



# Sarasota County Five-year Economic Development Strategic Plan

## A Roadmap to a Robust and Agile Economy

### APPENDICES

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# APPENDIX A: Phase One Report – Economic Profile Community Assessment and Cluster Evaluation

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# Phase One Report

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## INTRODUCTION

In September 2008, the consulting team of Scruggs & Associates LLC, IronWolf Community Resources, and RTI International were chosen to update the county's economic development plan. The project was to be conducted in three major phases: Phase One would provide a community assessment to identify strengths, gaps and general opportunities. Phase Two would identify a specific set of opportunities for economic diversification, and Phase Three would develop these opportunities into a strategic plan to be completed in the Spring of 2009.

The Sarasota County's current five-year economic development plan focuses on strengthening the capacity to diversify the job and industry base through more focused attention on value-added or high wage industries, entrepreneurial development, and business climate issues. While conversations in the past five years included diversification, the steady growth of existing segments such as construction and tourism drew community attention away from the need for a more varied array of businesses.

As effort toward updating the five-year plan begins, a slumping economy accelerated by the credit crisis and a very stagnant real estate market signals serious times ahead. These factors and a desire by the community to create a more diversified and stable economy have galvanized the county to work toward a five-year plan with action items that are specific, directed and measurable.

## Methodology

The **Phase One Report** for the updated economic development strategic plan contains three sections: an assessment of the county and regional economic assets, a quantitative economic profile, and an update on high impact industry groups (e.g. industry clusters). Together, these three methods of evaluation create a foundation of information by which economic strategies can be developed and benchmarked.

### Section A: Economic Profile

This economic profile summarizes recent industry and employment changes and trends to provide insights on growth patterns of business sectors and occupations. Most employment, wage, and demographic data contained in this report came from federal and state government sources including the Bureau of Labor Statistics, Bureau of Economic Analysis, Census Bureau, National Realtors Association, and the Florida Agency for Workforce Innovation. For growth trends, the report uses 2002 as the baseline year and 2007 as the most recent data. Exceptions to this time series are noted. The profile is divided into three parts:

**Part I:** Demographic and business climate information that supports the growth of the overall economy and targeted industry clusters including data on the labor force, population, and housing affordability.

**Part II:** Overall economic and industry measures including employment, wage, and establishment figures by major and specific industry segments. Information on concentrations of employment for various industries

**Part III:** Measures of innovation and competitiveness including research and development activity and assets, export activity, and Gross Metropolitan Product.

## **Section B: Community Assessment**

This section summarizes the economic strengths and weaknesses as viewed by community and business leaders in the county. The community input began in late September 2008 with the consultant team conducting more than 70 individual and group interviews. The information collected in the personal interviews defined topics and directions for an Internet-based survey that was sent to various businesses and community organizations throughout the county. More than 450 validated responses were evaluated to understand the community's perception of its current economic condition and the capacity for building a strong economy over the next five years.

## **Section C: Industry Clusters**

This section contains an assessment of the county's industry clusters including recommendations for modification, identification of key assets, data on the past five-year performance, and suggestions for promising economic opportunities. Economic data from Bureau of Labor Statistics and the Florida Agency for Workforce Innovation were used to assess performance; information from interviews, the survey, and secondary research was used to identify assets and gaps, and technical staff at RTI International provided recommendations for business development.

# AN ECONOMIC PROFILE OF SARASOTA COUNTY

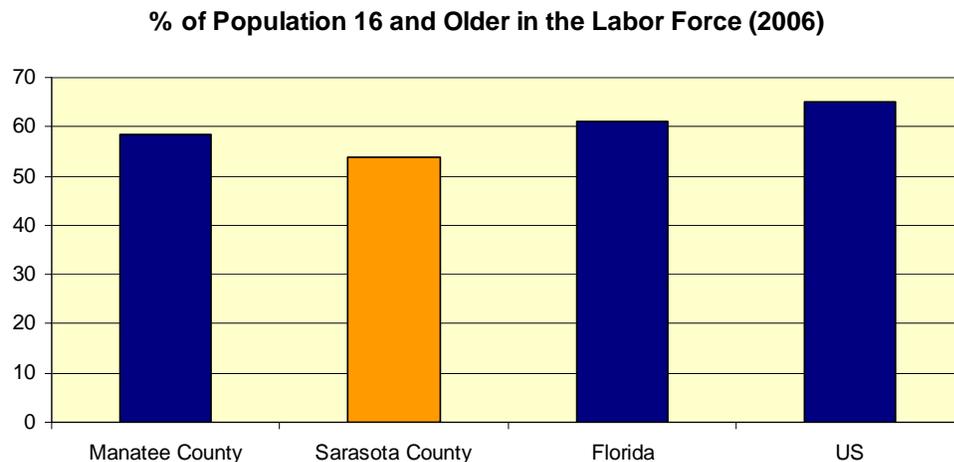
THIS SECTION OF THE REPORT PRESENTS ECONOMIC DATA ON THE COUNTY'S WORKFORCE AND INDUSTRIES, AS WELL AS FACTORS THAT SUPPORT COMPETITIVENESS AND INNOVATION. IN MOST CASES COUNTY DATA IS COMPARED TO STATE AND NATIONAL AVERAGES TO UNDERSTAND THE RELATIVE STRENGTH OF THE REGION'S ECONOMY.

## PART I: DEMOGRAPHICS

### Population and Labor Force

Population estimates for 2007 indicate that approximately 372,073 people – about 2% of the state's population – live in Sarasota County. Of that population, an estimated 178,448 residents are in the labor force. Compared to other regions, a smaller percentage of the population participates in the labor force, which can be seen as by employers as limiting the availability of workers.

**Figure 1: Labor Force Participation Rates**



*Source: U.S. Census Bureau*

### Unemployment

For many years, Sarasota County enjoyed below average unemployment rates with businesses worried about finding new workers. In the past two years, however, unemployment has crept above state and U.S. averages. In September 2008, the percentage of unemployed in Sarasota County was estimated at 7.6%, a 49% increase over the prior year, and 30% higher than the U.S. average.

**Figure 2: Recent Unemployment Figures**

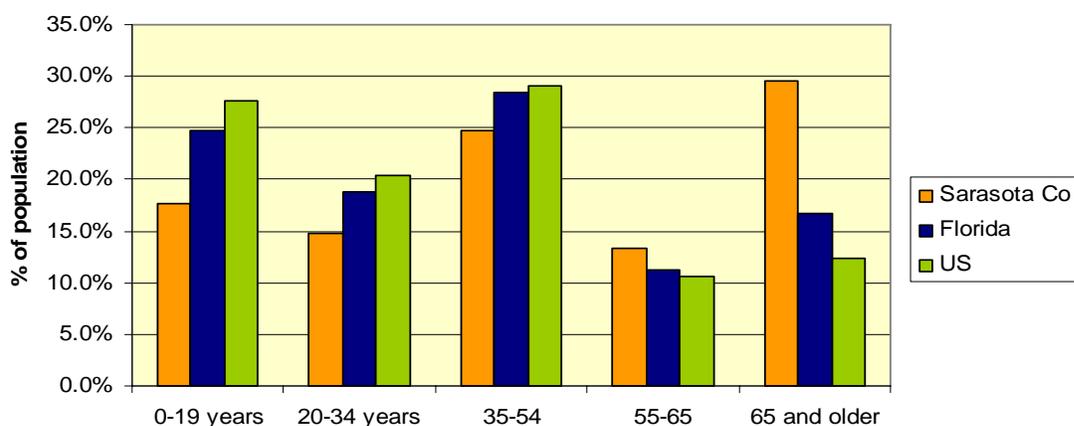
	SEPTEMBER 2008			SEPTEMBER 2007		
	LABOR FORCE	EMPLOYMENT	UNEMPLOY. RATE %	LABOR FORCE	EMPLOYMENT	UNEMPLOY. RATE %
HILLSBOROUGH	620,369	578,414	6.8	615,741	588,954	4.4
MANATEE	155,229	143,704	7.4	153,880	147,046	4.4
PASCO	199,788	183,695	8.1	197,339	187,043	5.2
PINELLAS	479,379	447,372	6.7	475,780	455,524	4.3
POLK	272,815	251,394	7.9	271,597	257,483	5.2
<b>SARASOTA</b>	<b>179,906</b>	<b>166,295</b>	<b>7.6</b>	<b>179,379</b>	<b>170,162</b>	<b>5.1</b>
FLORIDA	9,367,0	8,729,000	6.8	9,207,000	8,797,000	4.4
UNITED STATES	154,509,000	145,310,000	6.0	153,400,000	146,448,000	4.5

Source: Florida Agency for Workforce Innovation

### Age of Population

The median age in Sarasota County is 49.2 years, compared to 39.8 years for the State of Florida, 42.9 years for Manatee County or 36.4 years for the U.S. The distribution of population, as shown in Figure 3, indicates far fewer school age residents and far more residents 65 years and older.

**Figure 3: Distribution of Population By Age**



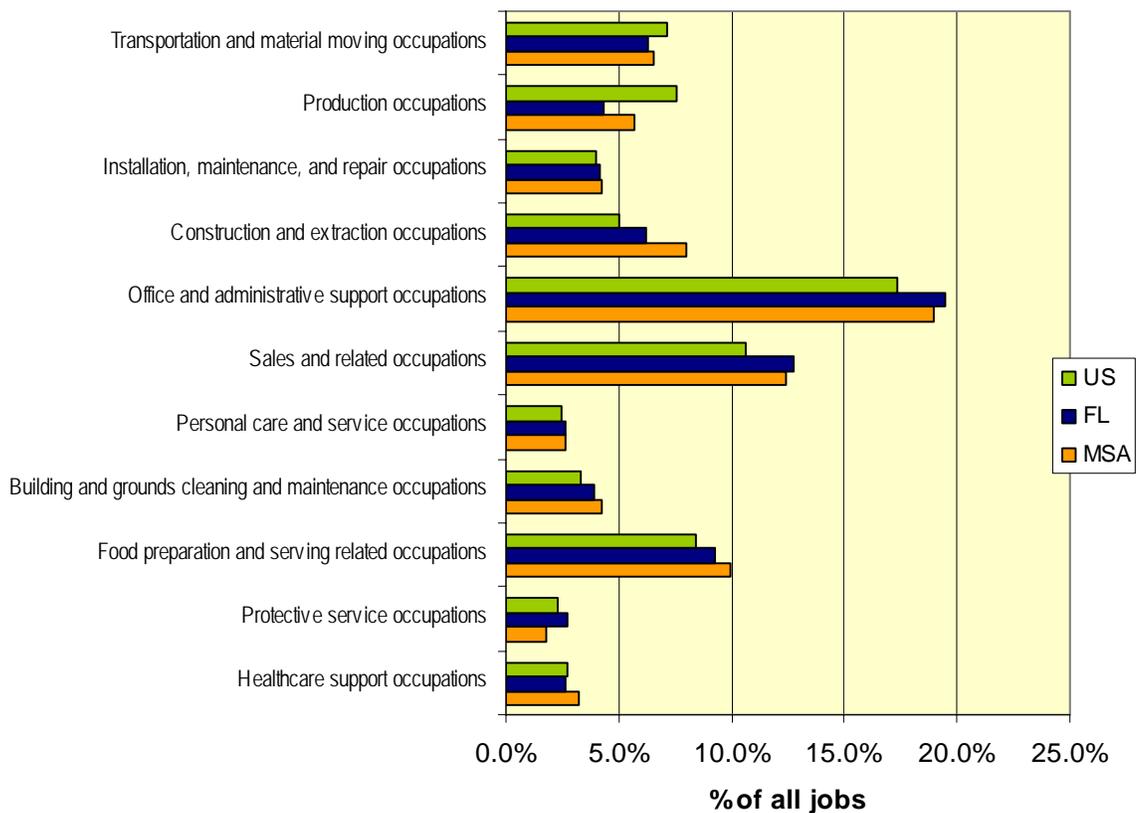
### Occupational Distribution

Occupational data describe the jobs in which residents of the metropolitan are employed. Since labor markets are rarely bound by county borders, metropolitan statistics provide a better description of what businesses look for as they expand or relocate. Unlike industry data, the place of employment for occupational data can be located in or outside the region. For the Bradenton-Sarasota MSA,

approximately 73% of residents work and live within the region; 11% commute north to Hillsborough or Pinellas Counties, and 3% commute to Charlotte County.

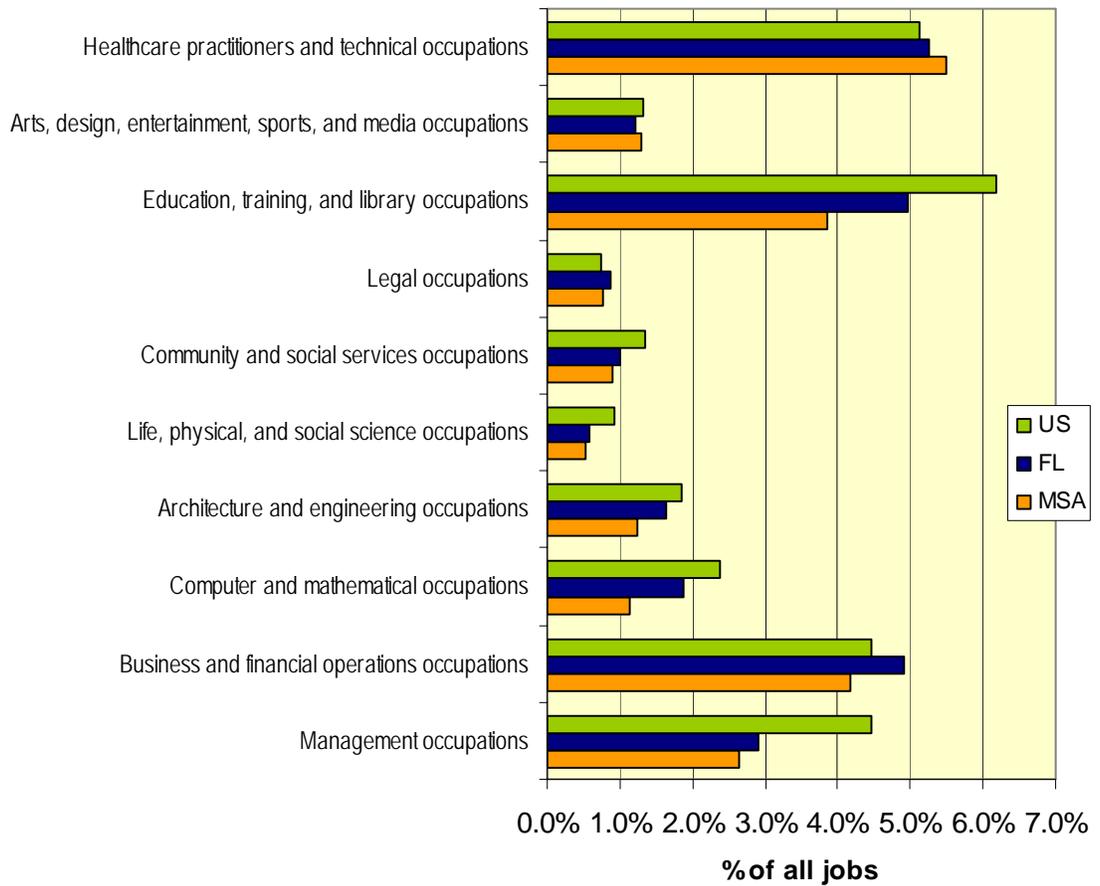
Not surprisingly, working residents of Sarasota County and the metro region tend to be in occupations that support the higher than average concentration of construction and local and retail services including food preparation, office and sales occupations. (Figure 4). Healthcare providers, artists, and legal occupations are the only groups of professional and higher skilled jobs that are more prevalent in the metro region. Compared to the U.S., residents are much less likely to be employed as a computer, engineering, scientific or management occupation. (Figure 5)

**Figure 4: Employment Distribution by Occupation: Lower Wage Occupations, Bradenton-Sarasota MSA, 2007**



Source: Bureau of Labor Statistics, Occupational Employment Statistics 2007 estimates

**Figure 5: Employment Distribution by Occupation: Professional, Technical and Management Occupations, Bradenton-Sarasota MSA, 2007**



Source: Bureau of Labor Statistics, Occupational Employment Statistics 2007 estimates

The distribution of occupations often indicates to businesses the level of available workforce. The comparative wages of these occupations also provides insights into the labor market. For some lower-skilled occupations where profit margins are tight, lower wages can be a sign of competitive advantage if other costs of doing business are relatively similar. Yet for higher skilled occupations, especially when cost of doing business or living is on par with U.S. averages, lower wages are often a sign of a less robust or sophisticated workforce. These lower wages become an impediment for attracting young professionals. Figure 6 shows the comparison of regional wages by major occupation group. For those professional occupations where the region has significantly fewer jobs than the national average, wages tend to be much lower.

**Figure 6: Occupational Distribution for Sarasota County, Florida and the U.S.**

	Mean Annual Wage 2007			% of US Wage
	Sarasota County	Florida	US	
All Occupations (of residents)	\$ 35,640	\$ 37,260	\$ 40,690	88%
Management	\$ 95,640	\$ 98,650	\$ 96,150	99%
Business and financial operations	\$ 54,310	\$ 57,580	\$ 62,410	87%
Computer and mathematical	\$ 57,590	\$ 61,980	\$ 72,190	80%
Architecture and engineering	\$ 55,780	\$ 61,020	\$ 68,880	81%
Life, physical, and social science	\$ 52,820	\$ 54,710	\$ 62,020	85%
Community and social services	\$ 37,610	\$ 39,050	\$ 40,540	93%
Legal	\$ 71,920	\$ 79,120	\$ 88,450	81%
Education, training, and library	\$ 40,610	\$ 46,310	\$ 46,610	87%
Arts, design, entertainment, sports, and media	\$ 44,120	\$ 43,720	\$ 48,410	91%
Healthcare practitioners and technical	\$ 62,230	\$ 62,530	\$ 65,020	96%
Healthcare support	\$ 26,260	\$ 24,980	\$ 25,600	103%
Protective service	\$ 39,430	\$ 35,840	\$ 38,750	102%
Food preparation and serving related	\$ 21,050	\$ 20,070	\$ 19,440	108%
Building and grounds cleaning and maintenance	\$ 22,660	\$ 21,840	\$ 23,560	96%
Personal care and service	\$ 22,990	\$ 23,990	\$ 23,980	96%
Sales and related	\$ 35,220	\$ 35,580	\$ 35,240	100%
Office and administrative support	\$ 28,400	\$ 28,840	\$ 31,200	91%
Farming, fishing, and forestry	\$ 23,070	\$ 20,820	\$ 22,640	102%
Construction and extraction	\$ 34,410	\$ 34,330	\$ 40,620	85%
Installation, maintenance, and repair	\$ 36,500	\$ 36,180	\$ 39,930	91%
Production	\$ 30,520	\$ 28,790	\$ 31,310	97%
Transportation and material moving	\$ 26,390	\$ 28,980	\$ 30,680	86%

Source: Bureau of Labor Statistics, Occupational Employment Statistics 2007 estimates

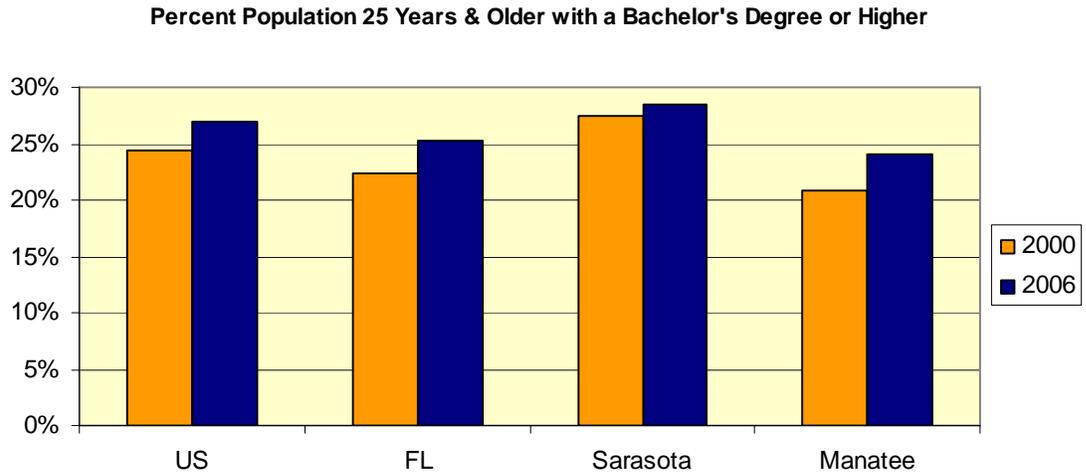
Note: wages in this table represent those earned by residents, which may differ from the average wage paid by industries as shown in Figure 18.

## Educational Attainment

A key indicator of the ability to attract well-paying jobs is the education level of an area's workforce, especially the percentage of the population with a bachelor's degree or higher. The percentage of residents over 25 with a bachelor's degree or higher is higher in Sarasota County than it is in Manatee, Florida, or the U.S.

In 2000, it was estimated that 27.4% of the county's population 25 years or older had a bachelor's degree or higher, three percentage points higher than the U.S. average, five points higher than the state average. By 2006, Sarasota County's percentage had increased to 28.4%, yet Florida and the United States had closed the gap significantly. This decreasing advantage for education is witnessed by data that shows the college education level of workers 25-44 in Sarasota County is only 21%, compared to 36% for workers 45-64.

**Figure 7: Educational Attainment**

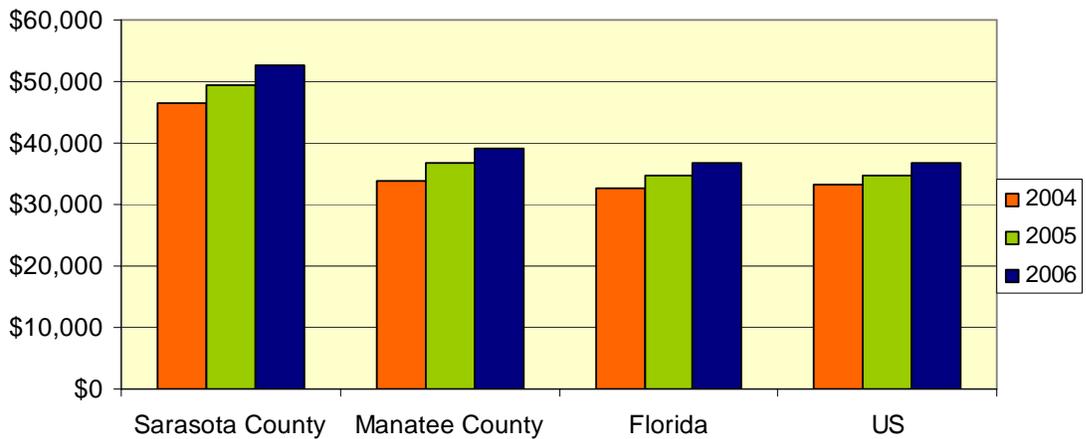


Source: U.S. Census Bureau

**Income**

Per capita income in Sarasota County continues to be above state and national averages. In 2006, the per capita personal income was more \$52,700, the sixth highest in the state, and well above the \$36,720 income level for Florida.

**Figure 8: Per Capita Personal Income, 2004-2006**

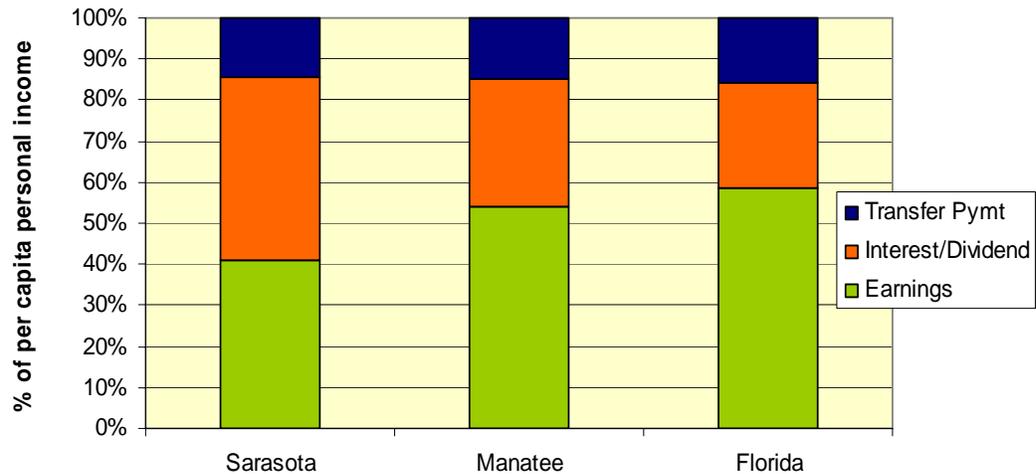


Source: Bureau of Economic Analysis, Bearfacts

While per capita income is higher than average, a larger than average portion of income is derived from investments, dividends and interests (nearly 45%), rather than earnings (41%)<sup>1</sup>. Income from earnings is well below the averages in Florida (59%) and neighboring Manatee (54%). This is in contrast to metro regions like Atlanta and Charlotte, where earnings account for nearly 70% of per capita income.

<sup>1</sup> Earning reported for this comparison does not include proprietary income.

**Figure 9: Components of Personal Income, 2006**



Source: Bureau of Economic Analysis, Bearfacts

### Housing-Wage Comparisons

Attraction of traded sector and value-added jobs depends on many factors. One factor is a region's affordability of housing in order to recruit companies and their workers into the area. One such measure compares a region's average price of a single family home compared to the average wage. Since many other regions of the country have housing prices similar to the Bradenton-Sarasota region, it is the average wage that drives affordability.

According to the National Association of Realtors, the price of a single family home in Bradenton-Sarasota-Venice reached an all time high of over \$364,000 in 2005. By the fourth quarter of 2006, the average single family home fell to just over \$300,000 and estimates for 2007 indicate a further decrease to \$263,200. While this was a sharp decrease from housing prices in 2005, it was still significantly higher than the average U.S. metropolitan price of \$205,000.

Comparing competitive metropolitan areas, the Bradenton-Sarasota-Venice region had the lowest average wage, yet the highest housing cost along with Providence, RI. This combination of low wages and high home prices, gave the region the highest housing-wage ratio (the ratio of average home price divided by annual wage).

**Figure 10: Housing-Wage Ratios of Metropolitan Regions**

	1Q 2008 Avg Single Home Price	Avg Wage	2007 Housing-Wage Ratio
Bradenton-Sarasota MSA, FL	\$262,700	\$36,424	7.2
Atlanta MSA, GA	\$154,000	\$47,840	3.2
Charlotte MSA, NC	\$192,700	\$46,975	4.1
Colorado Springs MSA, CO	\$214,700	\$39,745	5.4
Jacksonville MSA, FL	\$185,700	\$41,437	4.5
Providence MSA, RI	\$262,900	\$40,674	6.5
Tucson MSA, AZ	\$221,000	\$38,524	5.7

Source: National Association of Realtors and the Bureau of Labor Statistics;

## PART II: INDUSTRY PROFILE

This section highlights trends in the county's industry base including employment, firm, and wage information.

### Current Metropolitan Employment

From September 2007 to September 2008, the two county metropolitan region lost more than 8,000 jobs. The single biggest loss of jobs was in business services—primarily administrative services (e.g., leased employees) where continued changes to reporting by the state have reallocated jobs to other sectors or counties making it difficult to gauge the real level of job loss in this sector. Construction, retail trade and manufacturing combined lost 5,500 jobs in the last 12 months. Financial services experienced a slight decline in employment, while education and leisure and hospitality showed slight gains.

**Figure 11: General Overview of Industry Employment in Bradenton-Sarasota MSA**

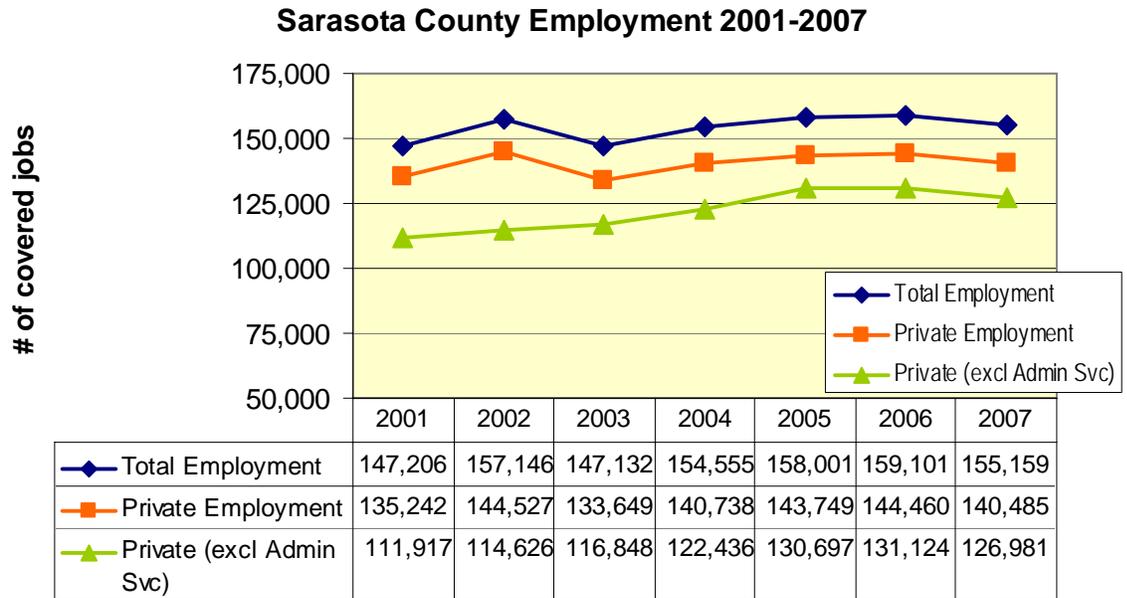
Industry Title	September	September	Sep 2007 - Sep 2008	
	2008	2007	Level	Percent
Total Nonagricultural Employment	285,500	293,600	-8,100	-2.8%
Total Private	255,600	264,400	-8,800	-3.3%
Natural Resources, Mining, and Construction	21,100	24,100	-3,000	-12.4%
Manufacturing	16,200	17,200	-1,000	-5.8%
Trade, Transportation, and Utilities	47,600	49,100	-1,500	-3.1%
Wholesale Trade	8,600	8,500	100	1.2%
Retail Trade	35,700	37,000	-1,300	-3.5%
Transportation, Warehousing, and Utilities	3,300	3,600	-300	-8.3%
Information	4,000	4,100	-100	-2.4%
Financial Activities (Finance, insurance & real estate)	15,600	15,900	-300	-1.9%
Professional and Business Services (Incl. admin svc)	64,400	69,600	-5,200	-7.5%
Education and Health Services	41,500	40,300	1,200	3.0%
Leisure and Hospitality	32,400	31,100	1,300	4.2%
Other Services	12,800	13,000	-200	-1.5%
Total Government	29,900	29,200	700	2.4%

*Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data*

### Sarasota County Employment

In 2007, Sarasota County reported just over 155,000 jobs, not including estimates for self-employed persons. Approximately 140,485 workers were employed by the private sector, representing a decrease of just under 4,000 jobs from 2006.

**Figure 12: Five-year Employment Trend**



Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

\* [Note that in 2002 changes were made to employment reporting within the Administrative Services industry between Sarasota and Manatee counties, reallocating employment in this sector to Manatee County, and to other industries where leased workers were employed. Therefore, the severe drop between 2002 & 2003 reflect changes in reporting more than actual job loss. A more accurate pattern of job growth can be seen when administrative jobs are removed]

When administrative services are removed from job growth calculations, Sarasota County experienced a 10.7% growth rate in covered employed from 2002 to 2007, very similar to Florida's 11% growth rate, and higher than the 7% growth rate in the U.S. Over the last year though, Sarasota County experienced a more significant decline than the state or nation: with a 2.8% decline in jobs compared to -0.1% for Florida and 1.7% for the U.S. This decline, as expected, came primarily from construction and related industries as the national economic downturn was led by a significant decline in the housing market.

### Recent Employment Growth by Major Industries

From 2006 to 2007, more than 95% of the job loss could be accounted for by two sectors, construction and manufacturing. (See Figure 13) Other sectors that declined in employment during the past 12-month reporting period were retail trade (significant job losses in home and garden centers), finance and insurance, information services, and professional and technical services (job losses primarily in architecture and engineering, accounting, and some legal). In the past 12 months employment in healthcare and social assistance, arts and recreation, management of companies, and portions of professional and technical services (design, computer systems, and other scientific and technical services) all increased.

Over a five-year period, all sectors except for manufacturing and information services added jobs. This pattern paralleled national employment trends. As noted above, the unique number of administrative service firms in the two-county area, and changes in data reporting made it difficult to determine actual jobs growth or decline in this sector.

**Figure 13: Sarasota County Employment and Employment Growth by Major Industry**

Industry Title	2002 Jobs	2006 Jobs	2007 Jobs	12 Month Change	5 Year Change
Agriculture, forestry, fishing and hunting	N/A	336	281	-55	N/A
Construction	11,798	17,935	15,410	-2,525	3,612
Manufacturing	8,460	8,790	7,482	-1,308	-978
Wholesale trade	3,827	4,319	4,217	-102	390
Retail trade	21,555	22,146	21,847	-299	292
Transportation and warehousing	2,220	2,263	2,226	-37	6
Information	2,953	2,930	2,804	-126	-149
Finance and insurance	6,726	7,096	6,780	-316	54
Real estate and rental and leasing	2,789	3,564	3,654	90	865
Professional and technical services	8,070	10,018	9,684	-334	1,614
Management of companies and enterprises	266	677	759	82	493
Administrative and waste services*	29,091	13,336	13,504	168	-15,587
Educational services	1,866	2,230	2,243	13	377
Health care and social assistance	21,694	22,934	23,727	793	2,033
Arts, entertainment, and recreation	4,028	4,464	4,768	304	740
Accommodation and food services	13,459	15,198	15,214	16	1,755

Source: Bureau of Labor Statistics, OCEW data

Figure 14 clearly illustrates the county's recent dependency on construction and related services. Sarasota County, like the state of Florida, benefited greatly from the upswing in construction with a five-year growth rate exceeding the U.S. average. This sector was similarly impacted by the downturn, where job loss was greater than U.S. rates. Yet, over a five-year period, the growth in this sector remains positive. While manufacturing employment in the county dropped dramatically in the past 12 months, five-year employment trends were still slightly better than national averages.

There is a set of industries that lost jobs in Sarasota County while the state and U.S. gained jobs between 2006 and 2007. These include wholesale trade, retail trade, transportation and distribution, and portions of professional and technical services. On the other hand, Sarasota County outperformed the state and U.S. in short- and long-term job growth in management of companies, arts and recreation and education services.

**Figure 14: Job Growth Rates**

Industry Title	12 Month Growth Rate			5 Year Growth Rate		
	Sarasota Co	Florida	USA	Sarasota Co	Florida	USA
Total, All Industries	-2.5%	-0.1%	1.1%	-1.3%	10.9%	5.6%
Agriculture, forestry, fishing and hunting	-16.4%	-2.6%	0.4%	--	-8.3%	0.7%
Construction	-14.1%	-6.5%	0.5%	30.6%	38.2%	-3.1%
Manufacturing	-14.9%	-3.5%	-0.5%	-11.6%	-4.5%	-20.5%
Wholesale trade	-2.4%	2.8%	1.7%	10.2%	14.5%	6.6%
Retail trade	-1.4%	0.2%	0.9%	1.4%	9.0%	3.3%
Transportation and warehousing	-1.6%	0.5%	1.5%	0.3%	4.4%	4.3%
Information	-4.3%	-3.3%	-0.3%	-5.0%	-9.0%	-9.4%
Finance and insurance	-4.5%	-0.3%	-0.2%	0.8%	13.3%	5.5%
Real estate and rental and leasing	2.5%	-2.7%	-0.1%	31.0%	14.9%	5.7%
Professional and technical services	-3.3%	0.8%	3.2%	20.0%	20.7%	14.3%
Management of companies and enterprises	12.1%	7.1%	3.0%	185.3%	22.6%	8.5%
Administrative and waste services	1.3%	-4.4%	1.1%	-53.6%	1.1%	10.5%
Educational services	0.6%	1.6%	1.6%	20.2%	9.1%	7.0%
Health care and social assistance	3.5%	3.6%	2.9%	9.4%	16.0%	12.3%
Arts, entertainment, and recreation	6.8%	4.0%	2.7%	18.4%	13.1%	8.8%
Accommodation and food services	0.1%	2.5%	2.3%	13.0%	17.1%	11.8%

*Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data*

### Employment Growth by Specific Industries

Further insight is provided into employment trends by looking at a more detailed list of industry sectors in Figure 15. Examining the 10 sectors that added the most jobs during the past five years:

- ◆ Three sectors were in professional, management and education sectors;
- ◆ Three sectors were in construction and real estate;
- ◆ Two sectors were in health care; and
- ◆ One sector was in performing arts.

In addition, employment also increased in chemical manufacturing, fabricated metal manufacturing and wholesale of durable goods.

**Figure 15: Top Industries by Total Employment Growth**

NAICS	Industry Title	2002 Jobs	2006 Jobs	2007 Jobs	12 Month Change	2002-07 Change	2002-07 Growth Rate
238	Specialty trade contractors	8,502	12,705	10,574	-2131	2,072	24%
621	Ambulatory health care services	7,940	9,548	9,592	44	1,652	21%
541	Professional and technical services	8,071	10,020	9,648	-372	1,577	20%
711	Performing arts and spectator sports	760	1,892	2,118	226	1,358	179%
236	Construction of buildings	2,066	3,743	3,376	-367	1,310	63%
531	Real estate	2,053	2,924	2,959	35	906	44%
623	Nursing and residential care facilities	5,220	5,451	6,023	572	803	15%
441	Motor vehicle and parts dealers	2,775	3,420	3,402	-18	627	23%
551	Management of companies and enterprises	266	711	760	49	494	186%
611	Educational services	1,189	1,417	1,552	135	363	31%
423	Merchant wholesalers, durable goods	2,134	2,549	2,481	-68	347	16%
444	Building material and garden supply stores	1,569	2,140	1,884	-256	315	20%
325	Chemical manufacturing	50	324	342	18	292	584%
452	General merchandise stores	2,980	3,142	3,212	70	232	8%
237	Heavy and civil engineering construction	1,247	1,477	1,473	-4	226	18%
522	Credit intermediation and related activities	2,725	3,071	2,948	-123	223	8%
332	Fabricated metal product manufacturing	2,271	2,937	2,488	-449	217	10%
721	Accommodation	2,353	2,611	2,569	-42	216	9%
524	Insurance carriers and related activities	2,551	2,782	2,755	-27	204	8%

Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

**High Growth Industries:** Figure 16 highlights industries that grew employment at a rate higher than 25% since 2002. The top three sectors in overall employment growth were chemical manufacturing, management of companies and enterprises, and performing arts and spectator sports.

**Figure 16: Industries with the High Growth Rate of Employment (100 jobs or more)**

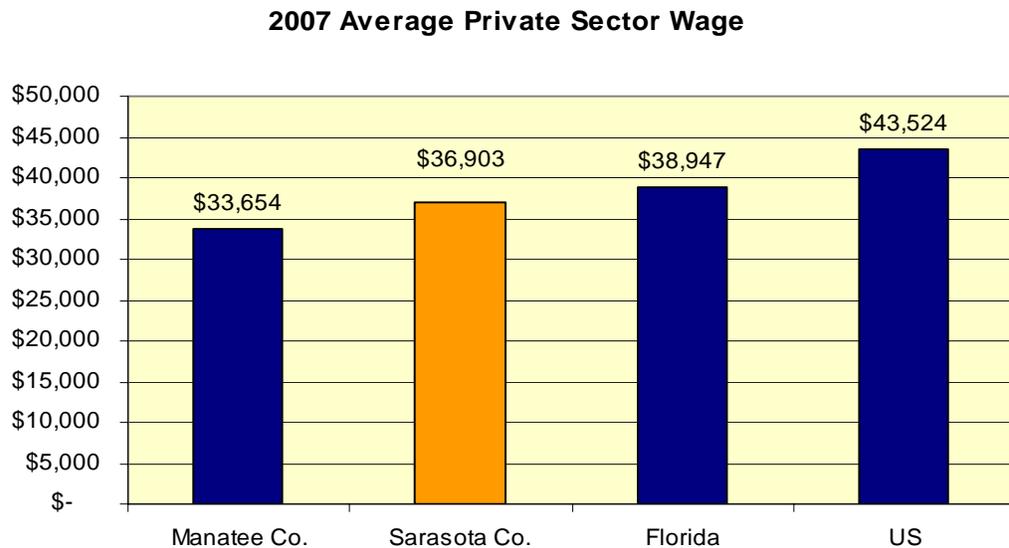
NAICS	Industry Title	2002 Jobs	2006 Jobs	2007 Jobs	12 month change	2002-07 Change	2002-07 Growth Rate
325	Chemical manufacturing	50	324	342	18	292	584%
551	Management of companies & enterprises	266	711	760	49	494	186%
711	Performing arts and spectator sports	760	1,892	2,118	226	1,358	179%
562	Waste management & remediation svcs	234	485	394	-91	160	68%
236	Construction of buildings	2,066	3,743	3,376	-367	1,310	63%
531	Real estate	2,053	2,924	2,959	35	906	44%
485	Transit and ground passenger transportation	78	109	104	-5	26	33%
611	Educational services	1,189	1,417	1,552	135	363	31%
448	Clothing and clothing accessories stores	1,659	2,092	2,158	66	499	30%
323	Printing and related support activities	381	491	476	-15	95	25%

Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

## Wage Growth

The average annual Sarasota County wage in 2007 was **\$37,767**, representing a modest increase of just under \$400 from 2006. Private sector wages averaged \$36,903 in 2007, below state and national averages, as shown in Figure 17.

**Figure 17: Comparison of Private Sector Wages**



*Source: Bureau of Labor Statistics, QCEW data*

## Wages by Industry Sectors

Five-year growth in county wages outpaced state and U.S. averages. From 2002-2007 Sarasota County wages increased by more than 29%, while Florida wages grew by 22% and the U.S. increased wages by 19%. Yet from 2006 to 2007, the modest increase in wages of less than 1% in Sarasota County was far less than a 3% increase in Florida wages and a 2.6% increase in U.S. covered wages.

While wages grew in all sectors over a five-year period, several industry sectors (primarily those with significant job loss) experienced a decline in wages during the past 12 months. These sectors included manufacturing, information services, and real estate.

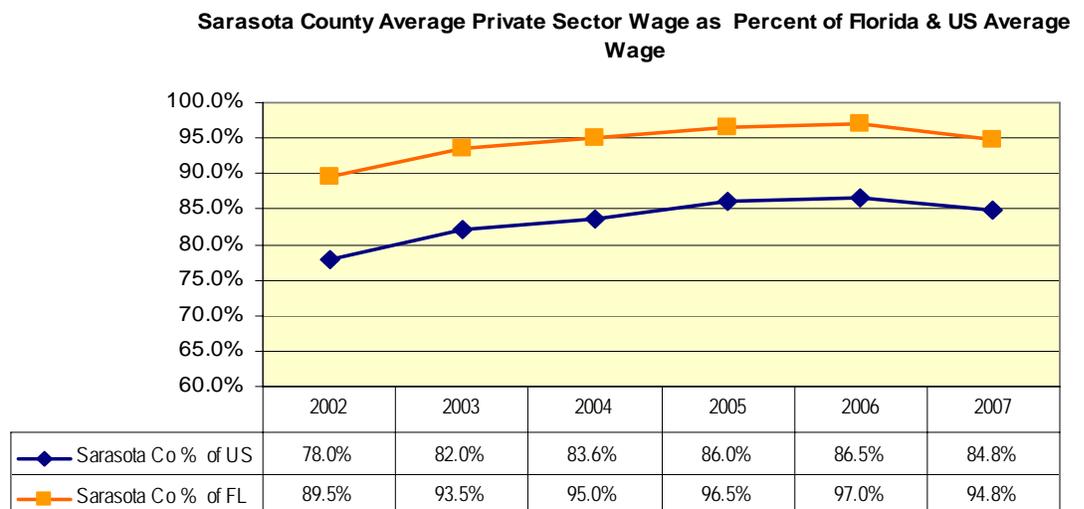
**Figure 18: Sarasota County Annual Wage and Wage Growth by Major Industry**

	2002 Avg. Annual Wage	2006 Avg. Annual Wage	2007 Avg. Annual Wage	12 Month Change	2002-07 Change
Total, All Industries	\$29,273	\$37,376	\$37,767	\$391	\$8,494
Agriculture, Forestry, Fishing & Hunting	\$21,874	\$26,026	\$28,615	\$2,589	\$6,741
Utilities	\$44,751	\$69,887	\$73,506	\$3,619	\$28,755
Construction	\$32,172	\$38,905	\$40,083	\$1,178	\$7,911
Manufacturing	\$34,906	\$45,620	\$40,990	-\$4,630	\$6,084
Wholesale Trade	\$42,028	\$47,403	\$47,865	\$462	\$5,837
Retail Trade	\$23,845	\$27,827	\$27,773	-\$54	\$3,928
Transportation/Distribution	\$32,317	\$40,539	\$39,784	-\$755	\$7,467
Information	\$43,179	\$61,499	\$56,492	-\$5,007	\$13,313
Finance and Insurance	\$55,851	\$73,103	\$73,157	\$54	\$17,306
Real Estate and Rental and Leasing	\$25,377	\$34,715	\$32,806	-\$1,909	\$7,429
Professional, Scientific & Tech Services	\$44,405	\$52,105	\$55,166	\$3,061	\$10,761
Management of Companies & Enterprises	\$55,741	\$64,186	\$80,229	\$16,043	\$24,488
Admin & Support & Waste Mgmt.	\$19,835	\$26,391	\$27,834	\$1,443	\$7,999
Educational Services	\$36,245	\$41,174	\$42,790	\$1,616	\$6,545
Health Care and Social Assistance	\$34,283	\$39,993	\$40,814	\$821	\$6,531
Arts, Entertainment, and Recreation	\$18,829	\$25,353	\$26,128	\$775	\$7,299
Accommodation and Food Services	\$14,573	\$18,394	\$18,692	\$298	\$4,119
Other Services	\$20,368	\$24,478	\$24,807	\$329	\$4,439
Public Administration	\$36,796	\$45,127	\$46,939	\$1,812	\$10,143

Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

Even with steady growth in wages over the past five years, Sarasota County wages remain well below the national average, and have recently begun to lose ground as illustrated in Figure 19.

**Figure 19: Comparison of County Wage to State and U.S. Averages**



Source: Bureau of Labor Statistics

Lower than average wages can be correlated to the large number of jobs in administrative services, retail, and tourism related industries as well as the compensation levels of traded sector industries in areas such as manufacturing, wholesale trade or professional services that pay only 75 to 90% of the wages paid to their counterparts elsewhere in the U.S.

**Figure 20: Sarasota County Average Annual Wage of Industries Compared to U.S.**

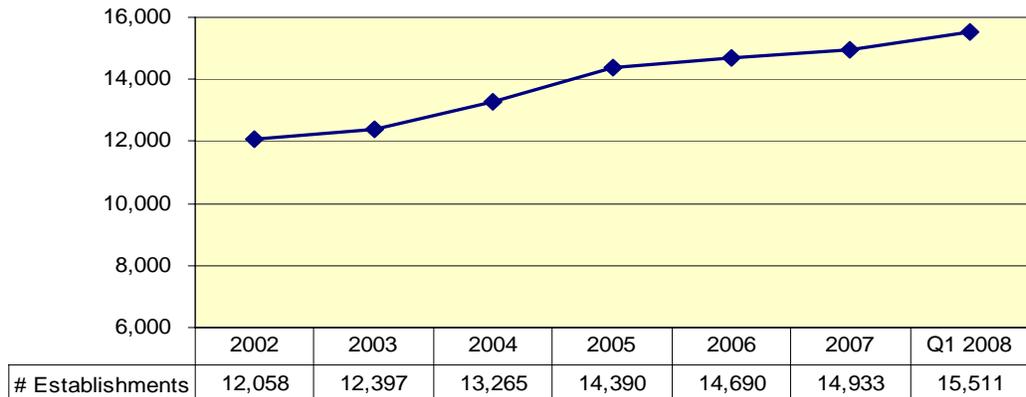
	% of Sarasota Co. Employment	Sarasota Co. 2007 Avg. Annual Wage	US 2007 Avg. Annual Wage	Ratio Sarasota Co/US Wage
NAICS 62 Health care and social assistance	16.89%	\$40,814	\$40,686	100%
NAICS 44-45 Retail trade	15.55%	\$27,773	\$26,124	106%
NAICS 23 Construction	10.97%	\$40,083	\$46,784	86%
NAICS 72 Accommodation and food services	10.83%	\$18,692	\$16,363	114%
NAICS 56 Administrative and waste services	9.61%	\$27,834	\$30,897	90%
NAICS 54 Professional and technical services	6.89%	\$55,166	\$72,033	77%
NAICS 31-33 Manufacturing	5.33%	\$40,990	\$53,489	77%
NAICS 52 Finance and insurance	4.83%	\$73,157	\$84,952	86%
NAICS 81 Other services, except public administration	4.63%	\$24,807	\$27,970	89%
NAICS 71 Arts, entertainment, and recreation	3.39%	\$26,128	\$30,909	85%
NAICS 42 Wholesale trade	3.00%	\$47,865	\$60,719	79%
NAICS 53 Real estate and rental and leasing	2.60%	\$32,806	\$43,449	76%
NAICS 51 Information	2.00%	\$56,492	\$69,140	82%
NAICS 61 Educational services	1.10%	\$42,790	\$39,485	108%
NAICS 48-49 Transportation and warehousing	1.07%	\$39,784	\$42,615	93%
NAICS 55 Management of companies and enterprises	0.54%	\$80,229	\$95,519	84%
NAICS 22 Utilities	0.41%	\$73,506	\$82,275	89%
NAICS 11 Agriculture, forestry, fishing and hunting	0.20%	\$28,615	\$25,191	114%

Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

### Establishment (Firm) Growth

Figure 21 shows the growth in number of establishments in Sarasota County since 2002. Average annual growth was strong over the period. Growth peaked in 2004 and 2005, with growth rates of 7.0% and 8.5%, respectively, over the previous years. Establishment growth has since stabilized, closer to 2% annually in 2006 and 2007.

**Figure 21: Private Sector Establishment Growth, 2001-2008**



Source: Florida Agency for Workforce Innovation

While growth in jobs was highly correlated to the housing market, growth in firms were even more skewed toward construction and related industries. From 2002 to 2007, the state and county added more than 60% more construction companies, compared to just over 12% for the U.S. With the growth in construction jobs approximately 30% for the same time period, most of these new firms were small establishments. The same pattern of firm growth exceeding job growth holds true for financial services and real estate. Professional and technical services grew the number of firms at the same rate it grew jobs, while growth new establishments in management of companies was more than double U.S. averages for the past five years.

**Figure 22: Firm Growth Rates**

Industry Title	12 Month Growth Rate			5 Year Growth Rate		
	Sarasota Co	Florida	USA	Sarasota Co	Florida	USA
Total, All Industries	1.7%	3.5%	2.1%	23.7%	26.8%	10.7%
Agriculture, forestry, fishing and hunting	-5.1%	1.4%	-0.6%	N/A	1.6%	-5.1%
Construction	1.8%	5.0%	1.7%	60.1%	65.5%	12.4%
Manufacturing	1.2%	1.0%	-0.4%	0.2%	-0.3%	-6.6%
Wholesale trade	1.4%	3.8%	1.9%	9.6%	17.6%	7.4%
Retail trade	0.3%	2.3%	0.5%	3.8%	11.5%	0.8%
Transportation and warehousing	7.0%	8.8%	6.2%	17.2%	25.8%	10.8%
Information	2.7%	-3.4%	0.1%	5.6%	7.9%	-3.6%
Finance and insurance	2.6%	5.1%	2.5%	37.9%	43.5%	16.6%
Real estate and rental and leasing	0.1%	2.0%	2.2%	65.6%	59.6%	19.1%
Professional and technical services	2.6%	4.1%	3.1%	24.3%	32.2%	14.4%
Management of companies and enterprises	17.6%	15.6%	6.3%	63.3%	69.0%	29.4%
Administrative and waste services	2.5%	5.0%	4.2%	20.7%	29.6%	13.2%
Educational services	8.0%	6.0%	3.1%	37.8%	34.7%	19.6%
Health care and social assistance	2.2%	4.1%	3.0%	15.0%	22.4%	15.6%
Arts, entertainment, and recreation	-2.6%	4.4%	1.8%	7.5%	35.9%	14.4%
Accommodation and food services	4.9%	4.6%	2.4%	18.3%	22.8%	11.3%

## Firm Growth by Major Industry

Sarasota County has steadily been adding firms to the county since 2002; this growth is mostly driven by construction, real estate, professional and technical services and finance and insurance as illustrated in Figure 23.

**Figure 23: Sarasota County Establishment Growth by Major Industry**

Industry Title	2002 Firms	2006 Firms	2007 Firms	12 Month Change	5 Year Change
Total, All Industries	12,150	14,780	15,031	251	2,881
Agriculture, forestry, fishing and hunting	0	59	56	-3	56
Construction	1,613	2,536	2,582	46	969
Specialty trade contractors	1,162	1,768	1,726	-42	564
Construction of buildings	383	667	685	18	302
Manufacturing	434	430	435	5	1
Chemical manufacturing	11	18	19	1	8
Wholesale trade	655	708	718	10	63
Electronic markets and agents and brokers	120	186	200	14	80
Retail trade	1,637	1,694	1,699	5	62
Transportation and warehousing	169	185	198	13	29
Information	178	183	188	5	10
Finance and insurance	680	914	938	24	258
Credit intermediation and related activities	245	343	363	20	118
Securities, commodity contracts, investments	153	268	253	-15	100
Insurance carriers and related activities	272	311	313	2	41
Real estate and rental and leasing	631	1,044	1,045	1	414
Real estate	535	964	937	-27	402
Professional and technical services	1,582	1,918	1,967	49	385
Management of companies and enterprises	49	68	80	12	31
Administrative and waste services	942	1,109	1,137	28	195
Administrative and support services	929	1,099	1,115	16	186
Educational services	98	125	135	10	37
Health care and social assistance	1,184	1,333	1,362	29	178
Ambulatory health care services	1,000	1,153	1,174	21	174
Arts, entertainment, and recreation	212	234	228	-6	16
Accommodation and food services	682	769	807	38	125

Source: Florida Agency for Workforce Innovation, Labor Market Statistics, QCEW data

## Concentration Of Employment

A primary determinant for industry competitiveness is the concentration of employment, or location quotient (LQ). The location quotient is defined as the regional concentration of employment for a specific industry compared to the average concentration of employment for that industry in the U.S. Industries with a concentration the same as the U.S. have a LQ of 1.0; those with regional concentrations greater than the U.S. have LQs greater than 1.0; and those with lower than average concentrations have LQs less than 1.0.

As shown in Figure 24, Sarasota County appears to be highly concentrated in a few selected industries with employment in other sectors having lower than average concentrations of services. Performing arts and spectator sports, specialty trade contractors and nursing and residential care facilities, and membership organizations were the top four industries in terms of employment concentrations. Performing arts and spectator sports had at least two times the Florida average in concentration of jobs with most of these being concentrated in Sarasota County (not the MSA). Traded sector industries with a higher than average employment concentration include fabricated metal product manufacturing, publishing, nonmetallic mineral product manufacturing, and professional and technical services.

**Figure 24: Industries with a LQ Greater than 1.0**

Industry	Sarasota County Jobs	Sarasota County LQ	Bradenton-Sarasota MSA LQ	FL LQ
NAICS 711 Performing arts and spectator sports	2,118	4.23	2.51	1.35
NAICS 238 Specialty trade contractors	10,577	1.78	1.59	1.35
NAICS 623 Nursing and residential care facilities	6,017	1.66	1.33	0.92
NAICS 813 Membership associations and organizations	2,723	1.66	1.28	1.00
NAICS 531 Real estate	2,958	1.61	1.39	1.41
NAICS 442 Furniture and home furnishings stores	1,106	1.57	1.25	1.27
NAICS 236 Construction of buildings	3,374	1.55	1.18	1.19
NAICS 441 Motor vehicle and parts dealers	3,402	1.45	1.26	1.17
NAICS 621 Ambulatory health care services	9,590	1.42	1.27	1.09
NAICS 713 Amusements, gambling, and recreation	2,486	1.42	1.60	1.66
NAICS 453 Miscellaneous store retailers	1,486	1.38	1.09	1.02
NAICS 445 Food and beverage stores	4,671	1.33	1.30	1.13
NAICS 561 Administrative and support services	13,110	1.32	ND	1.58
NAICS 332 Fabricated metal product manufacturing	2,472	1.29	1.15	0.42
NAICS 812 Personal and laundry services	1,990	1.24	1.00	1.04
NAICS 237 Heavy and civil engineering construction	1,460	1.20	1.41	1.26
NAICS 446 Health and personal care stores	1,467	1.20	1.11	1.17
NAICS 448 Clothing and clothing accessories stores	2,182	1.18	1.24	1.22
NAICS 444 Building material and garden supply stores	1,888	1.17	1.08	1.05
NAICS 622 Hospitals	6,407	1.16	0.93	0.90
NAICS 511 Publishing industries, except Internet	1,244	1.12	0.86	0.80
NAICS 721 Accommodation	2,569	1.12	0.85	1.42
NAICS 487 Scenic and sightseeing transportation	39	1.11	0.73	1.49
NAICS 722 Food services and drinking places	12,644	1.08	1.02	1.03
NAICS 523 Securities, commodity contracts, investments	1,128	1.07	0.77	0.80
NAICS 327 Nonmetallic mineral product manufacturing	342	1.06	0.82	0.87
NAICS 712 Museums, historical sites, zoos, and parks	163	1.05	0.71	0.80
NAICS 443 Electronics and appliance stores	690	1.03	0.88	1.12
NAICS 541 Professional and Technical Services	9,683	1.03	0.81	0.99
NAICS 451 Sporting goods, hobby, book music stores	818	1.01	0.96	0.90

Source: Bureau of Labor Statistics

Areas with significant numbers in both jobs and concentration of employment are typically considered to be industries with a comparative advantage in the region. In Sarasota County, these tend to be construction, health care and retail/tourism services, rather than higher-wage industries with significant export activity outside the region.

In contrast, high wage industries including financial services, insurance, professional services, and wholesale trade all have more than 1,000 jobs in Sarasota County yet their concentration of employment is the same or less than elsewhere in the U.S.

**Figure 25: LQ of Industries with more than 1,000 jobs, 2007**

	Sarasota County Jobs	Sarasota County LQ	Bradenton-Sarasota MSA LQ	FL LQ
NAICS 561 Administrative and support services	13,110	1.32	ND	1.58
NAICS 722 Food services and drinking places	12,644	1.08	1.02	1.03
NAICS 238 Specialty trade contractors	10,577	1.78	1.59	1.35
NAICS 541 Professional and Technical Services	9,683	1.03	0.81	0.99
NAICS 621 Ambulatory health care services	9,590	1.42	1.27	1.09
NAICS 622 Hospitals	6,407	1.16	0.93	0.9
NAICS 623 Nursing and residential care facilities	6,017	1.66	1.33	0.92
NAICS 445 Food and beverage stores	4,671	1.33	1.3	1.13
NAICS 441 Motor vehicle and parts dealers	3,402	1.45	1.26	1.17
NAICS 236 Construction of buildings	3,374	1.55	1.18	1.19
NAICS 452 General merchandise stores	3,212	0.86	0.99	1.02
NAICS 531 Real estate	2,958	1.61	1.39	1.41
NAICS 522 Credit intermediation and related activities	2,946	0.83	0.74	1.08
NAICS 813 Membership associations and organizations	2,723	1.66	1.28	1
NAICS 524 Insurance carriers and related activities	2,644	0.99	0.75	1.03
NAICS 721 Accommodation	2,569	1.12	0.85	1.42
NAICS 713 Amusements, gambling, and recreation	2,486	1.42	1.6	1.66
NAICS 443 Electronics and appliance stores	2,476	1.03	0.88	1.12
NAICS 332 Fabricated metal product manufacturing	2,472	1.29	1.15	0.37
NAICS 448 Clothing and clothing accessories stores	2,182	1.18	1.24	1.22
NAICS 711 Performing arts and spectator sports	2,118	4.23	2.51	1.35
NAICS 812 Personal and laundry services	1,990	1.24	1	1.04
NAICS 444 Building material and garden supply stores	1,888	1.17	1.08	1.05
NAICS 624 Social assistance	1,714	0.61	0.64	0.75
NAICS 611 Educational services	1,552	0.55	0.44	0.77
NAICS 453 Miscellaneous store retailers	1,486	1.38	1.09	1.02
NAICS 446 Health and personal care stores	1,467	1.2	1.11	1.17
NAICS 237 Heavy and civil engineering construction	1,460	1.2	1.41	1.26
NAICS 811 Repair and maintenance	1,430	0.93	0.93	1
NAICS 511 Publishing industries, except Internet	1,244	1.12	0.86	0.8
NAICS 424 Merchant wholesalers, nondurable goods	1,230	0.49	0.65	1
NAICS 523 Securities, commodity contracts, investments	1,128	1.07	0.77	0.8

Source: Bureau of Labor Statistics

Growth in Employment Concentration: Another factor in examining industry trends is the growth in employment concentration over time. The growth in LQ value can represent strengthening of an already established industry or the presence of an emerging industry.

- An array of traded sector services industries increased their employment concentration, which is a positive sign that these high wage jobs are growing in Sarasota County at rates faster than the U.S. average.
- Growth in retail and tourism related industries reflect the growth of the region as a destination point and a location for a “second” home.

**Figure 26: Industries with an Increase in Employment Concentration**

	2002 LQ	2007 LQ	LQ Change
Creative Services			
NAICS 711 Performing arts and spectator sports	1.49	4.23	2.74
NAICS 515 Broadcasting, except Internet	0.23	0.45	0.22
NAICS 323 Printing and related support activities	0.4	0.62	0.22
NAICS 517 Telecommunications	0.67	0.85	0.18
NAICS 511 Publishing industries, except Internet	.092	1.12	0.2
Health Services, Medical and Life Science			
NAICS 623 Nursing and residential care facilities	1.42	1.66	0.24
NAICS 621 Ambulatory health care services	1.27	1.42	0.15
Manufacturing			
NAICS 325 Chemical manufacturing	0.04	0.32	0.28
NAICS 339 Miscellaneous manufacturing	0.6	0.71	0.11
NAICS 332 Fabricated metal product manufacturing	1.1	1.29	0.19
Construction & Related Industries			
NAICS 236 Construction of buildings	0.98	1.55	0.57
NAICS 531 Real estate	1.13	1.61	0.48
NAICS 237 Heavy and civil engineering construction	1	1.2	0.2
NAICS 238 Specialty trade contractors	1.51	1.78	0.27
Professional & Financial Services			
NAICS 551 Management of companies and enterprises	0.12	0.33	0.21
NAICS 525 Funds, trusts, and other financial vehicles	0.31	0.57	0.26
NAICS 611 Educational services	0.45	0.55	0.1
NAICS 541 Professional and Technical Services	0.9	1.03	0.13
NAICS 524 Insurance carriers and related activities	0.87	0.99	0.12
Retail & Local Services			
NAICS 423 Merchant wholesalers, durable goods	0.53	0.65	0.12
NAICS 441 Motor vehicle and parts dealers	1.1	1.45	0.35
NAICS 442 Furniture and home furnishings stores	1.37	1.57	0.2
NAICS 444 Building material and garden supply stores	1	1.17	0.17
NAICS 448 Clothing and clothing accessories stores	0.94	1.18	0.24
NAICS 721 Accommodation	0.99	1.12	0.13
NAICS 722 Food services and drinking places	0.98	1.08	0.1
Other			
NAICS 562 Waste management and remediation services	0.55	0.9	0.35
NAICS 813 Membership associations and organizations	1.31	1.66	0.35

Source: Bureau of Labor Statistics, QCEW data

## Size of Establishments

In 2005, fully two-thirds (66%) of firms in the Bradenton-Sarasota-Venice MSA had four or fewer employees, as compared to 61% of firms nationwide. Nearly a quarter (25%) of employees worked in firms with fewer than 20 employees (as compared to 18% of employees state- and nationwide) and 61% of employees worked in firms with fewer than 500 employees (as compared to 45% of employees in the state and 50% of employees in the U.S.).

While distribution of firms in the 20 employees and fewer categories remained constant at the state and national levels from 2003 to 2005, the trend at the MSA level was toward higher concentrations of employment in smaller firms (all categories under 20 employees).

**Figure 27: Size of Firms, Bradenton-Sarasota-Venice MSA, 2003-2005**

	Employment Size of Firm							
	0-4	5-9	10-19	<20	20-99	100-499	<500	500+
<b>2003</b>								
<b>Bradenton-Sarasota-Venice, FL</b>								
Establishments	57%	13%	7%	77%	7%	3%	87%	13%
Employment	7%	7%	8%	22%	18%	14%	54%	46%
Annual payroll	8%	6%	7%	22%	18%	14%	53%	47%
<b>2004</b>								
<b>Bradenton-Sarasota-Venice, FL</b>								
Establishments	59%	12%	7%	78%	7%	3%	88%	12%
Employment	8%	7%	8%	22%	18%	15%	56%	44%
Annual payroll	10%	6%	8%	23%	18%	15%	56%	44%
<b>2005</b>								
<b>Bradenton-Sarasota-Venice, FL</b>								
Establishments	60%	12%	7%	78%	6%	3%	88%	12%
Employment	8%	7%	8%	24%	19%	16%	59%	41%
Annual payroll	11%	7%	8%	25%	19%	16%	61%	39%

Source: U.S. Small Business Administration

## Sole Proprietor (Self-employed) Data

There were nearly 35,000 non-employer firms<sup>2</sup> in Sarasota County in 2006, up 2.5% annually since 2003. These firms had receipts of more than \$2 billion in 2006, up 4.6% annually since 2003. Sarasota County has significantly higher numbers of non-employer firms, relative to population, than other counties in the region, Florida, and the U.S. – Sarasota County's sole proprietorship per capita rate is 9.4%; the next county (Pinellas) lags two percentage points behind; and the U.S. rate is 7.0%.

<sup>2</sup> As defined by the US Census, a non-employer firm is one that has no paid employees, has annual business receipts of \$1,000 or more (\$1 or more in the construction industries), and is subject to federal income taxes. Most non-employers are self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income.

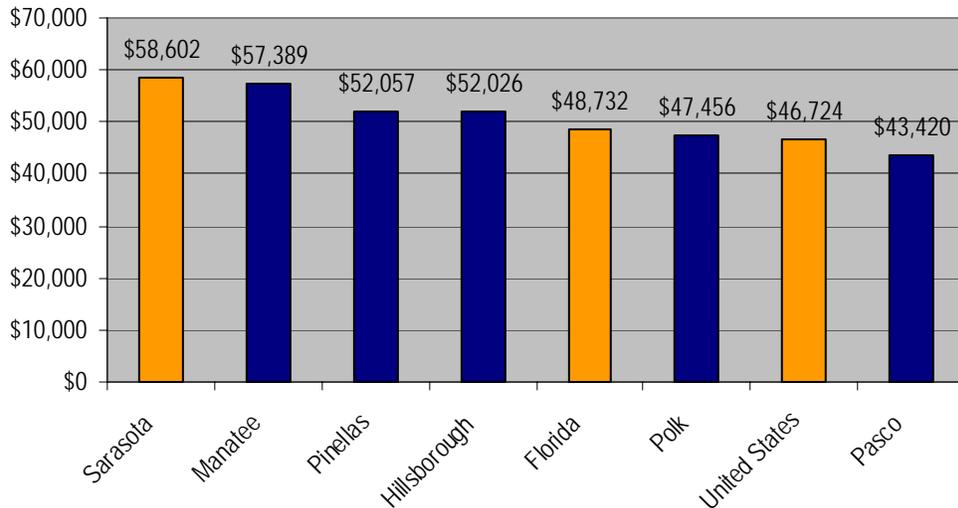
**Figure 28: Non-employer Statistics, 2003-2006**

<b>Sarasota County</b>	<b>2003</b>	<b>2006</b>	<b>Annual Growth Rate</b>
Nonemployer Firms	32,263	34,735	2.5%
Receipts (\$000)	1,779,974	2,035,553	4.6%
Receipts/Proprietor	\$55,171	\$58,602	2.0%
<b>Manatee County</b>			
Nonemployer Firms	18,802	22,478	6.1%
Receipts (\$000)	1,012,706	1,289,986	8.4%
Receipts/Proprietor	\$53,862	\$57,389	2.1%
<b>Hillsborough County</b>			
Nonemployer Firms	67,816	84,418	7.6%
Receipts (\$000)	3,353,966	4,391,894	9.4%
Receipts/Proprietor	\$49,457	\$52,026	1.7%
<b>Pasco County</b>			
Nonemployer Firms	23,682	29,114	7.1%
Receipts (\$000)	974,004	1,264,128	9.1%
Receipts/Proprietor	\$41,128	\$43,420	1.8%
<b>Pinellas County</b>			
Nonemployer Firms	63,860	69,594	2.9%
Receipts (\$000)	3,137,569	3,622,866	4.9%
Receipts/Proprietor	\$49,132	\$52,057	1.9%
<b>Polk County</b>			
Nonemployer Firms	26,391	32,989	7.7%
Receipts (\$000)	1,169,734	1,565,540	10.2%
Receipts/Proprietor	\$44,323	\$47,456	2.3%
<b>Florida</b>			
Nonemployer Firms	1,272,863	1,523,250	6.2%
Receipts (\$000)	57,484,918	74,230,278	8.9%
Receipts/Proprietor	\$45,162	\$48,732	2.6%
<b>United States</b>			
Nonemployer Firms	18,649,114	20,768,555	3.7%
Receipts (\$000)	829,819,228	970,384,137	5.4%
Receipts/Proprietor	\$44,496	\$46,724	1.6%

Source: U.S. Census Bureau

Sarasota County non-employer firms had the highest receipts per proprietor of the six-county region for all years 2003 to 2006. The County's 2006 receipts per proprietor (\$58,600) were 20% and 25% higher than the receipts/proprietor for Florida and the U.S., respectively. Growth in both number of sole proprietorships and receipts appear to be slowing as compared to the other counties. Accordingly, the county's proportion of Florida's sole proprietorships has declined from 2003 to 2006.

**Figure 29: Receipts per Proprietor, Nonemployer Establishments, 2003-2006**



Source: U.S. Census Bureau

Of the top ten industries (at the 3-digit NAICS level) for the self-employed, only two – real estate and specialty trade contractors were associated with the county's traditional core industries. Rounding out the top five sectors were professional, scientific, & technical services; ambulatory health care services; and performing arts, spectator sports, & related industries. The specialty trade contractors had the highest receipts per proprietor (\$71,300) followed by real estate (\$67,800) and ambulatory health care services (\$60,300).

**Figure 30: Top Ten Industries for Non-Employer Firms, Sarasota County, 2006**

	Non-Employer Firms	Receipts	Receipts/ proprietor
Real estate	6,356	431,011	\$67,812
Professional, scientific, & technical services	4,859	257,837	\$53,064
Specialty trade contractors	3,295	234,949	\$71,305
Personal & laundry services	3,203	103,060	\$32,176
Administrative & support services	2,590	104,103	\$40,194
Ambulatory health care services	1,733	104,433	\$60,261
Performing arts, spectator sports, & related industries	1,549	39,047	\$25,208
Repair & maintenance	1,270	64,102	\$50,474
Non-store retailers	1,064	34,333	\$32,268
Insurance carriers & related activities	820	43,359	\$52,877

Source: U.S. Census Bureau

## PART III: INNOVATION AND COMPETITIVENESS

### Patent Activity

In 2007, 13 Sarasota County-based companies applied for 23 patents and six companies received 10 patents. Since 2002, patent applications have increased in Sarasota County, while U.S. trends show a solid decline (See Figure 32). The number of patents issued to Sarasota County assignees, on the other hand, has decreased over the same time period (See Figure 31).

**Figure 31: Patent Applications**

Assignee Location	2002 Patent Apps	2006 Patents Apps	2007 Patents Apps	12 Month Change	5 Year Change
Sarasota County	2	14	23	9	21
Florida	230	932	676	-256	446
USA	245802	278197	205365	-72832	-40437

**Figure 32: Patents Issued**

Assignee Location	2002 Patents	2006 Patents	2007 Patents	12 Month Change	5 Year Change
Sarasota County	33	8	10	2	-23
Florida	1754	545	270	-275	-1484
USA	214,859	62,669	24,726	-37,943	-190,133

Of the 10 issued patents issued in 2007, more than half were for flexible pouches assigned to Pouch Pac Innovations/PPI Technologies and were all sourced to the same inventor. Other patents included innovations relating to boats, a salon hair comb, and a tool light. In addition to Pouch Pac, xG Technology, Inc. was the other significant company applying for patents in Sarasota County in 2007. Patent applications covered a broader array of innovations such as lighting, saw filters and modulated radio frequency.

In 2006, the marine and medical related industries generated most of the patents issued. Specific concepts included radars, motors, water/soil remediation, optics and lenses and products for muscle disorders. Patent applications related to motors, radars, medical devices and flexible pouches.

### University & Nonprofit Research & Development

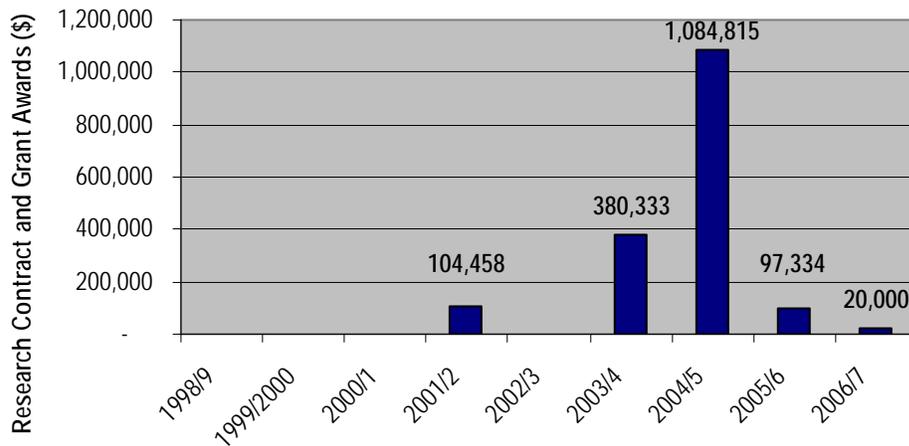
A region's research and development institutions are a key source of knowledge and innovation, introducing new products and technologies into the marketplace, and creating new businesses. A region's ability to connect its industry base to research is rapidly becoming a key economic strategy.

Sarasota County is home to **Mote Marine Laboratory**, one of the world's few remaining independent marine research laboratories. The non-profit organization has a budget of more than \$23 million, funded through federal, state and local grants and by private donors and foundations. Research is distributed among

seven centers, including the Center for Aquaculture Research and Development, which develops systems and techniques to produce high-value marine and freshwater fish and invertebrates. The Center has an existing commercial demonstration site on 200 acres on Fruitville Road and plans for additional demonstration sites in the County. Research at Mote's Center for Ecotoxicology encompasses Florida red tide and chemical pollution and their effects, and has produced monitoring and warning technologies with potential commercial application.

The **Sarasota-Manatee campus of USF** serves more than 3,500 students annually with 42 academic programs. Research at the local campus (the trend of which is shown in the graph below) has historically been very limited to basic social and education research, but that research is expanding to include some small-scale technology-based research. Two relatively small information technologies (IT) research projects are pending funding through the National Science Foundation: \$93,000 to explore ways to improve the teaching of online programming courses; and \$169,000 to fund a collaborative effort among Florida educational institutions on information security programs.

**Figure 33: Research Contract and Grant Awards, USF Sarasota-Manatee Campus, 1998-2007**



**New College** is an independent public honors college that was ranked fourth nationwide among public liberal arts colleges in U.S. News & World Report's America's Best Colleges in 2008. New College's undergraduate programs have a strong emphasis on applied research. Students at New College work with research organizations and businesses in marine sciences (at the college's Pritzker Marine Biology Research Center), neurobiology, and applied mathematics, and also partner with companies for projects in creative arts, social sciences and urban planning. While large-scale commercialized research is not a part of New College, the presence of students with research experience can contribute directly to the ongoing development of a skilled workforce.

Florida's university system, with its state-funded Centers of Excellence, along with private non-profit research institutions provides a number of research strengths with connections to industries in the Sarasota County region.

**University of South Florida (USF)** had over \$265 million in research expenditures in 2006, executed 21 new licenses, applied for 88 patents, and was issued 29 patents. USF has more than 95 state-approved centers and institutes, including 14 in the engineering and mathematics fields, 16 in medicine and life sciences, and 9 in public health. The USF Connect program seeks to link the university's research resources with industry through its incubator, research park, entrepreneurial services and related efforts.

**University of Central Florida** obtained more than \$120 million in research awards in 2007, with a large portion of research focused on engineering and material applications, optics, and solar energy. In 2006, UCF executed 17 new licenses and applied for 30 new patents. The commercialization of this research is accelerated by the UCF Technology Incubator, the National Entrepreneur Center, the Orange County Venture Lab, and the Technology Entrepreneurship Center.

**University of Florida's** research awards total a record \$518.8 million, placing UF among the nation's leading institutions. More than \$270 million of that total was for health-related research through efforts such as the McKnight Brain Institute, Genetics Institute and throughout the six colleges of the Health Science Center. In 2006, UF executed 73 licenses, applied for 124 patents, and was issued 78 patents.

**Figure 34: Selected R&D Assets in the Broader Region**

USF	University of Florida
Biomolecular Identification and Targeted Therapeutics	Florida Institute for Sustainable Energy
Center for Research in Healthcare Systems and Policies	Center of Excellence for Regenerative Health Biotechnology
Center for Applied Research in Medical Devices	Nanoscience Institute for Medical and Engineering Technology
Center for Environmental/Occupational Risk Analysis & Management	Water Institute
Clean Energy Research Center	Center for the Arts in Healthcare
Wireless/RF Characterization Laboratory Institute for Marine Remote Sensing	Interdisciplinary Center for Biotechnology Research
Nanotechnology Research Center	Center for Food-Drug Interaction
Rehabilitation Engineering & Technology	Center for Exercise Science
Suncoast Alzheimer's & Gerontology Center	Institute on Aging
UCF	Brooks Center for Rehabilitation Studies
Advanced Materials Processing and Analysis Center	Center for Renewable Chemicals and Fuels
Siemens Center of Excellence	Center for Vision, Graphics, and Medical Imaging
Institute for Simulation and Training	Non-profit research institutions
Center for Research and Education in Optics and Lasers	Burnham Institute for Medical Research, Orlando
Solar Energy Center	Johnnie B. Byrd Alzheimer's Center & Research Institute,
Center for Lifestyle Medicine	Moffitt Cancer Center & Research Institute, Tampa
NanoScience Technology Center	SRI International, Tampa
Biomolecular Science Center	Roskamp Institute
Consortium for Research and Education in Arts & Technology	
Stormwater Management Academy	

## Export Activity

As shown in the table below, the Bradenton-Sarasota MSA lags significantly behind comparable metro areas in terms of export value per capita. Its exports per capita in 2005 and 2006 represented only 60% of the next-ranked metro area, Jacksonville, and a mere 18% of the value per capita of the highest-ranked MSA among the comparable areas used here, Colorado Springs.

**Figure 35: Export Value per Capita, Bradenton-Sarasota and Comparable MSAs, 2005-2007**

	2005	2006	First Half 2007
Bradenton-Sarasota-Venice, FL	\$573	\$674	\$473
Atlanta, GA	\$2,232	\$2,222	\$1,133
Charlotte, NC	\$2,707	\$2,639	\$1,237
Colorado Springs, CO	\$3,339	\$3,697	\$1,521
Jacksonville, FL	\$961	\$1,131	\$661
Providence, RI	\$1,656	\$2,047	\$1,145
Tucson, AZ	\$3,252	\$3,433	\$1,345
United States	\$3,056	\$3,472	\$1,856

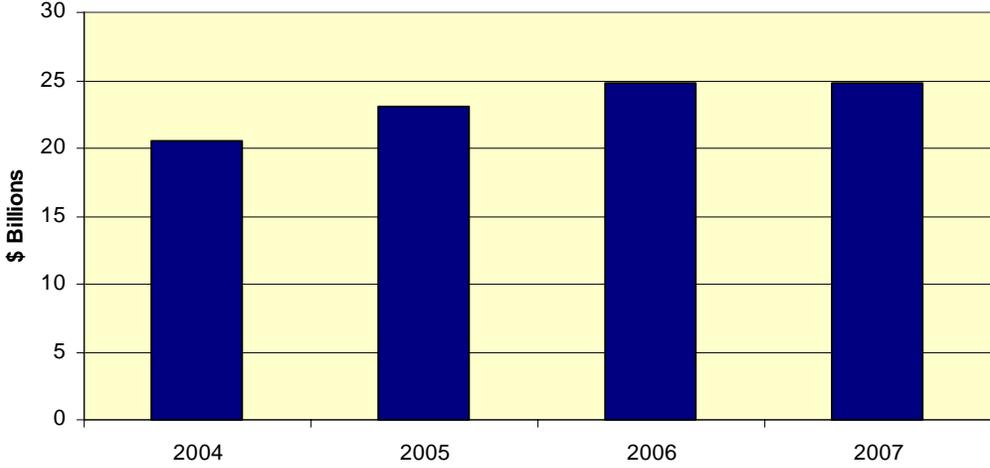
## Gross Metropolitan Product

The Gross Metropolitan Product (GMP) measures the total value of goods and services produced in a region. Global Insights, an international consulting firm, publishes a GMP comparison each year for the Conference of Mayors. From 1995 to 2005, Bradenton-Sarasota GMP had been growing steadily with an annual growth rate that ranked in the top 10 of all major metro regions. However, the decline in the housing market and construction sector has had a significant impact on regions like the Bradenton-Sarasota MSA and other Florida markets where the value of real estate rose rapidly then declined at equally sharp rates. This dependency on construction and real estate has resulted in declines of real output and has influenced overall GMP growth.

In 2007, the region's GMP was approximately \$24.8 billion with 2008 estimates indicating a decrease in GMP of \$266 million. In 2002, the Bradenton-Sarasota region's GMP per capita was \$29,990. By 2005, it had increased 25% to over \$37,535 per person. In 2007, however, GMP per capita fell to \$36,319, reflecting the decline in overall output of the region.

The graph below illustrates the region's GMP growth between 2004 and 2007.

**Figure 36: Gross Metropolitan Product, Bradenton-Sarasota MSA, 2004-2007**



Source: Global Insights, June 2008

## SECTION B: Community Assessment

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THIS SECTION REFLECTS THE COMMUNITY INPUT SOUGHT IN THE FALL OF 2008 THROUGH 70 INTERVIEWS AND A SURVEY OF BUSINESS AND COMMUNITY LEADERS THAT PRODUCED MORE THAN 450 RESPONSES. THIS SECTION INCLUDES INPUT AS TO THE DESIRED DIRECTION OF THE COUNTY'S ECONOMY AND AN ASSESSMENT OF VARIOUS ECONOMIC FACTORS THAT WILL PLAY A ROLE IN DIVERSIFICATION OF THE COUNTY'S JOB BASE – A GOAL SET FORTH BY THE EDC, TO REDUCE ECONOMIC DEPENDENCE ON ONLY ONE OR TWO SECTORS OF THE ECONOMY.

### INTRODUCTION

The updated five-year plan for [the Economic Development Corporation of Sarasota County](#) (EDC) is being formulated in a tumultuous economic time. The gravity of the economic situation lends a degree of urgency to the development of a plan that is based in the realities of Sarasota County and calls for business and community leaders to undertake difficult tasks and make tough decisions.

There have been notable accomplishments in economic development over the past several years, due in large part to the continuing collaboration of public and private sector entities and individuals. The willingness of diverse groups to convene and focus on matters of common interest is valuable, and continues to be a strong asset for the region. Examples of these accomplishments include:

- ◆ A more integrated county-wide approach to economic development through the creation of the EDC's and the Partners Council.
- ◆ A better understanding of economic development as more than just recruitment, recognizing the need to grow our own businesses and to build on the assets we have in the community.
- ◆ The willingness of partners to think creatively when it comes to the retention of existing traded sector businesses.
- ◆ A more regional approach to economic development with stronger relationships with Manatee County, Tampa Bay Partnership and Southwest Florida.

Economic partners have worked together on issues that affect the overall business climate of Sarasota County. In the case of underutilized and/or underserved industrial land, or industrial land being converted to residential or commercial uses, the community evaluated impacts on major employment centers ("MEC") and developed specific recommendations and an action plan to mitigate those impacts. The desire to support local businesses has resulted in programs for area entrepreneurs including "Sarasota One" campaign to foster greater support of local businesses. "Sarasota Tomorrow" is a major milestone in identifying the business climate, infrastructure and marketing issues facing the county's economy.

There have been notable successful business location, retention, and expansion activities that underscore the effective partnerships between industry and education. As part of fostering a positive business climate, the community has decided to celebrate its successes through the “hall of fame” program, to focus attention on local success stories. These accomplishments, while impressive, leave much work to be done.

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## **FUTURE ECONOMIC VISION**

In interviews and the survey, people were asked to provide their thoughts on factors that should drive the county’s economic vision for the next five years. There appears to be a fairly established consensus among various stakeholders as to the future focus of an economic vision and resulting set of outcomes. There are five themes consistently used to describe a desired economic direction:

- ◆ Enhancing our ability to compete in a knowledge-based economy,
- ◆ Building an economy that attracts and retains young professionals,
- ◆ Capitalizing on what we have,
- ◆ Growing our own businesses, and
- ◆ Integrating the concept of sustainable development.

### **Enhancing our ability to compete in a knowledge-based economy**

The most common vision of the county’s future economy is one with a diversified set of industries and more knowledge-based jobs that pay above average wages. The county’s higher than average employment concentration in tourism, hospitality, retail and lower skilled health services means that the average wage of a job for residents is far lower than the national average. So in times of an economic downturn, the county’s businesses and workers are hit particularly hard.

There is recognition that the county must increase its share of knowledge or high-impact businesses if average wages are to come in line with housing affordability; if the region wishes to keep young talent; and if the county wishes to maintain a stable tax base. The definitions of knowledge-based industries include manufacturing, high-tech services (software/IT, or digital media), creative services, and environmental and scientific industries including “green” jobs.

### **Building an economy that attracts and retains young professionals**

Another theme for this economic development plan is the need to retain and attract young professionals—ways to keep talented graduates from higher education institutions in the region, encourage young entrepreneurs to start businesses in Sarasota County, and provide adequate career ladder opportunities in existing businesses. While there

are many factors that make communities attractive to younger workers, the primary attractor is simple: jobs or businesses that match their skills and interests.

Attracting and retaining young professionals is directly related to the diversity of industries, especially in technology, media, creative and scientific sectors. In general, the county has a lower percentage of jobs in these sectors, and the jobs that they do have pay only 80 to 90% of the wages found in other metro regions (many of which have lower housing costs). Focusing on the diversification and growth of knowledge-based industries will directly contribute to the vision of attracting and retaining younger workers.

### **Capitalizing On What We Have**

Every community has unique assets that influence the potential impact and benefits of various economic opportunities. Business and community leaders in Sarasota County repeatedly comment on two assets the county should consider and capitalize on in terms of the economic plan. These included: “How do we take the fact that we have an older than average population and turn it into an economic advantage?” and “How do we take our creative assets to the next level and be more than a place for performing arts?”

Conversations about tapping into an older population focus on connecting the business experience and wealth of the population to assist and mentor new businesses or entrepreneurs, and utilizing this population as a market for testing medical and lifestyle products and services.

Ideas for tapping the creative talent center on stronger collaboration with Ringling and other educational institutions with design and technology talent, and using creative thinking and design processes as a tool to help other industries develop better products and services.

### **Growing Our Own Businesses**

Another theme that permeated many conversations, especially with businesses, is the need to provide more assistance to companies already in the community. This is often illustrated in two ways: helping businesses “raise the bar” in terms of competitiveness, and promoting the concept of “economic gardening” or helping what is known as stage II companies (those with 10-100 employees) grow revenues and jobs.

Competitiveness issues range from enhancing the e-marketing skills of small local businesses to providing assistance and incentives for manufacturers to increase productivity, innovation, and market access. It is noted that for high impact industries like manufacturing, medical technologies, or software to be competitive and keep their doors open, they measure success in improved productivity, increased revenues per employees, and other factors that do not equate with job creation as readily as in times past.

In addition to assisting existing businesses, stakeholders identified a complementary theme: strengthening the entrepreneurial culture and cultivating of a climate for starting new businesses. There is recognition that the county and region have multiple resources to assist in starting new ventures yet there is concern about the coordination of these resources and their ability to serve the knowledge-based industries needed for diversification.

### **Integrating the Concept of Sustainable Development**

Throughout interviews and surveys, residents and businesses gave a clear message that sustainable development should be a central focus of the region's future economy. Definitions for this terms range from more green and clean jobs and being more environmentally friendly to a community that integrates environmental and social aspects into their economic system.

While the businesses and residents of Sarasota County have long supported concepts of sustainable development, leaders within the county also note there is still no comprehensive strategy for this issue, nor has the community made any significant investment to move such opportunities forward.

*The region should focus on sustainable living-- community and county should have ownership of "sustainability" as a requirement for our quality of life, and the understanding that this approach is economically profitable.*

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## **ASSESSMENT OF SARASOTA COUNTY'S ECONOMIC ASSETS**

Many economists have noted that most "disruptive" technologies and high-impact opportunities occur in times of economic recession. In many ways, investments made in lean times can have the most significant returns. If out of crisis comes opportunity, then this is the time for county leadership to be proactive and bold.

In addition to general observations at the end of this section, information gathered through interviews, the community survey, and the economic profile are evaluated in five sub-areas:

- ◆ Business retention, expansion and attraction
- ◆ Entrepreneurship and innovation
- ◆ Infrastructure, land and buildings
- ◆ Business climate, including costs of doing business
- ◆ Education and workforce development

## Business Retention, Expansion & Attraction

Community input indicates the overall perception that the previous years of good economic growth limited the willingness/ability to focus on diversification strategies. Rapidly increasing real estate prices turned out to be a double-edge sword that has now made commercial and industrial land more expensive than in many other areas. There is also a strong feeling among the community that the local government's slow and burdensome regulatory climate only added to the inability to rapidly seize new job and business opportunities for the region.

The county has some incredible examples of innovative companies such as PGT industries, IntegraClick, Sun Hydraulics, atLarge, FCCI, and Medical Education Technologies, Inc. (METI). There is a budding core of small science and technology companies that seem to operate beneath the radar. For the most part, these success stories have been in the background of most economic conversations, and while the real estate sector is declining, many of these companies continued to grow, due to markets outside the state and nation. What this illustrates is factors that assist small businesses serving local markets do not tend to be the priority for these knowledge-based businesses with broad markets.

### Key observations from interviews

The opinions of business and community leaders – obtained through individual and group interviews – are summarized below.

- ◆ There are assets in the region (ranging from educational institutions, to health services, to an older population) which are relatively untapped in terms of economic opportunities.
- ◆ In an era of economic slowdown, there may be too much focus on business recruitment when we need greater emphasis on business retention/expansion.
- ◆ While there appear to be multiple organizations providing support for small businesses, there is a general sense that those efforts are disjointed and uncoordinated.
- ◆ With a recognition that a majority of new jobs will be created by existing businesses, there is an increased interest in “economic gardening” or other focused ways to support and grow businesses that are already located in the county.
- ◆ There is too slow of a pace in providing targeted economic incentives and training programs for capturing local economic opportunities.
- ◆ Elected officials would be well served to visit local companies and research institutions in the region (not just the county) to experience these business operations first hand and understand their needs.
- ◆ The regulatory climate and “lackadaisical” attitude toward business by local government staff is an impediment to business development.

*“We need to keep our current businesses strong and encourage them to remain here and do business here. We must not encourage them to leave.”*

## Representative Responses from the Community Survey

Strengths/Assets	Weaknesses/Gaps
<ul style="list-style-type: none"> <li>◆ The major strength is far and away the quality of life. Climate, culture, beaches, available financial capital are all combined with a diversity of outdoor activities and access to good restaurants.</li> <li>◆ Our region enjoys a relatively low tax burden compared to most other areas</li> <li>◆ We have a close knit business community that works from within to promote synergy.</li> <li>◆ We are located in a state that is positioned well internationally.</li> <li>◆ Strengths include a wealthy retired community and the infancy of a core of "creative class" members (tenuous hold, though --).</li> <li>◆ We have smart, experienced middle and top execs, a great quality of life and a great place to raise a family.</li> <li>◆ Strengths are our cultural community, highly educated retirees, and good public school system.</li> <li>◆ Our demographics and the business experience of our retired population could be a strength.</li> <li>◆ Our residents have higher than average disposable income and investment resources.</li> <li>◆ We have a diverse transportation infrastructure, including: I-75, SRQ airport, and Port Manatee.</li> <li>◆ Our region has a reputation for quality in existing businesses (such as Sun Hydraulics, Tervis Tumblers, etc.).</li> <li>◆ Our proximity to the Tampa and Orlando metro areas is a strength.</li> </ul>	<ul style="list-style-type: none"> <li>◆ We under-support local entrepreneurs, especially in small business development.</li> <li>◆ We are too reliant on a single economic sector, i.e., tourism, and only engage in token development of diversified local economy; we need to redirect our thinking toward attracting a diversity of businesses.</li> <li>◆ There seems to be fragmented economic development messages and efforts.</li> <li>◆ We lack of a clear vision that we are a place for companies to build their business rather than just a place to entertain because it is a retirement/vacation community. We have the reputation of being a tourist town and geriatric haven.</li> <li>◆ The region lacks incentives to help existing businesses grow or attract new companies (green jobs) that offer better paying opportunities.</li> <li>◆ A lack of innovation at the government level is combined with a slow and unfriendly regulatory system and difficulty in changing zoning/land use of property.</li> <li>◆ The elected officials do not take a primary role in economic develop or appreciate the existing businesses; the red carpet for new and/or existing businesses needs to be put out.</li> <li>◆ Creative class people, especially young people from racial or ethnic minorities, find few social supports that encourage them to "stick" w/ Sarasota County</li> <li>◆ We have an imbalanced cost of living; a lack of affordable housing is combined with low wages.</li> <li>◆ There is a lack of funds for supporting business development at a level that is competitive with other areas.</li> <li>◆ Old attitudes seem to stymie progress.</li> </ul>

### **Implications for the Updated Economic Development Plan**

More attention will need to be paid to business development needs of traded sector companies--An expanded business retention and expansion effort to assist traded sector businesses that already reside in the county. A safety net (i.e., increased technical and financial assistance to help businesses with emergency workforce, facility or other needs) may be required during this extreme economic downturn.

## Entrepreneurial Development & Innovation

There is an array of entrepreneurial and small business development services, and data indicates a fairly active start-up environment. Yet the employment growth of these businesses appears to be relatively low, indicating a large percentage of lifestyle businesses rather than businesses with high growth potential. The significant population of retired and semi-retired professionals could be tapped to provide mentoring and temporary services to start-ups.

Compared to other regions, the innovation capacity in the county is lacking. There are few incubators/accelerators where new and growing businesses can access capital resources and technical assistance. There is a lack of research and development activity that could provide the basis for additional high wage businesses. To a large extent, this disconnect seems to be related to the view that assets in Tampa and Orlando are not part of the region.

### Key Observations from Interviews

The opinions of business and community leaders – obtained through individual and group interviews – are summarized below.

- ◆ The region has an abundance of retired and semi-retired executives that can be an incredible asset to new businesses and young entrepreneurs - - “We need to stop talking about it and figure out how to tap this resource!”
- ◆ There is growing recognition about the need to grow more knowledge and technology-based businesses in the county. There is little formalized effort to create connections between businesses/entrepreneurs and research institutions. Partnering with USF Connects and UCF Venture Lab could bring opportunities to Sarasota County.
- ◆ There is no central location (and a lack of start-up facilities) that serves as a hub for new knowledge-based companies. There is a split opinion as to the need for a brick-and-mortar incubator as opposed to a virtual incubator/accelerator; however, there is a unanimous opinion that MORE must be done, however that may be accomplished.
- ◆ The region would benefit from having research institutes such as the proposed Sarasota Institute for the Ages, and more needs to be done to develop these opportunities.
- ◆ There is an array of assistance available for entrepreneurs/small business, yet most interviews noted that “programs exist but they are uncoordinated or disjointed” and “programs exist but no one knows about them.”
- ◆ There is a split opinion on the availability of equity and start-up capital for entrepreneurs in science and technology sectors – the general consensus is that the community lacks adequate venture funding, while executives in local tech companies note a fairly active angel and venture community that, for obvious reasons, keeps a low profile.
- ◆ The community should highlight and celebrate successful local entrepreneurs; the EDC’s awards program is a good start; engage local

press to feature unique and successful locally-grown science and technology businesses.

### Representative Responses from the Community Survey

Strengths/Assets	Weaknesses/Gaps
<ul style="list-style-type: none"> <li>◆ We have untapped talents and a great knowledge base in our retired and semi-retired citizens, many of whom are successful entrepreneurs, who might be willing to mentor and encourage new businesses.</li> <li>◆ There is potential for wealthy residents to act as angel investors.</li> <li>◆ We have great creative people and institutional resources such as Ringling College of Art + Design. Yet, we need to apply more hard core business savvy and capital to support and inspire new startup enterprises.</li> <li>◆ There are great resources available: such as SBDC, SCORE, YES!, the university, Suncoast Workforce Board, EDC and chambers of commerce</li> <li>◆ There is untapped potential in University of South Florida, Ringling College and Art + Design, New College, and MCC</li> <li>◆ We can play off a core of innovative firms that are already here. (e.g. Sun Hydraulics)</li> </ul>	<ul style="list-style-type: none"> <li>◆ There is a lack of a unified vision and defined policies that can help drive entrepreneurship.</li> <li>◆ There does not appear to be a fully developed network that brings all the resources of the mega region together to be accessed by our entrepreneurial businesses.</li> <li>◆ We don't take advantage of the knowledge base we have. We focus too much on low-skill, low-wage jobs.</li> <li>◆ There are inadequate incubator facilities, no significant industrial or technology parks, and no tax advantages to attract high value manufacturing and/or technology companies.</li> <li>◆ The region lacks adequate venture and early stage development capital to fund growing and emerging companies. There are few financial incentives to start high wage companies.</li> <li>◆ A problem is a lack of connections with research institutions spinning off commercially viable discoveries and inventions.</li> <li>◆ There is a lack of development of a green technology corridor; there is no "go-to" center for science/technology and associated research such as the Schoenbaum Center for human services.</li> </ul>

### Implications for the Updated Economic Development Plan

Entrepreneurial resources will likely require strengthening in two areas: enhanced coordination and cross-promotion among various service providers, and expanded capabilities to serve science and technology-based companies (including environmentally focused businesses).

The county's desire to stimulate the innovation that supports economic opportunities will require a more regional orientation, connecting with assets to

the north and south. Relationships with Universities of South Florida and Central Florida, nonprofit institutions like Moffitt and SRI, the Tampa Bay Technology Forum, and Florida Venture Forum will need to be established or strengthened, as well as deliberately connected to growing industry sectors.

## Workforce & Education

The overall number and quality of educational institutions in the region is seen as one of the community's greatest assets for economic development. While the educational institutions are viewed as strong, there were also suggestions to enhance the connection between employers and the education system, especially in areas such as internships and incumbent worker training.

While data shows the overall college educational attainment rate higher than the US average, it is concentrated in people over 45 years of age, while workers 25-44 have a much lower than average educational attainment level. There is wide concern that the focus on upgrading the skills of the existing workforce is not sufficient to be competitive with other regions. While the community college and technical institutes have quality training programs, there is a sense that more programs will be needed, especially to support technically-oriented jobs.

### Key Observations from Interviews

The opinions of business and community leaders – obtained through individual and group interviews – are summarized below.

- ◆ The training/retraining of the existing workforce is consistently identified as one area that needed be enhanced.
- ◆ There is a feeling that business and education have not identified workforce training needs on a community level; rather, individual institutions are left on their own to identify and develop specific training needs as they arise. It is also noted that these schools (Manatee Community College in particular) have worked hard to foster good relations with the regional business community, and are responsive with their curricula and programs.
- ◆ Educational institutions noted that it is difficult to get local businesses to participate in internship programs, and therefore many internship opportunities (as well as follow-on employment options) were out of the region.
- ◆ Relatively low wages are an obstacle to retaining the talent being produced by the educational institutions; combine lower wages with relatively high housing costs and it is very difficult to attract/keep the younger workers that “everyone wants.”
- ◆ There is an acknowledgment that research is being commercialized at various institutions (e.g., USF and Mote), yet people were unsure how to tap into this opportunity.

*“If a town can't provide an area where young people can afford to rent or buy a first home, then they lose the entry level labor that most business needs as a workforce. In other words our shortcoming is a young and trainable workforce can't afford to live here!”*

- ◆ Progress is being made on connecting K-12 with post-secondary education to create a more seamless transition from high school to various ongoing training and education options.
- ◆ Like many other regions, student and adult interest in apprenticeship trades and technical vocations is decreasing, which is puts additional pressure on industries employing these workers.

### Representative Responses from the Community Survey

Strengths/Assets	Weaknesses/Gaps
<ul style="list-style-type: none"> <li>◆ We enjoy a variety of public and private educational opportunities, especially for a community this size (USF, New College, Ringling, MCC, SCTI, etc.)</li> <li>◆ The post-secondary system is very involved in economic and workforce development efforts</li> <li>◆ There are unique educational institutions like Ringling School of Art + Design which are not found in many other areas.</li> <li>◆ A strong community college system (MCC) is combined with technical institutes.</li> <li>◆ There is a young work force in South County, especially in North Port.</li> <li>◆ We have higher than average education levels of residents.</li> <li>◆ There are excellent relationships between K-12 and tech institutes and community college &amp; universities--willingness to be at the table and then take the feedback to enhance learning outcomes.</li> <li>◆ Citizen support for education. The residents continually vote their tax dollars to have a quality school system.</li> </ul>	<ul style="list-style-type: none"> <li>◆ It is tough to recruit people to area because of low wages and high cost of living. Wages are just not competitive.</li> <li>◆ We don't have the availability of skilled labor, and there is not enough training for existing workers to move into better paying jobs.</li> <li>◆ The bad economy has caused cuts in business budgets and funds to offer the training opportunities to the employees. There is a lack of local tax credits for investing in training.</li> <li>◆ There is poor promotion of our many education institutions, so many businesses do not know about available training programs</li> <li>◆ There is a need for more high-end technical education in the engineering, technical trades, and healthcare fields.</li> <li>◆ Attracting students to technical institutes is difficult, and affects the quality of technical and trades education. We need a unified strategy between employers and education.</li> </ul>

### Implications for the Updated Economic Development Plan

The need to upgrade the skills and education level of the existing workforce will likely increase, especially as unemployment rates remain high and industry budgets for training are temporarily cut. Creative ways to leverage private resources, public assistance and incentives to expand this retooling effort will be warranted.

The efforts of workforce and economic development agencies will need to be more fully coordinated, especially at the strategic level. Workforce considerations should be a part of industry cluster strategies, and efforts like internship programs that connect young talent to employment possibility within the region will help to retain talent and build the base of skilled workers.

## Infrastructure & Facilities

In terms of infrastructure and facilities, several points were repeated throughout the community input phase. Costs and availability of industrial and commercial land is a concern, and while the economic downturn has somewhat mitigated the price pressure on business properties, it is still relatively expensive (as is the cost of utilities compared to other regions). The overall lack of appropriately zoned and serviced locations for non-retail businesses is viewed as a major constraint.

Since developable land is scarce and expensive, there is a strong interest in promoting redevelopment and infill, especially in an environmentally friendly way, and with public policy and incentives. Redevelopment is also seen as a way to enhance mass transit that is lacking in many areas. In lieu of a strong redevelopment focus complete with incentives, the community will experience further development “sprawl” (characterized by inefficient planning, expensive infrastructure investments, and congestion).

Investments in community development do not appear to be well connected to economic development strategies, and because of this, the full economic potential of public investments is not being realized. An oft-repeated example is the public sector’s desire to grow “green jobs” without the supporting investment in facilities that would serve as a center or hub for such jobs.

### Key observations from interviews

The opinions of business and community leaders – obtained through individual and group interviews – are summarized below.

- ◆ There is widespread skepticism about whether there is an adequate supply of appropriately zoned and served land and/or buildings in the county to match the desire for industry diversification and expansion.
- ◆ The housing boom has strained infrastructure of all kinds (roads and utilities); the community is challenged as to how to make “good investments” in infrastructure that will support economic development while dealing with alternative demands for projects and funds.
- ◆ The electric utilities are seen to be relatively disengaged in economic development activities in the county; if the “green/clean tech” agenda is to be pursued, the utilities must become more active partners.
- ◆ The telecom and broadband networks were identified as a strength in North County, but as a constraint in South County; parity in those systems

*There needs to be a willingness of all parties to think “outside the box” in how we link economic growth to how we build and rebuild our communities.*

is recommended, to make them more effective tools in growing all kinds of businesses.

- ◆ There is a disconnect between where the developable land is located and where infrastructure investments have been made; this disconnect seems to fuel intra-county competition and discontent, especially between the north and south parts of the county.

### Representative Responses from the Community Survey

Strengths/Assets	Weaknesses/Gaps
<ul style="list-style-type: none"> <li>◆ The downturn has created more vacancies at lower prices which might be attractive for companies seeking to locate here.</li> <li>◆ Our county should be willing to look at redevelopment and redesign of our communities as an opportunity to make better use of all resources. Redevelopment opportunities offer prospects to areas more centrally located.</li> <li>◆ South County has a lot of room to expand. There is some availability of green space East of I-75 along with an array of redevelopment opportunities throughout the county</li> <li>◆ Multi-modal transportation options are available for shipping products: air, sea port, and interstate highways.</li> <li>◆ We have a diverse transportation infrastructure, including: I-75, SRQ airport, and Port Manatee</li> </ul>	<ul style="list-style-type: none"> <li>◆ There is a conversion of land designated for manufacturing and light industrial to retail or residential.</li> <li>◆ We have a limited public transportation system to move people across Manatee/Sarasota counties and particularly out east.</li> <li>◆ The high cost of land and buildings for both businesses and individuals is an obstacle; we are overpriced even in a down economy.</li> <li>◆ There is poor planning, especially regarding occupancy rates. Many long-time projects are experiencing new and extended vacancies, yet new projects continue to be permitted and built.</li> <li>◆ There is a lack of infrastructure with little public transportation and not a livable workable downtown that appeals to those not retired. We seem to be targeting only tourism/retiree businesses.</li> <li>◆ There is a high cost of renting facilities, and the lack of a convention center with the capacity to serve multi-dimensional business events.</li> </ul>

### Implications for the Updated Economic Development Plan

Employment centers must retain the ability to house the desired level of high wage and non-retail jobs and minimize conversion from industrial/commercial to other uses. Since significant near-term economic progress will be made through the growth of existing small business or the attraction of small- to medium-sized enterprises, redevelopment of commercial property, especially in the city centers, will provide viable sites that are near other businesses and professional services.

Creating the conditions for economic diversification will mean a strong coordination of community development strategies and projects in support of economic strategies. As detailed economic opportunities are explored further in the next phase of the planning process, specific infrastructure investments will be identified.

## Business Climate

There is an overwhelming perception that the county has an unfriendly business climate. Local governments are viewed as being “indifferent at best” to the needs of business, with almost all interviews noting lengthy permitting processes and cumbersome regulations. The lack of clear incentives and strategic application of these incentives to diversify jobs and industries is at the forefront of many conversations. There is also a concern about the pace of public investment in economic development, with comments about slow decisions that resulted in lost economic opportunities. The general consensus is that the public sector leadership did not have a realistic view about what it really takes to be economically competitive.

*A strong interest exists to get more technology companies to start or expand here; the question is, how will the county choose to become competitive?*

### Key observations from interviews

- ◆ Incentives are generally viewed as lacking or ineffective and not eliciting desired behaviors in any significant way.
- ◆ The regulatory environment (at all levels of government) is consistently mentioned as an impediment for business development:
  - “working on a project here was the worst experience of my career”
  - “it takes too long to get things going, and there is too much red tape”
- ◆ A large percent of retired and part-time residents tilt the public opinion for economic development:
  - “they have found their paradise and want it to remain unchanged”
  - “who cares about economic development in a place you vacation?”
- ◆ It is opined that the general community view is that economic development means “growth”, and it is not recognized for its critical role in community health and vitality.

## Representative Responses from the Community Survey

Strengths/Assets	Weaknesses/Gaps
<ul style="list-style-type: none"><li>◆ No income tax and a relatively low corporate tax burden when compared to other regions is a significant advantage.</li><li>◆ There are opportunities for the community to create science/technological friendly zoning laws which provides a balance between economic growth and natural resource preservation.</li></ul>	<ul style="list-style-type: none"><li>◆ We have a lengthy planning process for changes to land use &amp; zoning; out-dated zoning codes and the lengthy process for re-zoning properties discourage many businesses.</li><li>◆ Present anti-growth climate is a huge impediment.</li><li>◆ The scarcity of affordable housing and jobs that pay a viable wage will have very significant future impacts.</li><li>◆ City and county processes seem to create roadblocks in the approval process for business development.</li><li>◆ A lack of public finance tools or waivers that can be used as elected incentives when needed.</li></ul>

### Implications for the Updated Economic Development Plan

It is far less costly to retain an existing high-wage job, than to recruit or create a new job which may or not have an above-average wage. Local government would be wise to increase their agility and responsiveness by developing clear guidelines for incentives including the waiving of fees, deferred loans or other means to use public financing tools as a means to retain high wage jobs. For industries targeted for diversification, incentives should be clear upfront, not recreated case by case.

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## ASSESSMENT SUMMARY

The assessment of the community's economic assets and its position to seize future economic opportunities point to two overall needs.

- 1) Significantly strengthen the foundations for diversification (enhance business retention, retool incumbent worker skills to match new jobs, and connect entrepreneurial resources with opportunities of significant potential), and
- 2) Make high impact, strategic investments in a limited number of projects, scaled to be competitive with similar initiatives in other regions.

These needs are supported by the ability to build on strengths and the need to address key weaknesses.

### Top Five Strengths

- ◆ Active entrepreneurial environment as noted by the percent of self-employed and above average rate of new business formation.
- ◆ An array of higher educational institutions with a good track record of working with the business community.
- ◆ Proximity to an array of R&D centers and institutions that could be tapped for expanded economic opportunities.
- ◆ Institutions like Mote and Ringling School of Art + Design that have national and international recognition.
- ◆ An array of foundations and community organizations that are actively involved in the county's well-being.

### Top Five Weaknesses

- ◆ A low concentration of skilled workers (and low wages) in occupations and industries that the community seeks to grow.
- ◆ A lack of a systematic approach for using public finance tools as an incentive for growing targeted industries.
- ◆ An over-reliance on the quality of life as the primary attractor for business development.
- ◆ Little public investment in developing the infrastructure for growing knowledge-based businesses that is found in most other competitive regions.
- ◆ Lack of recognition and attention to existing businesses that have a higher than average economic impact on regional economies (manufacturing, technology, life and medical sciences).

### Recurring Themes

Several recurring themes presented themselves throughout the community input process. There is a desire to "figure out" how to capitalize on demographics and community assets that are fairly unique to the region, summarized as follows.

- ◆ Developing a "Silver to Gold" effort to capitalize on the older demographics and the higher than average level of disposable income among this population--an economic strategy to identify, attract and grow businesses that develop new products, technologies and medical devices for an aging population. Ideas included leading-edge geriatric health care (including product and procedural testing), and aging-in-place innovations (incorporating "smart home" monitoring with energy efficiency and the green/clean tech concept).
- ◆ Promoting "the Creative Coast" – going beyond design and art to incorporate design thinking as a competitive advantage into traditional industries to enhance how products and services are developed and delivered. The region's design and architectural and engineering talent, combined with web-enabled technologies could be utilized in this type of effort.

There is a strong desire to ensure the updated economic development plan is firmly grounded in the concept of sustainable development. By far the greatest request for recruitment activities centered around attracting various alternative energy, green building design, environmental service, and water resource management businesses, building on the small cores of activity already in the region. Many interviews noted the county will need to play "catch-up" with other communities that have made significant investments in entrepreneurial programs

and incubators, research centers of excellence, academic and workforce programs, and business incentives to promote a greener and more sustainable economy.

Another unique asset in Sarasota County is the large number of private foundations (e.g., Gulf Coast, Patterson, Community Foundation, and Selby) and community organizations (e.g., SCOPE, Florida House) that are active in a variety of community development and education programs. These organizations provide a unique blend of leadership and financial support not found in many other areas. Proposals such as the Sarasota Institute for Ages provide opportunities to not only serve residents of the community, but create jobs that uniquely serve this population. With the downturn in the economy, their involvement will be more important than ever.

### **Cautionary Concerns**

Many comments in the survey and interviews made it evident that there is still too much thinking about the economy as bounded by county borders, rather than the county being a player in a regional economy where it can gather additional assets to pursue economic efforts. Furthermore, many assets required for economic diversification are specialized and difficult or costly to duplicate (e.g., research centers or prototyping labs). This insular pressure for everything to be within the county seems to be inhibiting the scale and pace of many economic activities.

There appears to be a perception that quality of life is enough to attract new businesses or keep existing businesses in the region. While this may be a logical conclusion for industries like real estate and tourism that rely on the region's weather and cultural and recreational amenities to attract new business, it is not as true for other industries the county seeks to expand. For most high-wage industries, the quality of a skilled workforce, costs of doing business, access to markets, and the capacity for innovation top the list for location decisions. While Sarasota County has an array of assets attractive to knowledge-based businesses (higher education institutions, nearby R&D centers, etc.), they are underutilized in the marketing of the area, and this lack of awareness helps to perpetuate the county's reputation as "just a place to vacation."

# Section C: Industry Cluster Evaluation

## INTRODUCTION

The current economic development plan for Sarasota County defines a set of industry clusters that were identified as having potential to develop an array of jobs that typically have broad markets and pay above-average wages. These clusters included Creative Services, Life and Environmental Sciences, Specialty Manufacturing, and High Technology.

The EDC's work with clusters has produced a number of ongoing projects ranging from the Specialty Manufacturing cluster's development of an outreach program to middle and high school students to generate interest in manufacturing careers, to the successful annual design summit conceived by the Creative Services cluster. A new Film & Entertainment Office was established, and 82 Degrees was formed to support the high technology and digital media companies in the region.

Interviews and focus groups conducted as part of this update indicated that – while there remains work to be done – the community acknowledges marked progress toward critical goals established in 2004, such as improvement in business climate, and financial resources and entrepreneurial websites. There was also wide agreement that current economic conditions represent an opportunity to push to more fully accomplish those goals.

While the cluster groups established over the past several years have generated successful projects and effective venues for networking, participants cited a need to focus more on business development needs and opportunities going forward, including enhancing access to markets, workforce development, and competitiveness. This update to the strategic plan affords the ability to performance to date and reassess the clusters.

This cluster profile presents 5-year cluster trends, existing local and regional assets (including existing industry and research), and potential opportunities within each cluster. Most cluster segments have been modified to better refine the region's strengths and opportunities. The chart below summarizes key findings.

**Figure 37: Summary of Cluster Opportunities**

Cluster	Revised Focus	Key Opportunities
Medical and Life Sciences	A set of business opportunities that bridge the functions of research to consumer based health services—including clinical trials, product testing, and health information management.	Enhance clinical trial and product testing opportunities, especially as they relate to aging populations  Refine targeted economic opportunities associated with the Sarasota Institute for the Ages

Cluster	Revised Focus	Key Opportunities
Applied Environmental Services & Sustainable Systems	Separate environmental and sustainable development opportunities from life and medical sciences. Build on major assets which would suggest a focus on water (rather than energy), the built environment.	<p>Build on the region's marine and water resource expertise including key programs at MOTE</p> <p>Explore how redevelopment opportunities can support efforts in green design and building practices</p> <p>Strengthen connections with USF and UCF research efforts</p>
Digital & Web-enabled Technologies	A segment of high tech services combined with creative services elements focused on the development and application of digital, interactive and web-enabled technologies. These technologies not only define a market segment, they support a variety of applications in other clusters.	Leverage strengths and industry trends to cultivate a cluster of entrepreneurs and small businesses entering or engaged in next-generation web enabled technologies and services
Creative Services	Not a one-size fits all: there are distinct sub-sectors: performing arts; commercial services; and film & video; These have different business development needs and markets	<p>Enhance brand awareness to targeted markets</p> <p>Leverage national trends and local assets in design thinking</p>
Specialty Manufacturing	None	<p>Expand business retention and expansion efforts</p> <p>Enhance access to resources that increase competitiveness and productivity</p>

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## MEDICAL AND LIFE SCIENCES

Perhaps one of the most repeated themes throughout interviews and community input was the ability to capitalize on the region's higher than average percent of older persons as an economic strategy-- "Turning Silver into Gold" as coined by a recent book by Mary Furlong.

Sarasota County's climate and quality of life have made it an established destination for relocating retirees and part-time residents. The United States is among the most rapidly-aging developed nations in the world. In 2000, there were an estimated 35 million people age 65 and over in the United States, accounting for almost 13 percent of the national population. The data suggests that this number will continue to grow in the future, due in large part to the baby boom generation, the largest demographic group in our history.

Sarasota County is well ahead of all these aging trends. Nearly 32% of the population is over age 65, making Sarasota County the oldest among counties with a population over 250,000 people. Nearly half of all households have someone over age 65 as well. As detailed in the Economic Profile, the median age in Sarasota County is more than 13 years higher than that of the US, and 10 years higher than that of Florida. A recurring theme from multiple sources – stakeholder interviews for this update to the strategic plan, STAR survey responses, the ROLE summit – was that the presence of the aging population, is an asset that the County has not fully leveraged.

The ability to grow economic opportunities related to medical and life sciences can build on a combination of a region's health care delivery system, research and device, instrument and drug based manufacturing. Taking industry segments that typically support this sector, and which build on a theme of aging populations we evaluated three segments of manufacturing, testing and scientific services, and specialized health care services.

This cluster profile presents 5-year cluster trends, existing local and regional assets (including existing industry and research), potential opportunities within the cluster over the coming five years, and gaps that may need to be mitigated to pursue those opportunities.

### Trends

As defined here, the Medical and Life Science cluster employed more than 2,200 people in 231 establishments in 2007. The cluster added 442 employees and 75 new establishments over the five-year period 2002 to 2007 – an increase of nearly 50% in establishments and 25% in employment.

Offices of specialty therapists accounted for nearly half of the total growth in cluster establishments with medical wholesalers, medical labs, and diagnostic imaging centers accounting for the balance. The cluster lost four total establishments over the period, in scientific R&D services and medical-related manufacturing.

**Figure 38: Medical and Life Science Establishments, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
3254	Pharmaceutical and medicine manufacturing	2	5	150%
3345	Electronic Instruments Manufacturing	10	10	0%
3391	Medical equipment and supplies manufacturing	27	26	-4%
541380	Testing laboratories	ND	6	20%
5417	Scientific research and development services	16	13	-19%
423450	Medical equipment merchant wholesalers	25	40	60%
621511	Medical laboratories	19	27	42%
621512	Diagnostic Imaging Centers	7	20	186%
62134	Offices of Specialty Therapists	50	84	68%
<b>Totals</b>		<b>156</b>	<b>231</b>	<b>48%</b>

Notes: Highlighted rows are industries not previously included in EDC's cluster definition  
 ND=not disclosed

Source: Bureau of Labor Statistics, QCEW data

Electronic instruments manufacturing, diagnostic imaging centers, and specialty therapists created the most new jobs in the cluster (432 total). Medical equipment supplies and manufacturing accounted for the largest job loss in the cluster, consistent with trends in the broader manufacturing sector.

**Figure 39: Medical and Life Science Employment, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
3254	Pharmaceutical and medicine manufacturing	36	39	8%
3345	Electronic Instruments Manufacturing	520	653	26%
3391	Medical equipment and supplies manufacturing	347	271	-22%
541380	Testing laboratories*	ND	54	54%
5417	Scientific research and development services	307	289	-6%
423450	Medical equipment merchant wholesalers	56	92	64%
621511	Medical laboratories	167	178	7%
621512	Diagnostic Imaging Centers	31	201	548%
62134	Offices of Specialty Therapists	302	431	43%
<b>Totals</b>		<b>1,766</b>	<b>2,208</b>	<b>25%</b>

Notes: Highlighted rows are industries not previously included in EDC's cluster definition  
 ND=not disclosed

Source: Bureau of Labor Statistics, QCEW data

## Regional Assets

This section provides highlights of the existing basis for a Medical and Life Sciences cluster (demographics and key existing companies) as well as regional assets that can be tapped to grow the cluster (research and business development assets).

### **Existing Industry Assets**

As shown in the Trends section, Sarasota County has significant concentrations of employment in manufacturing, scientific R&D services, and specialty therapists, which both form the existing cluster and provide an indication of the strategic direction the cluster may be able to take in the next five years. Almost 17% of Sarasota County employment resides in NAICS 62 Health care and social assistance—the location quotient is well above 1.0 and increasing. Examples of existing companies in the cluster are shown in the table below.

**Figure 40: Key Medical and Life Science Companies, Bradenton-Sarasota MSA**

Organization	Industry
<a href="#">JSB Orthotics &amp; Medical Supply Inc</a>	Orthotics
Roskamp Institute	Neuropsychiatric and neurodegenerative disorders and addictions
Southeastern Spine Center & Research Institute	Spine treatment & surgery
<a href="#">Clinyx Cardiovascular Research Solutions</a>	
<a href="#">Popper and Company LLC</a>	Management consulting – life science
<a href="#">Sarasota Memorial Health Care System Clinical Research Center</a>	Non-teaching hospital; clinical research
<a href="#">Silverstein Institute</a>	ENT research enter
<a href="#">Technology Access Partners LLC</a>	Healthcare reimbursement consulting
<a href="#">Toxin Technology, Inc.</a>	Toxins and related products
<a href="#">Medical Education Technologies, Inc (METI)</a>	Patient simulators; medical training
<a href="#">Aso LLC</a>	Adhesive bandages
<a href="#">Hoveround Corporation</a>	Power wheelchairs
<a href="#">COW Industries</a>	Eye exam office equipment
<a href="#">Benz R&amp;D</a>	Contact and intraocular lens
<a href="#">Legacy Healthcare</a>	Physical therapy
<a href="#">DNAprint Genomics</a>	Genetic testing products and services
<a href="#">Biolife, LLC</a>	Wound care
Dattoli Cancer Center	Prostrate cancer
Partners in Practice	Medical billing

Beyond the region, the Tampa Bay area is home to a number of medical device manufacturers that place the region in the top 20 medical device clusters nationwide. The industry in the region employs over 10,000 people and produces over \$2 billion worth of goods and services. The Florida Medical Manufacturer's Consortium, The Tampa Bay Technology Forum and the Tampa Bay Technology Incubator further the interests of this cluster locally and throughout the state. According to a study done by the University of South Florida (USF) Center for

Economic Development Research, 26 percent of the state’s medical products industry and 33 percent of the related employment is based in Tampa Bay. Florida ranks No. 2 in the nation for FDA registered medical device manufacturers. Following is a listing of companies in this medical cluster in the Tampa region.

**Figure 41: Key Medical Cluster Companies, Tampa Region**

Organization	Industry
Baxter Healthcare Corp.	Renal dialysis and blood collection instruments
Linvatec Corporation	Orthopedic surgical instruments
Intelligent Micro Patterning	Micro-devices (e.g., minute circuit boards and sensors) used by medical researchers
Doyen Medipharm, Inc.	Packaging and fabricating machinery for medical and surgical supplies
Gold Standard Multimedia	Clinical drug information and medical education software
Biolife, LLC	First-aid powder that stops bleeding
Transitions Optical, Inc.	Photochromic ophthalmic lenses
Essilor	Corrective lenses
SRI/Surgical Express, Inc.	Reusable and disposable surgical products
Oscor, Inc.	Pacing lead systems used in cardiac pacemakers
Halkey-Roberts Corp.	Plastic medical devices
Cardinal Health, Inc.	Soft gelatin capsules
Florida Infusion Services, Inc.	Home infusion pharmaceutical distributor
VLOC, Inc	Precision optics and laser crystals
Twin Star Optics	Medical lasers
Romark Laboratories	Drugs for treating infectious diseases and cancer
Iliant	Technology & management services for physician practices
Clinication	Patient compliance software system for physicians
Omega Health Systems	Software for medical necessity compliance, revenue management and cash protection
Smith-Nephew	Wound management unit

### **Regional Research Assets**

As detailed in the Economic Profile, research activity within Sarasota County is limited. However, in the broader region, there are multiple university and non-profit research institutions with which County companies and organizations can forge or strengthen relationships to grow the Medical and Life Science cluster.

**Figure 42: Examples of Research Assets, Broader Region**

University of Florida	USF
Center of Excellence for Regenerative Health Biotechnology Nanoscience Institute for Medical and Engineering Technology Center for the Arts in Healthcare Interdisciplinary Center for Biotechnology Research Center for Food-Drug Interaction Center for Exercise Science Institute on Aging Brooks Center for Rehabilitation Studies Shands Cancer Center Center for Vision, Graphics, and Medical Imaging	Center for Aging and Brain Repair Biomolecular Identification and Targeted Therapeutics  Center for Applied Research in Medical Devices Nanotechnology Research Center Rehabilitation Engineering & Technology Suncoast Alzheimer's & Gerontology Center Cardiac Hormone Center Florida Health Information Center Center for Leadership in Public Health Practices Center for Hospice, Palliative Care and End of Life Studies Center for Research in Healthcare Systems & Policies
UCF	Non-profit research institutions
Advanced Materials Processing and Analysis Center Institute for Simulation and Training Center for Research and Education in Optics and Lasers  Photonics Center of Excellence Center for Lifestyle Medicine NanoScience Technology Center Biomolecular Science Center	Burnham Institute for Medical Research, Orlando Johnnie B. Byrd Alzheimer's Center & Research Institute, Tampa Moffitt Cancer Center & Research Institute, Tampa

Tampa Bay is a center of excellence for hospitals, research and medical-related firms – and the gateway to the Florida High-Tech Corridor, a 21-county area that is home to more than 3,000 high-tech companies. This region's assets include:

- ◆ Nationally ranked top 20 cluster for medical device manufacturing
- ◆ Site of one of 38 NCI designated Comprehensive Care Centers in the U.S.
- ◆ Home to a top 60 public research university
- ◆ 12 research centers
- ◆ Over 50 hospitals, clinics & ambulatory care centers
- ◆ 2 Veterans Administration hospitals
- ◆ One of 22 Shriners Hospitals in the U.S.
- ◆ 6th Medical Group Hospital at MacDill Air Force Base
- ◆ 2nd largest acute care public hospital in Florida
- ◆ 3 Top 100 Hospitals in the U.S. (2003 U.S. News & World Report)
- ◆ 3 medical schools (one osteopathic)
- ◆ Over 62,000 licensed nurses and doctors
- ◆ More than 10 educational facilities for healthcare professionals
- ◆ Two hospital transplant centers
- ◆ 13 teaching hospitals
- ◆ Florida's only college of public health

The **University of South Florida** is ranked 29th in medical science research and development expenditures and known for discoveries in medical sciences, biotechnology, marine science, MEMS (microelectromechanical systems), engineering, nanotechnology and medical science. The USF Research Park is a center of biotechnology and life science research and entrepreneurship. The park includes the USF Center for Biological Defense, the Tampa Bay Technology Incubator, USF Center for Entrepreneurship and the Florida Medical Manufacturers Consortium. The USF Life Sciences Entrepreneurship program was ranked #1 for training new entrepreneurs, especially in pharmaceuticals, biotechnology and medical devices.

The **H. Lee Moffitt Cancer Center & Research Institute** is a nationally recognized hospital and research center and one of 38 National Cancer Institute-designated Comprehensive Care Centers.

## **Opportunities**

Sarasota County has two as yet untapped assets in this area – a much-higher-than-average population over 65 years of age that live active lifestyles, and proximity to a significant medical industry cluster in the Tampa Bay region – that present an array of opportunities for Sarasota County.

### **A test bed for products serving an aging population**

Many regions can claim that they have a large proportion of older citizens; leveraging this asset to mutual benefit will require the county to mobilize these citizens in innovative ways to help conceive, develop, and test new products. In this way, they are not merely passive consumers, but rather contribute to economic opportunities.

Sarasota County could be positioned as a one-stop destination for healthcare companies to conduct product innovation interactively with their consumers, medical professionals, medical service delivery providers, and the research community. As companies begin to leverage this resource, they can also be encouraged to move or expand a full-time presence in the County.

This approach takes advantage of a pervasive trend called “open innovation” in which companies look proactively outside their organizations for new ideas. Companies are involving their customers in creative ways to understand consumer needs/wants and to create innovative products to meet these needs. Similarly companies seek innovations from research institutions and from other participants in their value chain (suppliers, distributors, service delivery professionals).

### **Connections to Regional Research and Clinical Trials**

Medical research through partnership with local hospitals and universities could be expanded, including linkage to research leaders from the premier institutions in the Tampa Bay region. Examples of areas for research include:

- ◆ More frequent yet less intrusive means for monitoring chronic medical conditions
- ◆ Phase II and Phase III clinical trails
- ◆ Post-market clinical trials, e.g., to look for drug interactions

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## **HEALTH AND WELLNESS *MANAGEMENT***

Sarasota's demographics, combined with public health and social research at Florida universities and the proposed Sarasota Institute for the Ages, provide some unique opportunities for the region. Advancements in health information systems are creating new markets for research, health care management by providers and consumers. Specific market opportunities may exist for:

- ◆ Research on the efficacy of various nutrition and exercise programs on wellness and disease management, especially for aging populations
- ◆ Innovative approaches to supporting long-term care and in-home health providers
- ◆ Consumer based health care decision and wellness management tools
- ◆ Health information tools for providers to better identify and manage issues such as drug interactions

## APPLIED ENVIRONMENT SERVICES & SUSTAINABLE SYSTEMS

The current chase for regions to have a significant play in alternative and renewable energy is similar to that of the 1990s when communities were all scrambling to capture the biotechnology market. While Sarasota County residents may have a broad understanding of principals of sustainability, the hard assets in place to pursue green jobs is limited – especially when compared to many other regions that have been investing in clean and renewable energy for a decade. There are, however, aspects of sustainable development in which the market is less saturated, and where Sarasota County may have some competitive advantage.

Many researchers note that water resources (both fresh and marine) represent the “next energy crisis.” As contrasted with available assets related to energy, Sarasota County may have more assets and expertise to pursue various water management opportunities. Another area of promising focus is green building systems and design.

### Trends

As defined here, the Energy and Environment cluster employed more than 2,200 people in 340 establishments in 2007. The cluster added 542 employees and 72 new establishments over the five-year period 2002 to 2007 – an increase of 27% in establishments and 32% in employment.

Architectural and engineering services accounted for the lion’s share of the total growth in cluster establishments with environmental consulting services accounting for the balance. The cluster lost five total establishments over the period, in scientific R&D services and recyclable material merchant wholesalers.

**Figure 43: Energy and Environment Establishments, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
5413	Architectural and engineering services	214	252	18%
5417	Scientific research and development services	16	13	-19%
423930	Recyclable material merchant wholesalers	12	10	-17%
541620	Environmental consulting services	9	14	56%
541690	Other technical consulting services	17	51	200%
<b>Totals</b>		<b>268</b>	<b>340</b>	<b>27%</b>

Source: Bureau of Labor Statistics, QCEW data

Architectural and engineering services and environmental consulting services establishments created the most new jobs in the cluster (478 total). The only job losses (18) occurred within scientific research and development services firms.

**Figure 44: Energy and Environment Employment, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
5413	Architectural and engineering services	1,195	1,589	33%
5417	Scientific research and development services	307	289	-6%
423930	Recyclable material merchant wholesalers	109	124	14%
541620	Environmental consulting services	38	122	221%
541690	Other technical consulting services	27	94	248%
<b>Totals</b>		<b>1,676</b>	<b>2,218</b>	<b>32%</b>

Source: Bureau of Labor Statistics, QCEW data

## Regional Assets

This section provides highlights of the existing basis for an Energy and Environment cluster (including key existing companies) as well as regional assets that can be tapped to grow the cluster (research and business development assets).

Sarasota County's small and growing core of progressive architecture, environmental services and related companies, along with a strong community interest in and orientation toward concepts of sustainability, form the current basis for a focus on this cluster. While demonstration projects like Florida House (completed in 1994) galvanized the region around a central project, no one initiative has provided that necessary central focus, since.

### Existing Industry Assets

From interviews with business and community leaders, it was noted that a core group of architectural and engineering services is oriented toward green building/sustainable planning practices. Additionally, employment growth in environmental and other technical consulting services has more than tripled over the five-year period. Examples of these key companies are shown below.

**Figure 45: Key Energy and Environment Firms**

<a href="#">Carlson Studio Architecture</a>	<a href="#">Stewart Engineering Consultants</a>
<a href="#">Carollo Engineers</a>	<a href="#">Two Trails</a>
<a href="#">EarthBalance</a>	<a href="#">Willis A. Smith Construction</a>
<a href="#">Eco-Smart Inc.</a>	<a href="#">Scrap All Of Sarasota</a>
<a href="#">Florikan E.S.A. Corp.</a>	<a href="#">A M Engineering</a>
<a href="#">Homefront, Inc.</a>	<a href="#">DMK Associates</a>
<a href="#">Industrial Biotechnology Corporation</a>	<a href="#">Stewart Engineering Consultants</a>
<a href="#">Kimal Lumber Co.</a>	<a href="#">Sanders Laboratories</a>
<a href="#">Osprey Biotechnics</a>	<a href="#">ECo Consultants</a>
Progressive Water Resources	<a href="#">Resource Conservation Technologies</a>
<a href="#">Stantec</a>	My Green Building

## Regional Research Assets

As detailed in the Economic Profile, research activity within Sarasota County is limited. However, in the broader region, there are multiple university and non-profit research institutions with which County companies and organizations can forge or strengthen relationships within this cluster.

Sarasota County is home to **Mote Marine Laboratory**, one of the world’s few remaining independent marine research laboratories. Research is distributed among seven centers, including the [Center for Aquaculture Research and Development](#), which develops systems and techniques to produce high-value marine and freshwater fish and invertebrates. The Center has an existing [commercial demonstration site](#) on 200 acres on Fruitville Road and plans for additional demonstration sites in the County. Research at Mote’s Center for [Ecotoxicology](#) encompasses Florida red tide and chemical pollution and their effects, and has produced monitoring and warning technologies with potential commercial application. **New College** students work with research organizations and businesses in marine sciences (at the college’s Pritzker Marine Biology Research Center. The **Florida Institute of Oceanography** acts as a statewide organization, working with an array of universities and agencies to support, and promote marine science education and research, including Mote & New College.

As detailed in the Economic Profile, Florida’s university system, with its state-funded Centers of Excellence, along with private non-profit research institutions provide a number of research strengths with connections to industries in the broader region. Selected research centers relevant to the Energy and Environment cluster appear in Figure 4.

**Figure 46: Cluster Research Assets, Broader Region**

<b>UCF</b>	<b>University of Florida</b>
<a href="#">Solar Energy Center</a>	<a href="#">Florida Institute for Sustainable Energy</a>
<a href="#">Stormwater Management Academy</a>	<a href="#">Powell Center for Construction &amp; Environment</a>
<b>USF</b>	<a href="#">Water Institute</a>
<a href="#">Clean Energy Research Center</a>	<a href="#">Center for Renewable Chemicals and Fuels</a>
<a href="#">Center for Urban Transportation Research</a>	<b>Non-profit research institutions</b>
<a href="#">National Center for Transit Research</a>	<a href="#">SRI International, Tampa</a>
<a href="#">Institute for Marine Remote Sensing</a>	
<a href="#">Florida Center for Community Design and Research</a>	

## Opportunities

The size of the market for jobs, businesses and communities that promote sustainable development is still relatively unknown, and the competition for this space is increasingly fierce. Communities like Portland, Oregon or San Francisco, California have had offices of sustainability and sustainable development strategies for more than 15 years. Other communities like San Jose, Seattle,

Minneapolis, Grand Rapids, Baltimore, and Wilmington are not far behind. Furthermore, these communities have targeted and invested public and private resources for years. Although there is local interest in the topic of sustainability, the community appears to have few tangible/distinguishable assets as compared to other communities competing in this space.

### **Sustainable Systems Demonstration Center**

The region appears to have a small and diverse core of companies in energy and environmental industries, yet no critical mass in any specific sector. In addition, there is a variety of energy and environmental research efforts at USF and UCF. Compared to other regions, Sarasota County has limited capacity for large scale production, therefore demonstration sites and small scale systems would be more in keeping with the assets of the community.

One opportunity that could utilize the diverse industry mix and small scale footprint would be to create a demonstration center --a place for commercialization or demonstration of research concepts, for testing new products, and incubating or growing existing companies with green markets. The project would need to explore the feasibility of whether universities would locate demonstration projects to the site, and manufacturers be willing to participate in a demonstration center.

### **Water Resource Management**

Water resource management is another sustainable development theme worth considering. Several consulting/engineering companies are located in the area with expertise in stormwater management, specifically related to low-impact development. Although it is uncertain how these companies can be distinguished from similar companies in other geographic areas, this asset could be leveraged to create and sustain a stormwater management testing/demonstration site in the County. A national [stormwater center](#) is located at the University of New Hampshire; however, an additional site with different environmental conditions (e.g., different climate, soils) could prove beneficial. The stormwater facility could serve various university, government, and industry researchers across the U.S. The facility could also potentially serve as a satellite location for the University of New Hampshire Stormwater Center (through a partnership agreement).

### **Environmental Education & Research**

Mote has a strong focus in education and outreach, specifically geared towards three groups: the general public, teachers and students (Grades 9-12), and college interns. By establishing additional educational programs for undergraduate, master's level, and/or PhD students, Mote could increase employment as well as stimulate the local economy by attracting new students and faculty to the area. This expansion could be done in partnership with local/regional universities (e.g., New College) or with out-of-state institutions. For example, arrangements could be made with out-of-state, "land-locked" universities that have a desire to establish marine science curricula/programs. Very few marine laboratories exist in the U.S. that offer both R&D opportunities and academic curricula for bachelor's, master's, and PhD students. Thus, this could be a distinguishing trait for Mote if this opportunity is pursued.

## **Aquaculture**

Mote’s strong R&D activities in aquaculture represent another asset that could be leveraged to stimulate local economic growth. According to [NOAA](#), aquaculture in the U.S. is a \$1-billion-per-year industry, and U.S. production is expected to triple by 2025. Several federally-funded aquaculture centers are located throughout the United States. These facilities include the University of New Hampshire (NOAA-funded), Mississippi State University (USDA-funded), University of Hawaii (USDA-funded), University of Washington (USDA-funded), University of Maryland (USDA-funded), Michigan State University (USDA-funded), and Iowa State University (USDA-funded). However, no major marine aquaculture programs appear to exist in Florida or on the Gulf Coast. Thus, an opportunity may exist to establish a program or center in Sarasota County that builds on the existing Mote programs in this space, as well as their demonstration site.

## **Green Building & Design focused on Redevelopment**

Another possible area of strength for Sarasota County lies in redevelopment that incorporates green design and sustainable systems. Given existing strengths and employment concentrations in the construction industry and in environmental consulting services, along with decreasing availability of land, the county may have significant opportunities in green redevelopment. Green redevelopment provides a bridge between needed community development and economic development efforts that can build nationally recognized expertise through applied projects within Sarasota County.

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## DIGITAL MEDIA AND WEB-ENABLED TECHNOLOGIES

The definition of the digital and web-enabled technologies represents a refinement of the previous definition of the high technology/IT sectors in Sarasota County. The new focus is on the development and intense application of web-enabled software and digital technologies.

This cluster is closely related to many aspects of and, in fact, overlaps with the creative services cluster, especially in the areas of design services and interactive media. This cluster can be a cross-cutting one; technologies and products developed in the sector can also support growth in the medical and life sciences and energy and environmental clusters. With its employment concentrations in both information technology and creative services, along with the presence of the Ringling College of Art + Design, Sarasota County could position itself as a center for industries related to digital media and web-enabled technologies.

### Trends

As defined here, the digital and web-enabled technologies cluster was comprised of more than 2,200 employees in 277 establishments in 2007. Computer Systems Design showed the most significant growth in establishments – 59 – while Data Processing, Hosting, and Related Services lost nine firms. Note: Many interactive companies (e.g., atLarge) are categorized as advertising and marketing firms, which are represented in the data on Creative Services. Therefore, the related employment base for this cluster is underestimated to avoid duplication of data.

**Figure 47: Digital and Web-Enabled Technologies Establishments, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
511210	Software publishers	11	11	0%
517	Telecommunications	48	48	0%
518	Data Processing, Hosting, and Related Services	30	21	-30%
5415	Computer Systems Design and Related Services	138	197	43%
<b>Totals</b>		<b>227</b>	<b>277</b>	<b>22%</b>

*Source: Bureau of Labor Statistics, QCEW data*

The cluster, in aggregate, was more or less stagnant in terms of job creation between 2002 and 2007, but there was significant positive growth in Computer Systems Design. That growth was offset by job losses (108, total) in Software Publishing and Data Processing, Hosting, and Related Services.

**Figure 48: Digital and Web-Enabled Technologies Employment, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
511210	Software publishers	109	72	-34%
517	Telecommunications	1,052	1,085	3%
518	Data Processing, Hosting, and Related Services	138	67	-51%
5415	Computer Systems Design and Related Services	904	986	9%
<b>Totals</b>		<b>2,203</b>	<b>2,210</b>	<b>0%</b>

Source: Bureau of Labor Statistics, OCEW data

There were a number of NAICS industries – most notably 516110 Internet Publishing – that warrant inclusion in this cluster, but for which data were not disclosed at the county level for most years in the period. Internet Publishing, for example, had establishment data for 2004 and 2006 (8 establishments growing to 13) and employment data for 2004 (24 employees). However, key companies in the category appear in Figure 49.

## Regional Assets

This section provides highlights of the existing basis for a Digital and Web-Enabled cluster (existing companies and related higher education assets) as well as regional assets that can be tapped to grow the cluster (research and business development assets). 82 Degrees and various young professional groups in the region offer network opportunities for many of these companies.

### Existing Industry Assets

As shown in the trends section, the region has significant concentrations of employment in telecommunications and computer systems design, but companies of all sizes populate other industries within the cluster as well. The strengths and (in some cases, marked) growth of these companies provide an indication of the strategic direction the cluster may be able to take in the next five years. Examples of existing companies in the cluster are shown in the table below.

**Figure 49: Key Digital and Web-enabled Establishments**

<a href="#">Akuwa Solutions Group Inc.</a>	<a href="#">Infosun</a>
<a href="#">atLarge</a>	<a href="#">Integraclick</a>
<a href="#">Campus Works</a>	<a href="#">Method Factory</a>
<a href="#">CAP Creative</a>	<a href="#">Neighborhood America</a>
<a href="#">CSI Networks</a>	<a href="#">Robrady</a>
<a href="#">cyberstreme.com</a>	<a href="#">SEO Aware</a>
<a href="#">Digital Three Studios</a>	<a href="#">Swain Film &amp; Video</a>
<a href="#">GravityFree</a>	<a href="#">Symtech Corporation</a>
<a href="#">Infoblazer</a>	<a href="#">Whole Tomato Software</a>

## Higher Education Assets

The **Ringling College of Art + Design** is a private, four-year accredited college in Sarasota County with degree programs in Computer Animation, Graphic and Interactive Communication, Digital Imaging, Game Design, and the Business of Art and Design. Ringling's Computer Animation program, in particular, is nationally known – it was named Best Computer Animation Program in North America by 3D World magazine in 2007 and graduates are heavily recruited by employers including Sony Pictures Imageworks, ElectronicArts (EA), DreamWorks, and Cartoon Network each year. The college places particular emphasis on technology in the arts – of the current 1,200 students enrolled, approximately one quarter are majoring in Computer Animation/Game Art & Design and 15% in graphic & interactive communication. While the community has typically thought of Ringling as a resource for traditional art and design applications, its creative/technology convergence is what sets it apart from most other institutions of its kind.

The [Sarasota-Manatee Campus](#) of USF offers certificates and bachelor's degrees in IT and [Manatee Community College](#) offers associate's level programs that support this cluster.

In the broader region, UCF's [Department of Digital Media](#) offers undergraduate and graduate degrees in Visual Language and Digital Interactive Systems.

## Research Assets

As detailed in the Economic Profile, research activity within Sarasota County is limited. However, the university research assets listed in Figure in the broader region with which county companies and organizations can forge or strengthen relationships to grow the Digital and Web-enabled cluster.

**Figure 50: Research Assets, Broader Region**

<b>USF</b>
<a href="#">Center for Wireless and Microwave Information Systems</a>
<b>UCF</b>
<a href="#">Consortium for Research and Education in Arts &amp; Technology</a>
<a href="#">Department of Information Systems Technology</a>
<a href="#">Institute for Simulation and Training</a>
<a href="#">Media Convergence Lab</a>

## Opportunities

**Next-Generation Internet Advertising:** Companies Integraclick, SEO Aware, and GravityFree already provide services such as banner advertising and increasing search engine awareness of company websites. Company Neighborhood America provides enterprise level collaboration tools that supports social networking. An opportunity may exist to use these strengths to move into the next wave of Internet advertising. Social media marketing uses the power of online social networks and viral marketing to increase brand awareness and generate

Internet traffic to advertisers' websites. Though there are several companies in the area that are already in the Internet marketing industry, more experienced management talent with knowledge of the business models of this industry is needed to pull together the digital creative talents of the region and information technology skills from outside the region to be able to form companies with a chance of success.

According to Strange Corporation's report on upcoming trends in online marketing, crowded online advertising will increasingly rely on great creative content to make digital marketing strategies work. Also, tough economic times mean that advertisers will be spending less on general brand marketing and more on direct customer acquisition. Creative content such as short, humorous video clips or established online shows leads potential customers directly to advertisers' websites. Jupiter Research estimates that online marketers spent \$2.1 billion on affiliate marketing in 2008, with an increase to \$3.3 billion expected in 2012. Affiliate companies are paid by advertisers for every visit or customer their websites or marketing efforts bring to the advertiser sites.

**Social Networking Tools:** Strange also reports that opportunities for using social networks for advertising will increase. Viral marketing occurs when a product is recommended through a social network, creating brand trust and further interest in the product. One technique for social network marketing is the use of digital widgets that users on sites such as Facebook add to their homepages. The widgets represent a product or brand and can be mini-applications that provide entertainment, or make a personal statement about the user. The estimated market in 2008 for digital widgets is \$40 million. Brandweek Magazine reports that marketers pay widget developers between \$1 and \$5 for every widget installation on user sites.

Though the region has a high concentration of creative skills necessary to produce great content for social media marketing, the computer programming industry is not as strong. This could indicate a lack of professionals with technical development skills. There are some limited information technology programs in the region, but the larger educational programs at UCF and UF are 2.5-3 hours away. Developing a strategy for workforce development issues with USF and MCC to assist with gaps in technical talent would greatly support this.

**Technology Incubator:** To foster the growth of companies in markets described above, the development of a technology-based incubator or accelerator would provide comprehensive services to start-up companies. A preliminary business plan has already been developed for this concept, and would need to be updated.

## CREATIVE SERVICES

Creative Services is a group of industries that combine art and design with technology and communications to produce products and services that serve local to international markets.

Compared to the industry cluster defined in 2004, the Creative Services cluster has been refined to better represent the economic activity in Sarasota County. To reflect emerging strengths and develop a more comprehensive understanding of firms that supply key services and talent to this cluster, we expanded the definitions to include, among others, motion picture and sound recording, arts promotion, and photographic services.

The high location quotient of the arts, entertainment, and recreation industry in Sarasota County, and the presence of several theater companies and events such as the Sarasota Film Festival indicate a creative strength in the workforce. The highly ranked Ringling College of Art + Design provides a training ground for students not only in the fine arts, but also in advertising design, digital film and computer animation. Companies such as Digital Three Studios, Swain Film and Video, and Dreams Into Motion, LLC put this creativity to work. Sarasota County's Sound Stage One, a video and film production soundstage also provides the infrastructure that could be used to expand into the social media marketing industry, as described in the preceding section.

Regional Assets	Regional Gaps
<ul style="list-style-type: none"> <li>◆ Professionals with design and interactive media skills</li> <li>◆ Ringling School of Art &amp; Design</li> <li>◆ Annual Design Summit</li> <li>◆ Higher than average percent of jobs in performing arts</li> <li>◆ Young professional group</li> <li>◆ 82 Degrees industry network</li> <li>◆ Printers or specialized suppliers</li> <li>◆ Community recognition of creative assets (although still primarily thought of as a cultural arts rather than commercial assets)</li> </ul>	<ul style="list-style-type: none"> <li>◆ Professionals with technical development (software/network) skills</li> <li>◆ Experienced management talent</li> <li>◆ Flexible start-up space that allows for ebbs and flows of ramp-up.</li> <li>◆ Lower than average wages for jobs in same industry elsewhere</li> <li>◆ Overall business environment that keeps young talent in region (few big or leading edge companies to build their resumes)</li> <li>◆ Lack of larger sound stage and production facility to create local content</li> </ul>

### Trends

This cluster has been growing steadily since 2002, with performing arts companies perhaps showing some of the most dynamic growth in jobs. Professional schools, marketing/opinion polling and printing are also solid contributors. The motion picture and sound recording industry show the greatest losses.

**Figure 51: Creative Establishments, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
512	Motion picture and sound recording industries	33	29	-12%
3231	Printing and related support activities	59	63	7%
5111	Newspaper, book, and directory publishers	35	52	49%
5151	Radio and television broadcasting	ND	10	N/A
5413	Architectural and engineering services	214	252	18%
5414	Specialized design services	110	145	32%
5418	Advertising, PR, and related services	72	86	19%
7111	Performing arts companies	29	27	-7%
7113	Promoters of performing arts and sports	6	6	0%
7115	Independent artists, writers, and performers	35	49	40%
54191	Marketing research and public opinion polling	12	15	25%
54192	Photographic services	23	30	30%
611310	Colleges, Universities, Professional Schools <sup>1</sup>	8	8	0%
61161	Fine arts schools	10	15	50%
541613	Marketing consulting services	61	78	28%
<b>Totals</b>		<b>707</b>	<b>865</b>	<b>22%</b>

Notes: Highlighted rows are industries not previously included in EDC's cluster definition  
 ND=not disclosed

Source: Bureau of Labor Statistics, QCEW data

**Figure 52: Creative Employment, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
512	Motion picture and sound recording industries	430	168	-61%
3231	Printing and related support activities	381	476	25%
5111	Newspaper, book, and directory publishers	1,077	1,173	9%
5151	Radio and television broadcasting	ND	182	N/A
5413	Architectural and engineering services	1,195	1,589	33%
5414	Specialized design services	246	374	52%
5418	Advertising, PR, and related services	234	379	62%
7111	Performing arts companies	448	1,704	280%
7113	Promoters of performing arts and sports	10	70	600%
7115	Independent artists, writers, and performers	39	60	54%
54191	Marketing research and public opinion polling	811	931	15%
54192	Photographic services	131	ND	N/A
611310	Colleges, Universities, Professional Schools*	356	495	39%
61161	Fine arts schools	42	ND	N/A
541613	Marketing consulting services	206	297	44%
<b>Totals</b>		<b>5,606</b>	<b>7,898</b>	<b>41%</b>

Notes: Highlighted rows are industries not previously included in EDC's cluster definition  
 ND=not disclosed

Source: Bureau of Labor Statistics, QCEW data

## **Business Development Needs**

**Facilities:** With available commercial space, facilities for creative firms appear to be in adequate supply. There is perhaps a need for tenant improvements to make necessary enhancements to facilities that accommodate the look and technology of creative firms. Other regions have used deferred and low-interest loans to help with initial upfit costs, especially in downtown and selected redevelopment areas. Others have used tax increment financing to provide forgivable loans if companies reached certain job creation or business development goals. If the county wishes to foster a physical cluster of creative firms, these types of financial tools might warrant further evaluation.

**Market expansion:** The creative service industry is segmented into several distinct sectors. There may be opportunities to help these sectors brand the region to their selected markets. Since the firms themselves would provide the creative content for a branding program, the cost to the region would be the media production and placement of the content.

## **Expanded Opportunities**

### ***Creativity and Design Thinking***

The creative thought process, including the recently coined "design thinking" is enabling companies in all sectors (from manufacturing to health care services) to provide better products and services to their customers. It is quickly becoming a competitive advantage. Sarasota County could leverage its assets in this area, including Ringling School of Art + Design, to position itself as a hub for professional service companies in the field, and/or as a destination for related training, education, and services.

## SPECIALTY MANUFACTURING CLUSTER

As established in the 2004 Strategic Plan, Sarasota County is home to a sizable specialty manufacturing cluster – a group of specialized, engineering-intensive companies that produce premium products within their respective industry segments, focusing more on high-quality/customized products rather than low-cost commodities.

### Trends

Total employment and establishments in the specialty manufacturing cluster were relatively stable from 2002 to 2007, although there were significant shifts among sub-industries. There was a surge in chemical manufacturing (not included in the prior cluster analysis) that added eight new establishments and close to 300 jobs. This gain was more than offset by job losses in communications and equipment manufacturing, which shed almost 500 jobs and 5 establishments. Consistent with national trends in wood and furniture manufacturing, these industries also contributed to overall job losses in the cluster, losing nearly a quarter of their jobs over the period.

**Figure 53: Specialty Manufacturing Establishments, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
321	Wood product manufacturing	10	13	30%
325	Chemical Manufacturing	10	18	80%
3261	Plastics product manufacturing	17	13	-24%
3273	Cement and concrete product manufacturing	20	22	10%
332	Fabricated metal product manufacturing	51	53	4%
3342	Communications equipment manufacturing <sup>1</sup>	9	4	-56%
3345	Electronic instrument manufacturing	10	10	0%
3371	Household and institutional furniture mfg.	56	50	-11%
<b>Totals</b>		<b>183</b>	<b>183</b>	<b>0%</b>

*Note: Highlighted row is an industry not previously included in EDC's cluster definition.*

<sup>1</sup>Number of firms in 2002 taken from data collected by EDC

Source: Bureau of Labor Statistics, QCEW data

**Figure 54: Specialty Manufacturing Employment, Sarasota County, 2002-2007**

NAICS	Industry	2002	2007	% Change 02-07
321	Wood product manufacturing	504	316	-37%
325	Chemical Manufacturing	50	342	584%
3261	Plastics product manufacturing <sup>1</sup>	575	564	-2%
3273	Cement and concrete product manufacturing	659	475	-28%
332	Fabricated metal product manufacturing	2,271	2,472	9%
3342	Communications equipment manufacturing <sup>2</sup>	516	23	-96%
3345	Electronic instrument manufacturing	520	653	26%
3371	Household and institutional furniture mfg.	421	401	-5%
<b>Totals</b>		<b>5,516</b>	<b>5,246</b>	<b>-5%</b>

*Note: Highlighted row is an industry not previously included in EDC's cluster definition.*

<sup>1</sup> Most recent year available 2006

<sup>2</sup> Number of firms in 2002 taken from data collected by EDC

*Source: Bureau of Labor Statistics, QCEW data*

## **Business Development Needs**

The representatives of the specialty manufacturing companies that participated in interviews and focus groups for this update reported garnering more value from participation in the cluster groups than did representatives of other clusters. Notably, the areas in which they report needs for ongoing business development support are the same as they were five years ago.

Sarasota County manufacturers overwhelmingly feel that their presence and the economic development benefits derived from that presence are neither acknowledged nor appreciated. The relatively high wages, technology orientation, low levels of negative environmental impacts, and economic stability that the cluster lends to the region appear to be dismissed by local authorities and residents alike. Therefore, while participants acknowledge progress resulting from cluster group activities over the last five years, their strategic goals remain nearly the same:

- ◆ Educate County officials and residents on unique aspects of manufacturing in Sarasota County (cluster group participants noted that the EDC Hall of Fame event helped make inroads here);
- ◆ Forge and/or enhance local business-to-business connections with local resources (again, with the Hall of Fame event noted as supporting this goal);
- ◆ Assist SAMA in advocating for political support at state and national levels; and
- ◆ Continue manufacturing facility tours and outreach to inform youth/parents, workforce and educators on local manufacturing employment opportunities.

Additionally, specialty manufacturers reported that the county needs to offer better incentives for business expansion – particularly to a sector that is negatively impacted by regressive state-level policies vis-à-vis manufacturing, and in which other Sunbelt states are competing aggressively with business recruitment efforts. In addition to offering such incentives, the County and/or EDC may be able to lend support to the formation (already underway) of an industrial development authority, which would be able to assemble and offer incentive packages beyond what localities can or will.

## APPENDIX B: Prospective Economic Impacts of Innovation Strategy Alternatives

Economic development strategies offer roadmaps and investment priorities to achieve greater economic and community welfare in the future. Deciding among strategic alternatives however can be challenging, particularly as any outcomes from a selected strategy may not accrue in the near term. Policymakers face the challenge of reviewing strategic alternatives and making decisions without the benefit of concrete evidence that their selected alternative will generate the desired impacts, given any unique characteristics of their region and community. Economists deal with these same uncertainties on a daily basis and have developed a set of evidence-based development theory, time series datasets of economic activity, and software tools to analyze strategic alternatives under a host of scenarios.

For the EDC, RTI analyzed the potential economic impacts of two alternatives identified by Scruggs & Associates as having significant potential for Sarasota County: (1) a business incubator to support start-up companies in strategic industries and (2) a research center on aging that leverages Sarasota's hospitality, biomedical device, and medical industries.

The prospective analyses in this section are based on general assumptions about, and specific goals of each alternative, as specified by Scruggs. Implicit in this approach is that each alternative would be fully successful. When reviewing the prospective economic impact data we offer, keep in mind that the impacts presented assume that the incubator and/or research institute have met all the goals set for them in other chapters of this report.

This section is organized as follows:

Section B.1. offers a primer in how economic impacts accrue in regional economies, how changes in one sector influence other sectors, and how to measure these interactions.

Section B.2 offers a brief discussion of economic development tools to catalyze economic development.

Section B.3 discusses the potential economic impacts of the business incubation alternative.

Section B.4 discusses the potential economic impacts of the research center for ageing alternative.

### B.1 Economic Flows and Multipliers in Regional Economies: Methodologies for Analyzing Policy Alternatives

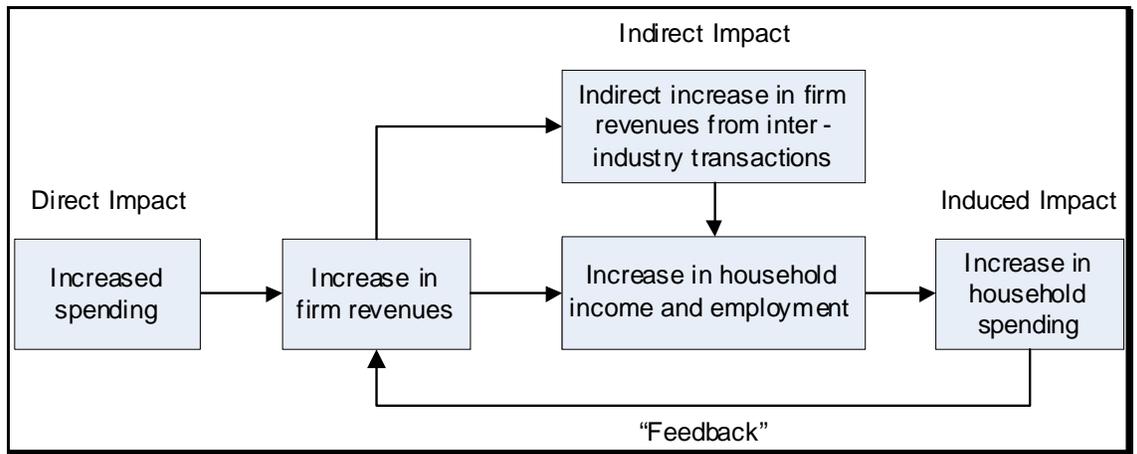
To measure the potential economic contributions of alternative economic development, RTI used an input-output (I/O) model of Sarasota County that simulates how sales and employment in one industry can affect other industries and the county economy as a whole. The process of how these impacts are generated in the I/O model is illustrated in Figure B-1. This process can be separated into three types of impact:

**Direct Impacts:** the immediate consequences the industry that experiences new revenue (e.g., the start-up of a research firm or a device manufacturer).

**Indirect Impacts:** responses in other industries to changes in the industry experiencing direct impacts.

**Induced Impacts:** responses by households to the extra income received as the economy expands. Since additional wage payments will be received as the economy grows, households will purchase more goods and services, which will lead to greater expansion of the economy.

**Figure B-1. Feedback Process That Generates a Program’s Total Economic Impact**



To understand how these impacts relate to the context of this study, consider the following example. A company producing medical instruments commences operations and sells the majority of its products to customers outside of Sarasota County. The sale of these products represents new demand for products made in the county and directly stimulates economic activity as the company hires new employees. This is considered the “direct impact” of the incubated company on the county economy.

The introduction of the medical instrument company also creates new demand for products produced in other industries by

purchasing services and materials from other companies for use in its production process. To meet this new demand, those service and materials companies themselves hire additional employees and purchase more intermediate inputs to use in their own production processes. The revenue and employment generated by these expanding companies are the “indirect impacts” of the company on the county economy.

As these companies expand, new job opportunities are created and individual household incomes rise, permitting households to purchase more goods and services. This leads to further expansion of the economy and is known as the “induced effect.” Ultimately, the total impact is the sum of the direct, indirect, and induced impacts.

### **The IMPLAN County-Level Input-Output Model**

The I/O model of the Sarasota County economy was constructed using IMPLAN economic modeling software. RTI selected IMPLAN because it is one of the most widely used I/O modeling software packages in economic development analysis. It has also been used in other studies that sought to measure the economic impacts of business incubators and other public-private ventures (Markely and McNamara, 1995; RESI, 2001; and RTI, 2007).

The economic database that IMPLAN uses comes from official government statistics (e.g., the National Income and Product Accounts [NIPA] published annually by the Bureau of Economic Analysis [BEA], the BEA I/O accounts for the United States, and numerous other data sources). These data are constructed to be internally consistent (i.e., county data sum to state totals and state data sum to national totals).

Like all I/O models, IMPLAN quantifies the economic impact associated with a change in final demand using mathematical representations of the direct, indirect, and induced impacts discussed earlier. These mathematical representations are called “multipliers.” IMPLAN offers three different types of multiplier that can be used in estimating economic impacts, each taking different effects and information into account.

Type I Multipliers only measure the direct and indirect impacts of a change in economic activity.

Type II Multipliers measure the direct and indirect impacts of changes in final demand as well as take into account induced effects on household spending. However, households are assumed to spend all their additional income on personal consumption.

Type SAM Multipliers measure direct, indirect, and induced impacts of changes in final demand using all information about the institutions selected to include in the model. For example, for households, Type SAM multipliers account for commuting, social

security tax payments, and household income taxes and savings, among other things.

The analysis in this study used Type SAM multipliers, because they contain the most information available in IMPLAN for estimating economic impacts of final changes in demand. IMPLAN can construct these Type SAM multipliers for several measures of regional economic activity (including output, income and salaries, and jobs) for 440 industries and institutions. Table B-1 provides a listing of average multipliers for the 17 major sectors of the Sarasota County economy. These sectors are composed of the 440 industries and institutions contained in IMPLAN. For example, electromedical equipment manufacturing (IMPLAN Code 248) is part of the durable goods manufacturing sector.

### **Using Multipliers Generated by IMPLAN**

The multipliers generated by IMPLAN can be used in two ways. First, they can be used to estimate changes in macroeconomic variables that result from a change in final demand for the products produced by one sector or industry.

For example, suppose that an increase in demand for durable goods occurs and leads companies in the durable goods manufacturing sector to hire 100 new employees. Using the total employment multiplier derived from IMPLAN, reported in Table B-1, one can see this would result in a total employment effect (impact after direct, indirect, and induced impacts have been taken into account) of 200 employees ( $100 \times 2.0$ ). This means that the 100 jobs initially created in the durable goods sector resulted in 100 additional jobs throughout the economy ( $200 - 100$ ).

Similar calculations can be conducted to estimate other types of impacts. For example, suppose that the employees hired by the durable goods manufacturing firms receive approximately \$10,000 per year in labor income and generate approximately \$100,000 of output. In this case, we would expect the 100 employees to earn a total of \$1,000,000 in income and generate \$10,000,000 of output. Just as changes in employment in one sector led to changes in employment in other sectors, changes in labor income and output in one sector also lead to changes in labor income and output in other sectors. Using IMPLAN to model Sarasota's economy we learn that \$700,000 of labor income and \$5,000,000 of output was created in other sectors as a result of the firm expanding its operations in the durable goods sector.<sup>9</sup>

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<sup>9</sup> To estimate the sum effect of these changes, we once again use the multipliers in Table 1. In this example, \$1,000,000 of new labor income in the durable goods sector results in creating a total of \$1,700,000 of labor income ( $\$1,000,000 \times 1.7$ ) and \$15,000,000 of output ( $\$10,000,000 \times 1.5$ ).

Table B-1. IMPLAN Multipliers for Major Industry Groups, Sarasota County (2007)

Sector	Total Employment Impact Multiplier	Total Labor Income Multiplier	Total Output Impact Multiplier
Agriculture	1.4	1.7	1.4
Construction	1.9	1.6	1.5
Durable Goods Manufacturing	2.0	1.7	1.5
Education	1.3	1.3	1.6
Finance Insurance & Real Estate	2.4	2.0	1.8
Government	1.6	1.3	1.6
Health	1.5	1.4	1.6
Information	2.3	2.0	1.6
Mining	2.7	2.0	1.5
Nondurable Goods Manufacturing	3.0	2.1	1.4
Other Services	1.4	1.5	1.6
Professional Services	2.0	2.0	1.6
Retail Trade	1.3	1.4	1.5
Transportation	1.9	1.9	1.5
Utilities	2.1	1.5	1.3
Warehousing	1.4	1.4	1.6
Wholesale Trade	1.7	1.5	1.5
Median	1.7	1.6	1.5
Average	2.0	1.8	1.5

A second analytical approach is to use multipliers to compare the relative influence an industry or sector has on the county economy. For example, a 100-employee increase in the retail sector leads to only 30 additional jobs—less than half the number of jobs that would be produced by a similar increase in the durable goods sector. This implies that employment increases in the retail sector will have a smaller impact on the county economy than increases in the durable goods sector. Highlighting these differences can support and strengthen claims about the importance of a particular industry.

As part of this study, RTI used both analytical approaches. First, we used multipliers generated by IMPLAN to estimate the economy-wide impact of current and former incubator clients as measured by increase in GSP, salaries and benefits, and number of jobs created. Then we compared multipliers of industries occupied by

incubator companies to demonstrate that these companies have above average “multiplier” impacts on the Sarasota County economy.

## **B.2 Overview of Economic Tools and Incentives to Catalyze Regional Economic Development**

Regional authorities have a number of tools and mechanisms through which they may act to catalyze economic development beyond marketing their regions to prospective employers, federal authorities, and consumers. The following brief overview of economic tools and incentives is segmented into two general categories – incentives and partnership programs.

Simply put, incentive programs aim to offset the costs of locating and operating within a region, thereby attracting, retaining, and stimulating business and its growth. Incentive programs are most commonly known for their role in attracting large employers in industries with high labor income and employment multipliers. For firms that have tax liabilities, R&D tax credits offset those liabilities by some proportion of their R&D expenditures to stimulate or retain high value-add R&D activity in a region. But only assessing these benefits that the employers bring to a region underestimates total impact. They also anchor activity clusters and provide both a talent draw for the region and a training ground for entrepreneurs and highly skilled workers, developing the workforce and providing stable supply of employment opportunities.

Financial incentives include:

- sales & use tax exemptions
- infrastructure improvements
- foreign trade, enterprise, and technology zones
- manufacturing tax abatements
- property tax abatements
- downtown development authorities
- research & development tax credits

Best practice in regional innovation and economic development increasingly suggests that partnership between economic development authorities and strategic industry groups can complement or even amplify direct assistance programs. Policies that implement the following alternatives rely on effective, lasting, and productive between the funding organizations, community partnerships, and business leaders:

- business incubators – creating an office and support infrastructure to support entrepreneurs in their endeavors to launch new businesses

- research and development centers – designing research institutes that align with a region's strengths and existing economy to catalyze higher-value activity in the region
- technology extension centers – learning centers for the state of the art in technology, especially in manufacturing-intensive regions
- commercialization support and gap financing – providing grants to emerging small businesses that are on the cusp of commercializing their first product or service
- workforce training programs – training centers to educate new employees, especially within in regions with large pools of unskilled labor
- networking forums and informal support systems for entrepreneurs
- shared service programs and economic resource facilitation – providing centralized support services for businesses and providing a clearinghouse through which connections may be made

Most of these mechanisms are oriented towards actively encouraging the development of activity clusters that align with a region's current and emerging strengths.

### **B.3 Prospective Analysis of Alternative 1: A Business Incubator**

The proposed incubator could be expected to attract and support up to 10 client businesses in a typical year. Firms attracted by the incubator are expected to be involved in activities such as developing web-enabled technologies and computer software as well bioscience research, medical and surgical device manufacturing, and other life science fields.

By making a series of assumptions RTI estimated potential annual economic impacts of such a proposed incubator using multipliers generated by the 2007 IMPLAN model for Sarasota County, Florida. The results of this analysis are summarized in Table B-2. The remainder of this section focuses on describing how these impacts were estimated.

**Table B-2. Prospective Total Economic Impacts of Business Incubator Alternative**

<b>Industry Description</b>	<b>Prospective Annual Impact</b>
Total Employment Impact	95
Total Labor Income Impact	\$4.8 million
Total Output Impact	\$18.8 million

Note: Excludes future graduate companies and their growth following incubation.

### **Overview of Business Incubation**

Business incubators provide services and resources to young companies to help them grow and survive the start-up period when they are most vulnerable. Once a company is relatively sustainable and is ready to expand its activities, it graduates from the incubator, making room for other new companies. In this way, incubators help encourage the creation and growth of companies that may not have been founded or succeeded without initial assistance. As a result, incubator programs are often pursued as a method for promoting regional economic growth.

The overall objective for an incubator in the region would be to facilitate the success and growth of information and life science driven technology businesses in Sarasota and Manatee Counties. This objective is consistent with the missions of the community to create a more diverse and sustainable economy that is less reliant on legacy industries such as real estate development, tourism, and agriculture. The focus may include, but not be limited to, firms involved in (a) computer software, database management digital media, web-enabled technologies, internet protocols, informatics, website design and development and (b) bioscience research, medical and surgical device manufacturing, and a broad array of related businesses in both industry sectors.

The incubator will initially provide basic incubator services over time and may grow those services as the incubator matures. The basic services to be offered will include:

- Management guidance and support (mentoring)
- Technical assistance and consulting (training, business plan, budgeting, marketing)
- Leased space for companies (real estate)
- Shared business services (receptionist, access to IT, office equipment)
- Access to resources (financial, networking, university support including technology transfer)
- Assumptions for Estimating Annual Economic Impacts of a Potential Incubator in Sarasota

Firms involved in industries targeted for the incubator are already making important contributions to the Sarasota County economy. Descriptive statistics for these industries as they currently exist are provided in Table B-3. As this table shows, these industries employed more than 1,000 individuals in Sarasota County in 2007 and generated more than \$200 million of output.

**Table B-3. Descriptive Statistics of Industries Targeted for Incubation, Sarasota County (2007)**

Industry Description	IMPLAN Code	Employment (# of employees)	Labor Income	Output
Computer Technology Industries				
Software publishers	345	104	\$8,745,776	\$30,273,256
Internet publishing and broadcasting	350	128	\$4,433,664	\$27,506,432
Data processing and web services	352	135	\$5,108,535	\$21,868,650
Life Science Technology Industries				
Electromedical and electrotherapeutic apparatus manufacturing	248	199	\$14,475,459	\$87,264,883
Analytical laboratory instrument manufacturing	254	17	\$1,061,599	\$6,203,028
Scientific research and development services	376	442	\$20,573,774	\$46,530,666
<b>Totals</b>		<b>1,025</b>	<b>\$54,398,807</b>	<b>\$219,646,915</b>

Source: IMPLAN, 2009

The proposed incubator has the potential to encourage growth in these industries by fostering the creation of businesses that may not have been created or would not have survived without incubation. The creation of these businesses could generate significant impacts through out the Sarasota County economy. In order to estimate these prospective economic impacts we need to know a collection of things about the firms that will might be created. In particular, we need to know:

- Where will their customer base be located—inside or outside Sarasota County?
- Which industries will incubated firms occupy?
- How many employees will the incubated companies employ in a typical year?
- How much income will the employees employed by the incubator receive?
- How much output will incubated firms produce?

Since this is a prospective analysis, we cannot answer these questions with absolute certainty. Rather, we will rely on a series of assumptions that are based on publicly available economic data and RTI's experience in evaluating incubator projects. The

assumptions made to answer each of these five questions are detailed below.

First, where is the customer base of incubated firms located? As described in Section B.1, a new firm can only generate economic impacts if it is attracting demand from outside the region of interest—that is to say that its customer base is located outside the region. Therefore, for this analysis to estimate any impacts, we must assume that incubated firms are primarily selling their products and services to customers outside Sarasota County. Based on RTI's previous experience with business incubators, we do not believe this assumption is unrealistic. In a 2007 survey of firms that graduated from NCSU Technology Incubator, RTI found that firms that graduated from the incubator primarily served customers outside the state (the region of interest for that study) (RTI, 2007).

Second, which industries will incubated firms occupy? Since IMPLAN multipliers differ by industry, the economic impacts generated by incubated firms will depend on which industries they occupy. For this prospective analysis, we assume that all 10 companies will occupy the industries that are listed in Table B-2. RTI assumed that the 10 firms would be split evenly between the two types of industry being targeted by the incubator—5 firms would be among the computer-based technology industries and 5 firms would be among the life-science technology industries. RTI then allocated the firms based on relative output. For example, we assume that 5 firms will be in one of the three computer-based technology industries. Since software publishers generated approximately 40% of the combined output of these 3 industries in 2007, we allocate 40% of the 5 firms to this industry.

Third, how many employees will incubated companies employ? Based on RTI's experience with previous studies of technology incubators, one can expect that a typical incubated company could employ up to 4 full-time employees during their incubation period and substantially more following graduation (RTI, 2007). Returning to the previous example, this means that we assume that the two new software publishing firms will employ a total of 8 FTEs ( $2 \times 4 = 8$ ). This is considered the direct employment impact of each firm.

Fourth, how much income will employees employed by incubated companies receive? We can estimate the average income per employee of these employees using the data reported in Table B-2. Specifically, we assume that the average labor income received by employees in incubated firms will be the same as the average labor income received by employees in their respective industries. This can be calculated by taking total labor income generated by a specific industry and dividing it by the total number of employees employed in that industry. For example, labor income in the software publishing industry is approximately

\$84,000 per employee. We can then use labor income per employee to estimate the direct labor income impact of incubated firms by multiplying it by the number of employees they employ. For example, the direct labor income impact of firms in the software publishing industry is approximately \$672,000 (2 firms x 4 employees per firm x \$84,000 per employee).

Fifth, how much output will incubated firms produce? Similar to labor income, we can use data reported in Table B-2 to estimate the total output produced by incubated firms. We assume that incubated firms have the same average output per employee ratio as other firms in their respective industries. For example, the average output per employee in the software publishing industry is approximately \$291,000. This ratio estimates the total output of hypothetical firms by multiplying it by the number of employees they employ. For example, the total output generated by the 2 firms we assumed to be in the software publishing industry will be approximately \$2 million (2 firms x 4 employees per firm x \$291,000 per employee).

Based on these 5 assumptions, we now have a detailed set of the direct impacts that might be created by incubated firms. These direct impacts are summarized in Table B-4. It should be noted that these direct impact estimates only consider the economic impact of 10 incubated firms. This is important because, as discussed in Section B.3.1, firms are not intended to stay incubator clients forever. Once a firm has grown to the point it can succeed without incubator services, it "graduates" and moves out of the incubator, thus making room for new firms.

So long as incubator graduates remain operating in Sarasota County, they will continue to impact the county's economy. Thus, impacts will accelerate and accumulate over time.

**Table B-4. Direct Annual Impact Assumptions for Incubator Alternative Analysis**

<b>Industry Description</b>	<b>IMPLAN Code</b>	<b>Direct Annual Impacts (# of employees)</b>	<b>Direct Annual Labor Income Impact (thousands)</b>	<b>Direct Annual Output Impact (thousands)</b>
<b>Computer Technology Firms</b>				
Software publishers	345	8	\$673	\$2,329
Internet publishing and broadcasting	350	8	\$277	\$1,719
Data processing web services	352	4	\$151	\$648
<b>Life Science Technology Firms</b>				
Electromedical and electrotherapeutic apparatus manufacturing	248	12	\$873	\$5,262
Analytical laboratory instrument manufacturing	254	4	\$250	\$1,460
Scientific research and development services	376	4	\$186	\$421
<b>Total Direct Annual Impacts</b>		<b>40</b>	<b>\$2,410</b>	<b>\$11,839</b>

Prospective Economic Impact

Inter-industry impacts can be represented mathematically using multipliers. The multipliers for the industries that are the subject of this analysis are presented in Table B-5.

**Table B-5. Multipliers for Industries Targeted for Incubation, Sarasota County (2007)**

<b>Industry Description</b>	<b>IMPLAN Code</b>	<b>Total Employment Impact Multiplier</b>	<b>Total Labor Income Multiplier</b>	<b>Total Output Impact Multiplier</b>
<b>Computer Technology Firms</b>				
Software publishers	345	2.8	1.9	1.7
Internet publishing and broadcasting	350	1.7	1.9	1.4
Data processing and web services	352	2.1	2.1	1.8
<b>Life Science Technology Firms</b>				
Electromedical and electrotherapeutic apparatus manufacturing	248	2.7	2.1	1.6

Industry Description	IMPLAN Code	Total Employment Impact Multiplier	Total Labor Income Multiplier	Total Output Impact Multiplier
Analytical laboratory instrument manufacturing	254	2.6	2.2	1.6
Scientific research and development services	376	1.8	1.7	1.8

Source: IMPLAN, 2009

The multipliers estimated for many of these industries are higher than the average and median multipliers reported in Table B-1 for all industries in the Sarasota County economy. This indicates that changes in final demand for products produced by these industries will have larger impacts on the Sarasota economy as a whole than changes in final demand for products produced in most other industries. Therefore, to the extent the incubator focuses on encouraging the creating of firms in technology-based industries such as these, it will be targeting industries with comparatively higher economic impacts.

To estimate the total annual impact that incubated firms will have on the Sarasota County economy, we multiply the direct impacts reported in Table B-4 for each industry by their respective multipliers in Table B-5. For example, since we assume that 8 FTEs will be employed by two firms in the software publishing industry, and the multiplier for this industry is 2.8, we can say that these two firms will generate 14.8 jobs in other industries through out the Sarasota economy, resulting in total job creation of 22.8.

Table B-6 summarizes the total annual economic impact of incubated firms by industry. As this table indicates, based on our assumptions, we can estimates that firms supported by the incubator could generate approximately 23 jobs, \$4.8 million in labor income, and \$19 million in output.

**Table B-6. Prospective Total Impacts of Incubator Alternative**

Industry Description	IMPLAN Code	Total Employment Impacts (# of employees)	Total Annual Labor Income Impact (thousands)	Total Annual Output Impact (thousands)
<b>Computer Technology Firms</b>				
Software publishers	345	22.8	\$1,247	\$3,860
Internet publishing and broadcasting	350	13.7	\$518	2,438

Industry Description	IMPLAN Code	Total Employment Impacts (# of employees)	Total Annual Labor Income Impact (thousands)	Total Annual Output Impact (thousands)
Data processing and web services	352	8.2	\$322	\$1,149
Life Science Technology Firms				
Electromedical and electrotherapeutic apparatus manufacturing	248	32.7	\$1,865	\$8,260
Analytical laboratory instrument manufacturing	254	10.3	\$547	\$2,303
Scientific research and development services	376	7.2	\$313	\$777
Total Annual Economic Impacts		94.9	\$4,812	\$18,786

**B.4 Prospective Analysis of Alternative 2: Aging Center**

A second alternative for promoting regional economic growth is the creation of a Center for Aging & Medical Sciences. By making a series of assumptions RTI estimated potential annual economic impacts of such a proposed center using multipliers generated by the 2007 IMPLAN model for Sarasota County, Florida. The results of this analysis are summarized in Table B-8. The remainder of this section focuses on describing how these impacts were estimated.

**Table B-8. Prospective Economic Impacts of Research Center Alternative**

Industry Description	Prospective Annual Impact
Total Employment Impact	706 to 758 jobs
Total Labor Income Impact	\$30 to \$32 million
Total Output Impact	\$76 to \$82 million

Overview of Center Strategy

In this analysis we estimate the center will be 25,000 square feet in size and cost approximately \$6 million in initial development. Once the facility is constructed it will require \$750,000 per year in annual operations.

The center will be the home to

- a research center for data collection and analysis of aging population trends and demographics that aggregates demand for clinical trials,
- a training/learning center, which will serve the local community and also provide specialty training courses to individuals from outside Sarasota County, and
- approximately 10 related businesses that will support research being conducted at the facility.

The research center is assumed to employ between 7 and 15 employees. In addition to research activities being performed by the center itself, it also is also expected to stimulate research among 3 hospitals and 10 medical specialists with whom it shares contractual relationships.

#### **Assumptions for a Center in Sarasota**

The proposed center has the potential to encourage growth in a variety of industries through (1) new research funding attracted to Sarasota County (which will be received by the center and its contractual partners) and (2) new visitors to Sarasota County seeking training at the center or specialized medical services (known as medical tourists). In this analysis, we will analyze the economic impacts of the proposed center's research activities separate from the impact of visitors to Sarasota County.<sup>10</sup>

#### **Assumptions for Estimating the Economic Impact of Center's Research Activities**

First, where will research funding for the center come from? We assume that the majority of the center's funding will originate from sources outside Sarasota County.

Second, which industry will these research funds impact? For the purposes of this analysis, we will be treating the economic impact of the center as an increase in the final demand for scientific research and development services produced in Sarasota County. In 2007, this industry employed 442 employees, earning \$21 million in labor income, and producing \$47 million of output (Table B-9).

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<sup>10</sup> The 10 businesses supporting the Aging Center are excluded from this analysis because they are essentially just local businesses providing products and services to support the growing scientific research industry. Therefore, conceptually the creation of these businesses represents an indirect impact of the center that should be captured in the multiplier process and therefore included in the IMPLAN multipliers.

Table B-9. Descriptive Statistics of Scientific Research Industry, Sarasota County (2007)

Industry Description	IMPLAN Code	Employment (# of employees)	Labor Income	Output
Scientific research and development services	376	442	\$20,573,774	\$46,530,666

Source: IMPLAN, 2009

Third, how many employees will the center and its contractual affiliates employ? In this analysis, we assume the center might employ 7-15 individuals engaged in research activities at the center itself. In addition, we also estimate the center will help foster research at other organizations through its contractual relationships. As research activities expand at other organizations, they will have to hire additional employees to meet the new and growing research needs. Discussions with various companies in the region already doing work in sectors related to this center reveal that as many as 300 new researchers could be employed as a result of expanding activities at the center's contractual partners. In total, this analysis will assume that 310 new employees will be employed in the scientific research industry. This is the direct employment impact of the center and its contractual partners.

Fourth, how much income will these employees receive? We assume that employees employed at the Aging Center and its contractual partners will receive the industry average income per employee: \$47,000. We can then use labor income per employee to estimate the direct labor income impact of incubated firms by multiplying it by the number of employees they employ. Therefore, we estimate that the direct labor income impact of the center and its contractual partners will be approximately \$14 million.

Fifth, How much output will output will the center itself produce? We assume that the same average output per employee ratio as other firms in their respective industries holds: approximately \$105,000. We can use this ratio to estimate the total output of our hypothetical firms by multiplying it by the number of employees they will employ. Based on this calculation we estimate the center and its contractual partners will produce \$33 million of research activity (310 employees per firm x \$105,000 per employee).

Based on these 5 assumptions, we now have a detailed set of the direct impacts that might be created by the center. These direct impacts are summarized in Table B-10.

**Table B-10. Direct Annual Impact Assumptions for Research Center Alternative Analysis**

Industry Description	IMPLAN Code	Direct Annual Employment Impacts (# of employees)	Direct Annual Labor Income Impact (thousands)	Direct Annual Output Impact (thousands)
Scientific research and development services	376	310.0	\$14,430	\$32,635

**Assumptions for Estimating the Economic Impact of New Trainees and Medical Tourists**

In addition to the economic impacts generated by research activity, we can also expect economic impacts to be generated by new visitors attracted to Sarasota County. In order to estimate the economic impact of these visitors, we must estimate:

How many new visitors will be attracted to Sarasota County each year and how long will they stay?

How much will these visitors spend during their visit?

What will these visitors spend their money on?

How can visitor spending be expressed in terms of employment and labor income?

First, how many new visitors will be attracted to Sarasota County each year and how long will they stay? The training program is expected to attract between 1,500 and 2,000 individuals from outside Sarasota County each year, with each individual staying an average of 5 days. In addition, 1,000 new individuals may start seeking specialized medical services inside Sarasota County as the center grows. In order to estimate the impact of these visitors, we assume that they have the same per day spending habits as individuals visiting for training, but that they stay an average of 3 to 4 weeks

Second, how much will these visitors spend during their visit? Based on conversations with individuals close to the center project, people visiting the region to attend the center's training program are expected to spend approximately \$2,000 during their 5 day stay, or \$300-400 per day. Due to a lack of data for spending estimates for individuals traveling to Sarasota County to seek specialized medical services, this is also the per day estimate that will be used for medical tourists. However, it should be noted that this will likely underestimate the impact of medical tourists on the county because it does not take into account the amount they spend on medical procedures inside the county.

Third, what will visitors spend their money on? In order to determine how visitor expenditures will impact the Sarasota County economy, we must make several assumptions about they spend their money each day. For the purposes of this analysis, we assume that visitor spending falls into four primary categories:

- Lodging (Hotels/Motels),
- Food and Drink,
- Car Rental, and
- General Retail Merchandise.

We assume that \$250 per day goes to lodging, \$40 per day goes to food and drink, \$70 per day goes to car rental, and \$40 per day goes to general retail merchandise. This is the direct output impact of visitors. Industries providing these goods and services already contribute significantly to the Sarasota County economy. As Table B-11 indicates, these industries provided almost 19,000 jobs and generated more than \$1 billion in output in 2007.

**Table B-11. Descriptive Statistics of Industries Impacted by Visitors, Sarasota County (2007)**

Industry Description	IMPLAN Code	Employment (# of employees)	Labor Income (\$2007)	Output (\$2007)
Retail Stores - General merchandise	329	3,252	\$78,210,600	\$172,720,224
Automotive equipment rental and leasing	362	227	\$9,478,385	\$41,635,205
Hotels and motels- including casino hotels	411	1,621	\$61,627,178	\$174,351,518
Food services and drinking places	413	13,879	\$302,367,894	\$827,618,649
Total		18,979	\$451,684,057	\$1,216,325,596

Source: IMPLAN, 2009

Fourth, how can visitor spending be expressed in terms of employment and labor income? Since employees must be hired to provide the products and services that visitors buy, visitor impacts can also be expressed in terms of employment and labor income. We can do this by using the data in Table B-11 to estimate the ratio of employment and labor to purchased output. For example, it takes 0.00002 employees (13,879 / \$828 million) and \$0.365 of labor income (\$302 million / \$828 million) to produce \$1 of food and drink purchased by visitors.

We can use these ratios to estimate the direct employment and labor income impacts of visitor spending by multiplying them by the money visitors are expected to spend in Sarasota County. For example, since visitors are assumed to spend \$40 per day on food and drink, this means they are generating a direct impact of 0.0007 jobs and \$15 of labor income.

Using these four assumptions we can create daily direct impacts measures, which are reported in Table B-12.

**Table B-12. Estimated Daily Direct Impact per Visitor, per Day**

Industry Description	IMPLAN Code	Direct Daily Employment Impacts	Direct Daily Labor Income Impact	Direct Daily Output Impact
Retail Stores - General merchandise	329	0.0008	\$18	\$40
Automotive equipment rental and leasing	362	0.0004	\$16	\$70
Hotels and motels- including casino hotels	411	0.0023	\$88	\$250
Food services and drinking places	413	0.0007	\$15	\$40
<b>Total</b>		<b>0.0036</b>	<b>\$124</b>	<b>\$371</b>

**Prospective Economic Impact**

As discussed in Section B.1, direct economic impacts result from increases in final demand for products produced by one industry ripple through the economy to other industries. We used a series of assumptions to create potential direct impacts of the creation of an aging center both in terms of the research activities it will promote and the new visitors to Sarasota County it will attract. For convenience, we will present the prospective economic impacts of the proposed center's research activities separate from the impact of visitors to Sarasota County the center will attract.

**Prospective Economic Impact – Center Research Activities**

The multipliers for the scientific research industry are presented in Table B-13. As one can see, the multipliers for this industry are fairly close to the average multipliers for all industries in Sarasota County (reported in Table B-1).

**Table B-13. 2007 Multipliers for Scientific Research Industry, Sarasota County (2007)**

Industry Description	IMPLAN Code	Total Employment Impact Multiplier	Total Labor Income Multiplier	Total Output Impact Multiplier
Scientific research and development services	376	1.8	1.7	1.8

Source: IMPLAN, 2009

Multiplying the direct impacts noted in Table B-12 by these multipliers yields our measures of total economic impact, which are reported in Table B-14. As this table indicates, the research activities of the center are expected to result in creating 551 jobs, \$24 million in labor income, and approximately \$60 million of output.

**Table B-14. Prospective Annual Impacts of Center Research Activity**

Industry Description	IMPLAN Code	Direct Employment Impacts (# of employees)	Direct Labor Income Impact (thousands)	Direct Output Impact (thousands)
Scientific research and development services	376	551.3	\$24,036	\$59,609

**Prospective Economic Impact of New Visitors to Sarasota County**

The multipliers necessary for computing the economic impact of visitors to the center and medical tourists are provided in Table B-15. The multipliers reported for these industries are typically (with the exception of automotive equipment rental) close to the average for all industries as reported in Table B-1.

Table B-15. Multipliers for Industries Supported by Visitors, Sarasota County (2007)

Industry Description	IMPLAN Code	Total Employment Impact Multiplier	Total Labor Income Multiplier	Total Output Impact Multiplier
Retail Stores - General merchandise	329	1.2	1.4	1.5
Automotive equipment rental and leasing	362	2.1	2.1	1.7
Hotels and motels- including casino hotels	411	1.5	1.6	1.5
Food services and drinking places	413	1.3	1.5	1.5

Source: IMPLAN, 2009

We can also use IMPLAN multipliers to estimate the total economic impact of the visitors the Aging Center is intended to attract. This can be done by multiplying the multipliers for each industry by the direct impacts reported in Table B-12. However, unlike before, we must take into account that we do not know what bundle of goods will be purchased from retail stores. This information is necessary to fully estimate the economic impact of these purchases because the general merchandise industry only provides retail services, while other industries produce the products they sell. When this is the case, the Minnesota IMPLAN Group recommends that only the retail services being provided be taken into account when computing economic impact estimates (IMPLAN, 2008). According to 2007 IMPLAN data for Sarasota County, the retail margin is 23.7%. Therefore, to only estimate the direct impact of the retail margins themselves, we must multiply the direct impact on the general merchandise retail sector 23.7%. As a result, only \$11 per day of visitor spending will be included in the following total economic impact calculations.

After multiplying the direct impacts in Table B-12 by the multipliers in Table B-15 we calculate the total daily economic impact of visitors, which is reported in Table B-16. This table indicated that 0.005 jobs, \$200 of labor income, and \$585 of output will be generated per day by visitor expenditures.

**Table B-16. Total Estimated Impact per Visitor, per Day**

<b>Industry Description</b>	<b>IMPLAN Code</b>	<b>Total Daily Employment Impacts</b>	<b>Total Daily Labor Income Impact</b>	<b>Total Daily Output Impact</b>
Retail Stores - General merchandise	329	0.0003	\$6.9	\$16.8
Automotive equipment rental and leasing	362	0.0008	\$33.9	\$121.3
Hotels and motels- including casino hotels	411	0.0035	\$137.2	\$386.9
Food services and drinking places	413	0.0008	\$21.4	\$59.9
<b>Total Daily Impacts</b>		<b>0.0054</b>	<b>\$199.4</b>	<b>\$584.8</b>

If we assume that 1,500-2,000 individuals visit for training for 5 days each year, we can use these total daily impact estimates to calculate annual impact estimates. These calculations reveal that individuals visiting Sarasota County to attend the aging Center's program will create:

41 to 54 jobs

\$1.5 to 2 million of labor income, and

\$4 to 6 million of output each year.

Similarly, if we assume that 1,000 individuals visit Sarasota County seeking specialized medical services for 3-4 weeks each, we can estimate that these visitors will create:

114 to 152 jobs,

\$4 to 5 million of labor income, and

\$13 to 16 million in output each year.

A summary of the combined impact of individuals visiting for training and individuals visiting to receive specialized medical services is presented in Table B-17.

Table B-17. Prospective Annual Impact of New Visitors to Sarasota County

Industry Description	IMPLAN Code	Total Annual Employment Impacts	Total Annual Labor Income Impact (thousands)	Total Annual Output Impact (thousands)
Retail Stores - General merchandise	329	7.3-9.7	\$198 - \$264	\$478 - \$638
Automotive equipment rental and leasing	362	23-30.7	\$967 - \$1,289	\$3,457 - \$4,609
Hotels and motels- including casino hotels	411	100.5-134.1	\$3,909 - \$5,212	\$11,026 - \$14,701
Food services and drinking places	413	23.9-31.9	\$610 - \$814	\$1,707 \$2,276
Total Annual Impacts		154.8-206.4	\$5,684 - \$7,579	\$16,667 - \$22,223

References:

RTI International. 2007. "Maryland Incubator Impact Analysis and Evaluation of Additional Incubator Capacity." Prepared for the Maryland Technology Development Corporation.

RTI International. 2007. "Maryland Incubator Impact Analysis and Evaluation of Additional Incubator Capacity." Prepared for the Maryland Technology Development Corporation.

IMPLAN.

## APPENDIX C: Glossary of Terms

**BRE:** business retention and expansion is an economic tool to assist local businesses with issues in order to keep them competitive and successful.

**Economic gardening:** a proactive method for growing local economies by nurturing entrepreneurial businesses, both start-ups and existing businesses, who want to grow. Typically, attention is paid to businesses with 10-100 employees, and which have other desired growth characteristics.

**Eschewed lots:** land that the public owned that reverted to private ownership in exchange for compensation.

**“Green” jobs:** jobs that are generated by any of a variety of activities focused on environmentally-friendly practices, such as energy conservation, water conservation and re-use, low impact development, energy generation from solar power or wind, etc.

**High Value Company or Industry:** an enterprise or industry that provides higher than average value to the community in terms of wages, multiplier effect, new wealth creation, or growth potential. Often associated with the term “value-added industry.”

**Industry Cluster:** a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular industry. Clusters are considered to increase companies' productivity and competitiveness.

**Infrastructure:** usually refers to streets and roads, water lines and treatment facilities, sewer and storm water lines and treatment facilities, and utilities such as natural gas and electric power.

**Local procurement:** the practice of securing goods and services from local vendors as opposed to those from outside the region.

**Location quotient (LQ):** A primary determinant for industry competitiveness, the location quotient represents the concentration of employment in a given area. The location quotient is defined as the regional concentration of employment for a specific industry compared to the average concentration of employment for that industry in the U.S. Industries with a concentration the same as the U.S. have a LQ of 1.0; those with regional concentrations greater than the U.S. have LQs greater than 1.0; and those with lower than average concentrations have LQs less than 1.0.

**Public assets:** typically land, buildings, or infrastructure owned by a public entity.

**Public investments:** public funds spent on projects and programs; examples could be public housing projects or building streets.

**Public resources:** funding from government entities at all levels (federal, state, local).

**Locally-controlled Incentives:** usually tax benefits or financial support to incentivize businesses to locate, expand, or remain in a region.

**Sustainable development:** a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for future generations.

**Traded sector:** companies or industries that sell their goods and services outside the local area thereby bringing new wealth into a region.

**Trajectory of profitability:** the time it takes for businesses to expand their profits in order to fund expanded employment and company operations.

**Value chain:** the eco-system of suppliers, vendors, customers and competitors that exist around businesses and industries.

**Value Added Industries:** manufacturing, utilities/energy, wholesale trade, transportation, information services, financial services, professional and technical services, and management of companies sectors.