in Information Technology fields. However, the San Marcos region is adjacent to two urban markets in Austin and San Antonio that feature very concentrated IT talent levels that can support San Marcos area firms’ staffing and expansion needs. Because many small to medium-sized IT firms can operate effectively regardless of location, firms launched and scaled in Austin and San Antonio may be interested in a Greater San Marcos

⁷ The University of Texas at Austin School of Architecture Center for Sustainable Development. *Reinventing the Texas Triangle: Solutions for Growing Challenges*. 2009. Accessed online at <http://www.soa.utexas.edu/files/csd/ReinventingTexasTriangle.pdf>.

location to capitalize on lower costs, quality of life benefits, and centrality to the broader Central Texas market.

Employment

As defined for Greater San Marcos, Information Technology employment includes software and application development and information assurance. At this time, the region has limited capacity in software publishing, with less than 10 employees, and negligible capacity in computer and peripheral equipment manufacturing. However, the region is extremely strong in computer and office machine repair and maintenance, with a location quotient of 16.70. Examples of supporting firms in Information Technology are: A Computer Werks in Buda, Showstoppers Video Computer Repair and Sales in Dripping Springs, and Housecall Computer Repair, LifeWAY Technologies, and tekRESCUE in San Marcos.

EMPLOYMENT TRENDS, INFORMATION TECHNOLOGY TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%
5182	Data Processing, Hosting, and Related Services	86	0.67	91%	(6%)	\$25,907	28.7%
5415	Computer Systems Design and Related Services	327	0.38	206%	42%	\$60,846	59.8%
541511	Custom Computer Programming Services	147	0.39	137%	41%	\$62,096	62.6%
541512	Computer Systems Design Services	164	0.41	382%	65%	\$61,471	58.0%
811212	Computer and Office Machine Repair and Maintenance	451	16.70	NA	(1%)	\$25,294	57.0%
Total, Information Technology Target		864	0.84	468%	32%	\$38,784	39.4%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Occupations

The incredibly strong IT occupational concentrations detailed in the following table justify the pursuit of this target in Greater San Marcos despite comparatively lower employment totals. Successfully growing and attracting IT companies will help raise per capita income, improve chances of retaining top Texas State graduates, and make Greater San Marcos more competitive for the attraction of external talent and expatriates. This super-regional target provides an average hourly wage of \$37.11, significantly higher than the super-regional average hourly wage of \$20.72 and nearly equivalent to the national average of \$37.26.

Of the 20 occupations included in this analysis, only three offer wages lower than the super-regional average: computer operators, data entry keyers, and computer, automated teller, and office machine repairers. Computer operators and data entry keyers are the only two occupations in this analysis that do not require any formal education. All others require an associate, bachelor's, or graduate degree. There are high levels of concentration in the super-region in most of these IT-related occupations. Over the 10-year period examined, the 10-county Greater San Marcos super-region exceeded national growth rates for every profiled occupation.

OCCUPATIONAL STATISTICS, INFORMATION TECHNOLOGY TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
11-3021	Computer and Information Systems Managers	3,724	0.89	21%	11%	\$60.23	98.0%
15-1111	Computer and Information Research Scientists	682	1.96	29%	19%	\$42.33	85.0%
15-1121	Computer Systems Analysts	11,499	1.71	47%	20%	\$38.58	97.1%
15-1122	Information Security Analysts	1,467	1.49	59%	31%	\$43.28	100.8%
15-1131	Computer Programmers	5,006	1.14	24%	8%	\$39.61	107.5%
15-1132	Software Developers, Applications	12,877	1.61	35%	21%	\$46.36	104.0%
15-1133	Software Developers, Systems Software	8,393	1.59	26%	15%	\$49.32	100.7%
15-1134	Web Developers	2,711	1.52	57%	31%	\$26.58	91.8%
15-1141	Database Administrators	2,272	1.51	33%	11%	\$37.60	98.8%
15-1142	Network and Computer Systems Administrators	5,494	1.18	23%	6%	\$34.18	93.6%
15-1143	Computer Network Architects	3,170	1.72	27%	3%	\$49.03	109.0%
15-1151	Computer User Support Specialists	10,093	1.31	32%	14%	\$24.59	102.1%
15-1152	Computer Network Support Specialists	4,004	1.70	22%	4%	\$29.59	97.9%
15-1199	Computer Occupations, All Other	4,214	1.61	26%	8%	\$37.43	96.4%
17-2061	Computer Hardware Engineers	3,178	3.00	6%	0%	\$44.18	89.1%
17-3023	Electrical and Electronics Engineering Technicians	4,134	2.20	10%	(5%)	\$24.94	89.5%
43-9011	Computer Operators	909	0.90	7%	(10%)	\$17.87	92.4%
43-9021	Data Entry Keyers	3,899	1.37	5%	(15%)	\$13.95	96.3%
49-2011	Computer, Automated Teller, and Office Machine Repairers	2,444	1.33	25%	1%	\$16.44	94.1%
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	840	0.97	17%	(2%)	\$25.65	100.8%
Total, Information Technology Target		91,010	1.47	28%	10%	\$37.11	99.6%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Place-Based Assets

With lower costs, less congestion, and a more laid-back lifestyle than Austin and San Antonio, Greater San Marcos offers a compelling alternative for IT firms and talent already located in Central Texas and prospects looking at the super-region as a destination. According to Gallup and the John S. and James L. Knight Foundation, three main factors make communities attractive to new and existing residents: social offerings, the community's aesthetics, and openness to diversity. The natural environment of Greater San Marcos was one of the most praised aspects of the region during the stakeholder input phase of this strategy development process, while Greater San Marcos diversity is also a strength. However, stakeholders indicated that the region needs additional entertainment, arts, culture, and nightlife amenities to be even more competitive for talent across multiple age spectrums.

With multiple IT and computer science degrees offered at Texas State, Greater San Marcos has the base of training assets necessary to support an IT target. However, tapping into the tremendous capacity offered by Austin and San Antonio institutions – at both the two- and four-year degree levels – puts the San Marcos region in an even greater competitive position. Developing relationships between existing and

future local IT firms and Central Texas colleges and universities will further enhance the talent pipeline serving the San Marcos area Information Technology sector.

LIFE SCIENCES

Based on local capacity and assets as well as benefits derived from super-regional employers, institutions, and talent, *Market Street* feels the Greater San Marcos region can capitalize on Life Sciences clustering in Central Texas in two key niche areas: **Biotechnology** and **Environmental Sciences**. Texas State has research strengths in both of these areas, which will be discussed in the Place-Based Assets section. There are also opportunities to leverage the marketing of super-regional partners, including the Austin Chamber's Life Sciences target that focuses on medical devices and diagnostics, biotech, research, and pharmaceuticals, and the San Antonio Economic Development Foundation's and the San Antonio Chamber's focus on bioscience and healthcare..

Employment

Currently, the two-county Greater San Marcos region's only concentrated Life Sciences subsectors are animal production (LQ = 1.36), specialty hospitals (2.30), and remediation and other waste management services (1.44). These subsectors add to the region's ability to grow this sector in different ways. Animal production is important to life sciences because of the research possibilities within animal genomics, nutrition, biotechnology, and other fields. Specialty hospitals are often sites for clinical trials and for advancements in surgery techniques and technologies. Remediation and other waste management services provide an arena to develop, test, and implement biological, hydrological, and chemical processes that protect water resources, improve environmental remediation, and enhance energy production. In other Life Sciences subsectors, however, Greater San Marcos' concentrations are still emerging; these include pharmaceutical and medicine manufacturing, medical equipment and supplies manufacturing, and testing laboratories, each having less than 10 employees at this time.

Existing San Marcos area firms supporting the **Biotechnology** niche include Grifols, Inc., a plasma testing laboratory and fractionation plant, and PetaOmics, Inc., a functional genomics, epigenomics, and DNA methylation sequencing firm located at STAR Park. The **Environmental Sciences** niche is supported by firms such as the Whintont Group, Inc. Environmental Consultants, which provides services such as natural resources surveying, environmental inspection, and erosion and sediment control services to public and private sector clients, and the Luling Foundation, a nonprofit organization that collaborates with private sector firms and universities to demonstrate profitable agriculture-related ideas, such as a rainwater harvesting system and a solar powered water well. Greater San Marcos also has several health providers and potentially strong translational research partners, including but not limited to Central Texas Medical Center, Seton Medical Center – Hays, and Seton Edgar B. Davis Hospital.

EMPLOYMENT TRENDS, LIFE SCIENCES TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings		
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio	
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%	
Biotechnology								
1120	Animal Production	276	● 1.36	188%	(8%)	\$26,188 ●	82.7%	
541711	Research and Development in Biotechnology	12	● 0.17	NA	19%	\$63,683 ●	44.1%	
6215	Medical and Diagnostic Laboratories	54	● 0.44	69%	34%	\$52,204 ●	74.7%	
6221	General Medical and Surgical Hospitals (Private)	1,069	● 0.50	2%	12%	\$55,407 ●	80.5%	
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals (Private)	230	● 2.30	NA	42%	\$36,588 ●	53.7%	
Environmental Sciences								
54133	Engineering Services	241	● 0.54	194%	17%	\$77,576 ●	77.2%	
54162	Environmental Consulting Services	38	● 0.82	138%	25%	\$70,117 ●	94.8%	
541712	Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	25	● 0.12	127%	23%	\$73,410 ●	58.5%	
5629	Remediation and Other Waste Management Services	93	● 1.44	19%	28%	\$38,153 ●	60.7%	
Total, Life Sciences Target		2,038	● 0.60	50%	14%	\$51,761	68.1%	

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Occupations

There are over 82,000 super-regional workers in Life Sciences-related occupations in the 10-county Greater San Marcos labor shed, with principal labor concentrations focused on the Environmental Sciences niche. The highest location quotients are in cartographer and photogrammetrists (2.39), petroleum engineers (2.11), surveying and mapping technicians (2.00), health environmental science and protection technicians (1.88), hydrologists (1.75), and geoscientists (1.55). Job growth in the super-region has outpaced the nation in every occupation but three: forest and conservation technicians, medical scientists, and biological technicians. The Life Sciences target is supported by occupations requiring various levels of training and a correspondingly wide scale of average hourly wages. Overall, this target's average hourly wage is \$34.71, higher than the super-regional average (\$20.72) and the national average for these occupations (\$29.44). In terms of talent attraction, this is a competitive advantage for Greater San Marcos in that its lower cost of living makes a dollar go farther than in Austin and San Antonio proper.

OCCUPATIONAL STATISTICS, LIFE SCIENCES TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
Biotechnology							
11-9013	Farmers, Ranchers, & Other Agricultural Managers	1,489	0.23	(16%)	(18%)	\$13.50	99.8%
11-9111	Medical & Health Services Managers	3,239	0.82	40%	19%	\$43.21	92.5%
19-1041	Epidemiologists	48	0.71	9%	5%	\$36.21	105.4%
19-1042	Medical Scientists, Except Epidemiologists	829	0.66	12%	15%	\$32.74	77.5%
19-4011	Agricultural & Food Science Technicians	182	0.70	13%	9%	\$14.57	83.3%
19-4021	Biological Technicians	498	0.53	10%	13%	\$22.58	110.3%
29-1031	Dietitians & Nutritionists	633	0.76	36%	19%	\$24.98	91.7%
29-1051	Pharmacists	3,372	0.92	39%	9%	\$55.28	100.2%
29-1069	Physicians & Surgeons, All Other	3,154	0.71	24%	14%	\$80.23	92.9%
29-1126	Respiratory Therapists	1,500	0.99	40%	12%	\$25.84	94.0%
29-1141	Registered Nurses	29,122	0.84	37%	15%	\$31.68	97.3%
29-2011	Medical & Clinical Laboratory Technologists	2,286	1.10	36%	12%	\$24.91	88.4%
29-2012	Medical & Clinical Laboratory Technicians	2,258	1.09	45%	25%	\$16.94	89.6%
29-2031	Cardiovascular Technologists & Technicians	567	0.86	50%	25%	\$27.38	107.1%
29-2032	Diagnostic Medical Sonographers	652	0.85	68%	38%	\$30.52	95.5%
29-2034	Radiologic Technologists	1,848	0.73	37%	16%	\$25.19	92.5%
29-2035	Magnetic Resonance Imaging Technologists	443	1.15	42%	20%	\$30.50	96.6%
29-2051	Dietetic Technicians	183	0.57	27%	14%	\$16.00	115.8%
29-2052	Pharmacy Technicians	4,414	0.96	42%	13%	\$15.34	104.6%
29-2055	Surgical Technologists	1,650	1.29	59%	24%	\$19.39	92.6%
29-2061	Licensed Practical & Licensed Vocational Nurses	10,631	1.11	37%	17%	\$21.57	105.6%
29-2099	Health Technologists & Technicians, All Other	701	0.60	38%	24%	\$22.68	102.5%
31-9097	Phlebotomists	951	0.72	28%	18%	\$14.09	94.8%
45-2092	Farmworkers & Laborers, Crop, Nursery, & Greenhouse	1,862	0.20	9%	6%	\$10.94	114.0%
45-2093	Farmworkers, Farm, Ranch, & Aquacultural Animals	292	0.29	14%	4%	\$10.61	91.9%
Environmental Sciences							
17-1021	Cartographers & Photogrammetrists	378	2.39	39%	13%	\$21.24	71.7%
17-1022	Surveyors	619	1.13	23%	(3%)	\$25.43	89.4%
17-2081	Environmental Engineers	600	0.90	37%	16%	\$43.36	105.9%
17-2161	Nuclear Engineers	140	0.49	37%	13%	\$55.51	110.9%
17-2171	Petroleum Engineers	1,096	2.11	149%	57%	\$72.49	102.3%
17-3025	Environmental Engineering Technicians	178	0.73	38%	19%	\$30.01	126.5%
17-3031	Surveying & Mapping Technicians	1,365	2.00	38%	3%	\$17.93	87.7%
19-2041	Environmental Scientists & Specialists, Including Health	1,225	1.08	30%	16%	\$33.68	101.8%
19-2042	Geoscientists, Except Hydrologists & Geographers	769	1.55	56%	28%	\$36.47	71.4%
19-2043	Hydrologists	167	1.75	42%	18%	\$31.36	82.8%
19-2099	Physical Scientists, All Other	344	0.90	20%	16%	\$39.09	86.8%
19-4091	Environmental Science & Protection Techs, Inc. Health	782	1.88	54%	19%	\$20.45	95.0%
19-4093	Forest & Conservation Technicians	102	0.24	(15%)	5%	\$16.69	93.7%
19-4099	Life, Physical, & Social Science Technicians, All Other	479	0.63	14%	12%	\$21.17	95.1%
47-4041	Hazardous Materials Removal Workers	426	0.88	39%	15%	\$15.39	76.8%
47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	176	0.52	39%	21%	\$12.88	75.6%
53-7081	Refuse & Recyclable Material Collectors	1,259	0.74	33%	14%	\$14.24	87.6%
Total, Life Sciences Target		82,909	0.79	35%	12%	\$34.61	117.6%

Source: EMSI; Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Place-Based Assets

Greater San Marcos has several research assets that support its growth opportunities within the Life Sciences target and associated niches.

Biotech research assets include:

- Texas State's *Nutritional Biomedicine and Biotechnology Laboratory* is housed in the School of Family and Consumer Sciences. The lab is a component of the Nutrition and Foods program, which focuses on current scientific research and explores the role that a diet rich in whole foods plays in preventing disease and attaining a healthy lifestyle. Current research topics are related to whether nutrients and non-nutrients affect stress response signaling. One interesting, applied partnership of Nutrition and Foods is with the National Center for Farmworker Health (NCFH). The goal of the partnership is to improve access to healthy food and safe physical exercise in Eastern Hays County by addressing the built environment and systems issues.
- Along with the aforementioned new Materials Science and Polymer and Nanomaterials labs, the remainder of the *STAR One* building in Texas State's STAR Park will house three new Life Science labs. Currently, there is one company specifically geared toward Life Sciences developments located at the park: PetaOmics, as described in a previous section. The ability of researchers and entrepreneurs to utilize state-of-the-art labs, particularly within a super-region with limited lab space available, and to take advantage of collaboration and human capital opportunities adds significantly to the region's competitiveness.

Environmental Sciences research assets include:

- The *James and Marilyn Lovell Center for Environmental Geography and Hazards Research* is housed in Texas State's Department of Geography. The goals of research in this Center are to better understand the Earth's environment, to analyze and reduce the impacts of natural and technological hazards, and to improve environmental policies.
- The goal of *Meadows Center for Water and the Environment* at Texas State is to advance a holistic approach to natural systems management to ensure that water policy is guided by principles of sustainability and equitable use. Since 1991, the Center has trained over 7,600 citizen scientists through the Texas Stream Team program. These citizen scientists collect water quality data on various bodies of water, which is accessible online and is used to create analytic reports. Another major program operated by the Center is the *San Marcos Watershed Initiative*, a three-year research project which explores how to manage impacts to surface and groundwater resources. Those findings will drive the development of the Watershed Protection Plan for the Upper San Marcos River.
- Another Texas State asset, the *Edwards Aquifer Research and Data Center* is a National Environmental Laboratory Accreditation Conference (NELAC) certified lab and research center located in the College of Science and Engineering. The Center provides water quality analysis on water collected from various sources, including nature, municipalities, and wastewater treatment facilities.

- The *San Marcos National Fish Hatchery and Technology Center* is operated by the U.S. Fish and Wildlife Service and located near the Edwards Aquifer. Research areas include equipment and technology development, captive propagation technique development, habitat restoration, historical studies of native species, and historical and control studies of invasive species. The Center partners with universities to provide research and job opportunities to undergraduate and graduate students in relevant majors.

Super-regional assets are plentiful, but at the forefront are:

- The University of Texas at Austin's *Dell Medical School* is preparing to accept its first class in 2016. In addition to training new physicians and providing treatment and applied training in a new teaching hospital which will be adjacent to the medical school, there will be research opportunities that Greater San Marcos should leverage. Central Texas Medical Center: in San Marcos has already put together a task force to identify opportunities to leverage the new medical school when completed.
- The *Texas A&M Health Science Center College of Medicine* is a community-based medical school in Round Rock (Williamson County) providing third- and fourth-year clinical training at regional clinical campuses around the state through affiliations through local physicians, clinics and hospitals. Student rotations are in family medicine, internal medicine, obstetrics/gynecology, pediatrics, psychiatry and surgery.
- The *San Antonio Life Sciences Institute (SALSI)* is a collaboration between the University of Texas Health Science Center at San Antonio and the University of Texas at San Antonio to address educational, scientific, and policy issues related to life sciences. Research areas include biomedical engineering, bioterrorism, cancer, health disparities, infectious diseases and vaccines, neuroscience, regenerative medicine, and translational science. SALSI encourages technology transfer and has partners such as the Southwest Research Institute and the Texas Biomedical Research Institute. SALSI's Innovation Challenge is a contest for over \$750,000 in grants to fund cutting-edge research in public health issues and diseases that impact South Texas. Funding is dedicated to early and conceptual stage projects.

REGIONAL DISTRIBUTION

While existing employment capacity is present in Greater San Marcos, *Market Street* feels that the most lucrative and sustainable opportunities for growth in logistics should be focused on distributing goods to the Central Texas market, and, potentially, other parts of the Texas Triangle. Currently, the San Marcos region has limited capacity in wholesale trade and transportation firms and does not feature a critical mass of logistics assets found in most inland trading hubs; these include direct proximity to a major international airport, multiple Class I rail lines, a navigable waterway, multiple trans-load facilities to move product among modes, and access to both north-south and east-west federal interstates. However, Greater San Marcos is more competitive for warehousing and storage firms and can offer multiple large, graded, cost-competitive sites for major distribution centers. In fact, many cities in Hays and Caldwell counties are pursuing these opportunities as part of their economic development programs. So, while the two-county

San Marcos region is not necessarily a viable competitor for the entire supply chain, it is well-positioned to become a leader in Regional Distribution for firms with large presence in Texas and surrounding areas. As the region continues to build capacity in the production-heavy targets of Materials Science and Aerospace, it may also become more competitive for wholesale trade employment.

Employment

Greater San Marcos is a competitive location for Regional Distribution firms primarily focused on warehousing and distribution operations for companies with large client bases in Texas, particularly Central Texas. While Greater San Marcos does not currently have significant concentrations of the subsectors that support Regional Distribution, it does have strengths in nonscheduled air transportation (LQ = 4.59) and warehousing and storage (1.87). The target has also experienced considerable employment growth over the last 10 years, nearly doubling while national growth in this group of subsectors grew by only 7 percent.

This target also provides employment opportunities that range in average annual wages as well as in skills and knowledge requirements. While there are some subsectors with average annual wages lower than the regional average of \$32,990, these provide much needed entry-level opportunities to workers with limited levels of training. Additionally, air transportation, rail transportation, general freight trucking, and freight transportation arrangement jobs offer average annual wages that exceed the regional average.

According to the Greater San Marcos Partnership, there are approximately 250 supply chain-related businesses in the Greater San Marcos region employing more than 2,500 workers. The largest of these are H-E-B Distribution Center; UPS; and Berry Aviation. The H-E-B Distribution Center is one of the region's largest employers and serves the privately held supermarket chain, H-E-B Grocery Stores, which is headquartered in San Antonio and has locations throughout Texas and in northern Mexico.

EMPLOYMENT TRENDS, REGIONAL DISTRIBUTION TARGET, 2013

NAICS Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Greater San Marcos Jobs	Location Quotient	% Change, GSM	% Change, U.S.	2014 Wages, Salaries, & Proprietor Earnings	National Earnings Ratio
Total, Across All Sectors		71,603		40%	4%	\$32,990	68.2%
4811	Scheduled Air Transportation	106	0.54	NA	(15%)	\$41,485	60.5%
4812	Nonscheduled Air Transportation	89	4.59	324%	(9%)	\$127,962	163.9%
4821	Rail Transportation	54	0.43	58%	7%	\$94,059	113.3%
4841	General Freight Trucking	207	0.38	18%	0%	\$36,298	78.5%
4842	Specialized Freight Trucking	113	0.53	81%	7%	\$27,302	59.1%
4885	Freight Transportation Arrangement	27	0.26	67%	12%	\$42,184	70.2%
4931	Warehousing and Storage	635	1.87	86%	34%	\$28,876	66.9%
541614	Process, Physical Distribution, & Logistics Consulting Svcs	38	0.62	280%	35%	\$26,470	37.6%
Total, Regional Logistics Target		1,269	0.81	98%	7%	\$41,278	79.6%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Occupations

Another reason *Market Street* feels that distribution within the Central Texas market is the highest-value opportunity for Greater San Marcos is the relatively low occupational concentrations in the Austin and San Antonio metros. This is evidenced by the following table in which every occupation in the 10-county Greater San Marcos labor shed is less concentrated than the nation. That said, there are still several occupations with large volumes of workers and with faster-pace job growth than the nation. The top four occupations – laborers and freight, stock, and material movers, hand; stock clerks and order fillers; general maintenance and repair workers; and heavy and tractor-trailer truck drivers – have nearly 74,000 employees, or 62.8 percent of all workers in Regional Distribution-related occupations.

Generally, these occupations provide wages less than the super-regional average wage of \$20.72 per hour. However, these are opportunity areas for workers with little or no college training. As workers advance their careers, they have access to higher-paying management and supervisory positions that require years of experience and on-the-job training rather than formal education. Railroad jobs are also lucrative and provide job opportunities for workers with only a high school diploma. Distribution firms located in Greater San Marcos can therefore draw from a large enough labor pool to satisfy their demands, but would not be competitive for major domestic or international logistics operations.

OCCUPATIONAL STATISTICS, REGIONAL DISTRIBUTION TARGET, 2013

SOC Code	Description	2013 Employment		2003-2013 Change		Earnings	
		Positions	Location Quotient	% Change, 10-County Region	% Change, U.S.	2014 Avg Hourly Earnings	National Earnings Ratio
Total, Across All Occupations in 10-County Region		1,916,870		23%	4%	\$20.72	96.9%
11-3071	Transportation, Storage, & Distribution Managers	1,047	0.78	23%	6%	\$43.80	103.4%
43-5011	Cargo & Freight Agents	603	0.58	45%	7%	\$17.34	85.3%
43-5071	Shipping, Receiving, & Traffic Clerks	8,359	0.92	11%	(6%)	\$13.53	91.6%
43-5081	Stock Clerks & Order Fillers	19,565	0.84	17%	(2%)	\$12.26	104.2%
43-5111	Weighers, Measurers, Checkers, & Samplers, Recordkeeping	454	0.49	9%	4%	\$13.25	92.7%
47-4061	Rail-Track Laying & Maintenance Equipment Operators	187	0.83	11%	8%	\$17.44	78.5%
49-1011	First-Line Supervisors of Mechanics, Installers, & Repairers	5,500	0.98	15%	(2%)	\$27.21	90.8%
49-3031	Bus & Truck Mechanics & Diesel Engine Specialists	2,769	0.88	12%	2%	\$19.84	96.6%
49-3043	Rail Car Repairers	118	0.44	(25%)	14%	\$18.47	81.3%
49-9071	Maintenance & Repair Workers, General	17,767	1.00	22%	3%	\$15.69	87.8%
51-9061	Inspectors, Testers, Sorters, Samplers, & Weighers	5,055	0.83	11%	(7%)	\$18.19	100.8%
53-1021	First-Line Supervisors of Helpers, Laborers, & Material Movers, Hand	1,627	0.73	17%	1%	\$22.38	98.8%
53-1031	First-Line Supervisors of Transportation & Material-Moving Machine & Vehicle Operators	1,903	0.73	15%	2%	\$23.50	88.4%
53-3032	Heavy & Tractor-Trailer Truck Drivers	14,955	0.65	22%	1%	\$16.48	87.0%
53-3033	Light Truck or Delivery Services Drivers	8,423	0.79	11%	(4%)	\$15.41	95.4%
53-4011	Locomotive Engineers	211	0.42	9%	7%	\$21.28	80.7%
53-4021	Railroad Brake, Signal, & Switch Operators	141	0.42	(1%)	9%	\$19.51	80.8%
53-4031	Railroad Conductors & Yardmasters	238	0.41	8%	7%	\$24.72	90.5%
53-7051	Industrial Truck & Tractor Operators	3,356	0.51	4%	(8%)	\$13.47	87.3%
53-7062	Laborers & Freight, Stock, & Material Movers, Hand	21,560	0.75	17%	1%	\$11.17	87.6%
53-7063	Machine Feeders & Offbearers	269	0.19	(27%)	(18%)	\$10.57	76.6%
53-7064	Packers & Packagers, Hand	3,348	0.38	0%	(3%)	\$10.40	96.2%
Total, Regional Logistics Target		117,455	0.76	16%	(1.1%)	\$15.24	93.4%

Source: EMSI

Note: National Earnings Ratio Color Code based on C2ER's San Marcos Urban Area Cost of Living Index of 86.0.

Place-Based Assets and Opportunities

When compared to major logistics hubs such as Dallas, Houston, Memphis, and Atlanta, the Central Texas geography has fewer place-based advantages and less capacity to move goods through a variety of modes. However, the San Marcos area, via its proximity to two international airports, direct access to a major north-south interstate and close accessibility to an east-west interstate, thousands of acres of available development sites already positioned for distribution opportunities, and lower land costs can defensibly position itself as the hub of Central Texas warehousing and distribution. One critical limitation for Greater San Marcos, however, is its lack of a business or industrial park to accommodate high-volume users in this sector. Providing readily available space for prospective businesses would increase the region's competitiveness.

As noted, Greater San Marcos is within a short drive of two international airports, Austin-Bergstrom International Airport and San Antonio International Airport. Among 795 U.S. airports, the Austin airport ranks 52nd for freight cargo capacity during the 12 months ending June 2014. San Antonio ranks 30th. Austin's cargo facilities are located next to a 12,250 foot runway, and the airport is located within minutes of I-35. San Antonio International has several air freight and cargo operations firms located on its property and is also very close to I-35.

State and federal investments to improve State Highway 130 and FM 110 through Greater San Marcos are also notable place-based advantages. State Highway 130 is expected to alleviate traffic congestion on I-35 by providing a high-speed alternate route for drivers between Austin and San Antonio. The project is a limited access toll road with speeds up to 85 miles per hour. FM 110 will improve connectivity of the two-county region by connecting I-35 to south San Marcos, running along the eastern edge of the city and Hays County.

Another key supportive asset is the San Marcos Municipal Airport, particularly due to its runway lengths, available periphery land, state-of-the-art navigation systems, Foreign Trade Zone Magnet Site, and the infrastructure improvements expected as a result of expanding FM 110.

Strategic Implications

As a reminder, this Target Business Analysis is not a strategic document but a **research document**. Though potential strategic implications and opportunities are discussed, actual tactics to grow Greater San Marcos approved target sectors will be included in the Vision 2020 Strategy itself.

The approaches to stimulating employment gains in the Super-Regional Advantage sectors will be slightly different than targets with more dynamic regional competitive advantages. Without a concentrated presence of local firms or talent, narratives promoting the super-regional sectors will need to be more broadly conveyed in relation to the benefits of Greater San Marcos' centrality in the Austin-San Antonio corridor. Comprehensive data and graphical representations of the breadth of super-regional employment, occupations, and assets will help tell the story of the advantages accrued through a Greater San Marcos location. External efforts should fully leverage the capacity, reach, networks, and promotional campaigns of the principal economic development organizations in Austin and San Antonio.

The Greater San Marcos Partnership already invests in Opportunity Austin and accompanies state and regional teams on domestic and international marketing missions. Speaking to the San Marcos area's new target sectors and the relationship of Super-Regional Advantage sectors to the well-known assets to the north and south of the region will broaden awareness not only of the I-35 corridor but also Greater San Marcos' strategic position in it. The long-time work of the *Greater Austin-San Antonio Corridor Council* (www.thecorridor.org) can also be leveraged for optimizing the competitive position of the corridor communities and developing the infrastructure required to advance strategic efforts to the next level.

In recent months, the Greater San Marcos Partnership has taken the lead on key meetings and sessions identifying and advancing super-regional needs and opportunities along the corridor. Applying specific

targeted priorities to these efforts will help focus and formalize collaborative messaging and strategic development.

At first, Greater San Marcos' claim to prospects in the Super-Regional Advantage sectors will primarily be its relationship and accessibility to super-regional capacity. However, as San Marcos area leaders purposefully set about growing these targets, they must also strive to slowly but surely build the training, entrepreneurial, infrastructure-related, and amenity-based programming to ensure employment growth in these categories is self-sustaining locally. Ultimately, as Greater San Marcos' employment and talent concentrations intensify based on pursuit of super-regional opportunities, development strategies will shift. With a stronger presence of local firms and leaders, existing and small business activities can be scaled to match and eventually exceed promotional efforts outside the community.

CONCLUSION

While Greater San Marcos is one of the fastest-growing regions in the country, the City of San Marcos actually *did* have the highest rate of population growth in the U.S. per the most recent Census estimates. Because of this growth and the legacy economies of Hays and Caldwell counties, the largest and most concentrated employment sectors in the San Marcos region are *not* the ones with the greatest potential to build sustainable wealth and investment and lift thousands of area residents out of poverty. Because of this, the majority of target sectors recommended for Greater San Marcos economic development professionals to pursue do not feature the degree of local concentration and critical mass of competitive assets that would be expected for categories that will be prioritized for investment. However, the region's targets *do* have solid bases for growth, represented either by existing companies and destinations, research strengths at Texas State, or opportunities created by the San Marcos area's strategic location in Central Texas.

Market Street felt that this proposed target configuration was necessary to maximize investments in the employment categories with the greatest potential to address Greater San Marcos' issues of generational and structural poverty identified in the Competitive Assessment – exacerbated by thousands of new lower-income, lower-skilled migrants to the region – as well as the need to provide greater opportunities for talented Texas State students to remain in the community after graduation.

Because the San Marcos area is not as competitive for some of its proposed targets as potential benchmark regions, it will have to work harder and smarter to grow these sectors and effectively communicate strategic steps being taken to close these gaps. However, Greater San Marcos' true ace-in-the-hole and most dynamic selling point is its "garden spot" between the Austin and San Antonio markets. As the I-35 corridor continues to densify and grow more interconnected – similar to the Dallas-Ft. Worth metroplex along I-30 – the two-county San Marcos region will see its economic development opportunities expand concurrently.

This is not to say that Greater San Marcos does not have existing high-value employment and assets, because it does. But only that the majority of the region's largest sectors are not the most lucrative

categories for targeted investment. Ultimately, supporting the growth of both established and emerging sectors will require a diverse mix of strategies focused on all aspects of the region's competitive position, marketing efforts, and support programs for existing businesses and entrepreneurs. To date, Greater San Marcos' economic development efforts have primarily been aimed at marketing and attraction of outside firms. As the Greater San Marcos Partnership's programming evolves to serve a diversifying region, greater focus on the needs and opportunities of existing businesses and the potential inherent in startup development, research commercialization, and small business creation will prove more impactful than a comparatively limited focus on prospect relocation.

As noted previously, however, this Target Business Analysis is a research report, not a strategic document. Detailed strategies to foster the growth of Greater San Marcos' target sectors will be included in the Vision 2020 Strategy. The Implementation Plan, the final deliverable in the process, will operationalize the strategy and enable the Partnership to move the region's economy forward sustainably and successfully.