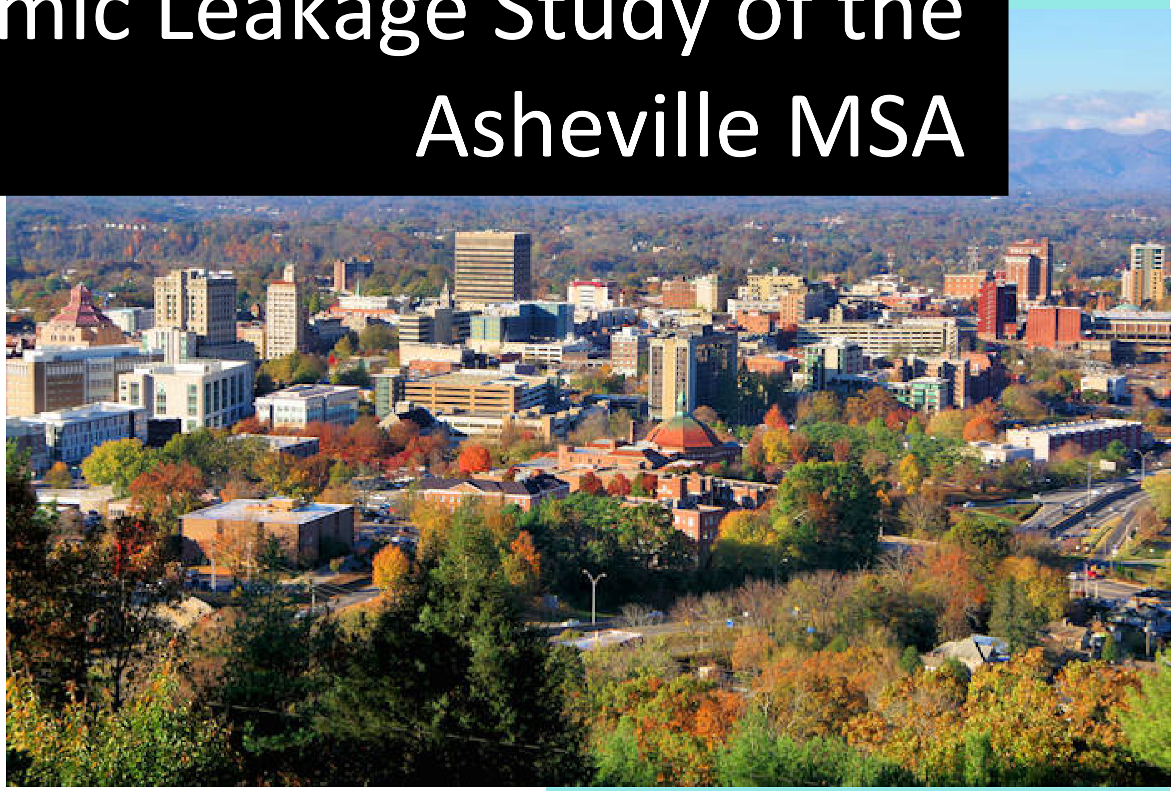
Western North Carolina New Economy Coalition

Economic Leakage Study of the Asheville MSA



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Executive Summary

The Western North Carolina New Economy Coalition requested an economic leakage study of the Asheville Metropolitan Statistical Area (Asheville, MSA). "Leakage" refers to areas within the economy where goods and services are procured or "imported" outside of the local region. The NEC seeks to utilize this "leakage" information to examine potential local market opportunities for new minority business creation and/or existing minority business expansion. This study is funded by the City of Asheville.

The Asheville MSA is comprised of Buncombe County, Henderson County, Haywood County, and Madison County.

Demographics

Out of the 446,840 within the Asheville MSA, approximately 86% are White, 7% Hispanic, and 4% are Black. American Indian, Asian, and Pacific Islander each represent less than 1% of the population.

Businesses in Asheville

According to 2015 U.S. Census Bureau *County Business Pattern* data, the Asheville MSA has 12,163 employer establishments and 42,010 non-employer[1] establishments (see Table 1). There are 159,295 paid employees. Of the 12,163 employer establishments, the largest industry sectors are Retail Trade represents 1,916 (16%), Health Care and Social Assistance (11%), Professional, Scientific, and Technical Services (11%), and Construction (11%) of all establishments.

The Health Care and Social Assistance industry has the highest number of employees (34,060) and comprises 21% of all paid employees. Retail Trade (17%) has 26,452 paid employees, Accommodation and Food Services (14%) with 23,086 employees, followed by Manufacturing (12%) with 19,709. 61% of all employer firms have less than 100 paid employees.

92% of Asheville MSA's business owners are White, 3% Hispanic, 2% Black or African American, 2% Asian, and 1% American Indian and Alaska Native.

Industry Clusters

Traded clusters are industries that serve markets beyond the region in which they are located. The Asheville MSA has 375 traded cluster establishments with 45,833 employees. Based on paid employees, the top traded clusters in the Asheville MSA are: Hospitality and Tourism (5,889), Business Services (5,359), Distribution and Electronic Commerce (5,225), Production Technology and Heavy Machinery (3,741), and Education and Knowledge Creation (3,085). The traded clusters with the highest job growth are: Production Technology and Heavy Machinery (2,455), Business Services (781), Education and Knowledge Creation (384), Vulcanized and Fired Materials (381), Aerospace Vehicles and Defense (375), Construction Products and Services (326), Lighting and Electrical Equipment (315), and Hospitality and Tourism (293). The traded clusters with the greatest job loss for this time period are: Distribution and Electronic Commerce (-988), Apparel (-338), Printing Services (-310), Insurance Services (-270),

[1] Non-employer businesses have no paid employees and are subject to federal income tax. Most non-employers are self-employed individuals operating sole proprietorships, which may or may not be the owner's principal source of income. The majority of all business establishments in the United States are non-employers, yet these firms average less than 4 percent of all sales and receipts nationally.[1]

Transportation and Logistics (-238), and Marketing, Design, and Publishing (-181). The Medical Devices traded cluster had the highest average wage at $85,851. The Recreational and Small Electric Goods cluster had the lowest average wage at $11,550

Local clusters consist of industries that serve the local market. The Asheville MSA has 292 local cluster establishments employing 116,984 employees. 67% of all local cluster firms have 100 employees or less. In contrast, 44% of traded cluster firms have less than 100 employees. The top local industry clusters by number of paid employees are: Local Health Services (31,475), Local Hospitality Establishments (20,634), Local Real Estate, Construction, and Development (11,545), Local Food and Beverage Processing and Distribution (9,119), Local Commercial Services (7,558), and Local Community and Civic Organizations (7,289). The highest local cluster performers are: Local Hospitality Establishments (4,210), Local Health Services (2,286), Local Food and Beverage Processing and Distribution (2,275), and Local Commercial Services (496). Hospitality and Food and Beverage far exceeded expected job creation based on national growth. Commercial Services fell short of expected job growth. The local clusters with the greatest job loss are: Local Retailing of Clothing and General Merchandise (-2,332), Local Real Estate, Construction, and Development (-1,560), and Local Entertainment and Media (-375). The Local Utilities cluster had the highest average wage at $62,020. The Local Hospitality Establishments cluster had the lowest average wage at $17,029.

Economic Leakage (Import/Export) Analysis

The U.S. is a highly self-reliant economy with only 15.4% of its GDP spent on imports. As a result, it is used as the benchmark to determine import probability. Utilizing averages of similarly sized MSAs, Asheville MSA's number of paid employees are compared to the national average. If the percentage is significantly higher than the national average, the industry is most likely exporting goods and/or services from the Asheville MSA. If the percentage is significantly lower than the national average, it has a high probability of economic leakage and is a candidate to consider for import substitution. This import analysis is done at the NAICS industry level.

INDUSTRIES EXCEEDING THE NATIONAL AVERAGE

Industries exceeding the national average include: Continuing care retirement communities (338%), Reupholstery and furniture repair (286%), Offices of mental health practitioners (except physicians) (275%), Temporary shelters (252%), Pet care (except veterinary services) (247%), Breweries (242%), Book stores (219%), Caterers (117%), Child day care services (115%), and Beauty Salons (115%).

INDUSTRIES WITH ECONOMIC LEAKAGE SERVING AS CANDIDATES FOR IMPORT SUBSTITUTION

Industries with high probability of economic leakage include: School and employee bus transportation (1%), Document preparation services (11%), Home and garden equipment repair and maintenance (12%), Barber shops (14%), General freight trucking, local (23%), Nail salons (23%), Clothing accessories stores (9%), Armored car services (22%), Drywall and insulation contractors (28%), Convenience stores (31%), Baked goods stores (33%), Framing contractors (32%), Security guards and patrol services (39%).

Entrepreneurial Ecosystem

Over 30 minority businesses, business development and support organizations, supplier diversity professionals, and key community stakeholders were interviewed to capture anecdotal information about the entrepreneurial ecosystem in the Asheville MSA. These comments were mapped to the Entrepreneurial Ecosystem Domain model developed by Babson College.

Minority Businesses in the Asheville MSA

387 minority business firms were identified during the course of this economic leakage study. Information about each of the firms is also provided.

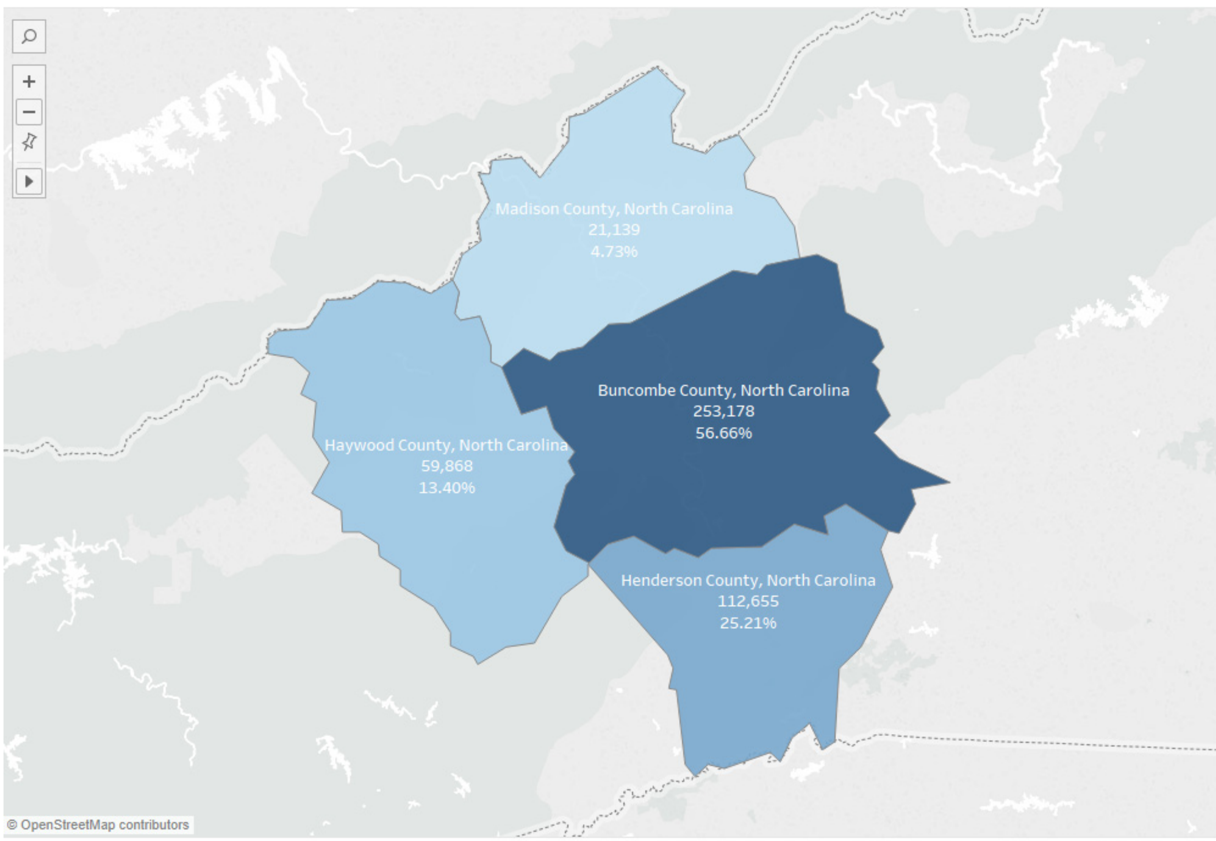
Introduction

The Western North Carolina New Economy Coalition (NEC) seeks to identify the economic leakage of the Asheville Metropolitan Statistical Area (Asheville MSA). "Economic leakage" is the procurement of goods and services from businesses located outside of the local community that could be plausibly provided by new or existing local businesses. This "leakage" information will be used to determine potential local market opportunities for new minority business creation and/or existing minority business expansion. The study conducted to generate this report was funded by the City of Asheville.

In addition to economic leakage, this report includes contextual data about the demographics of the Asheville MSA and information about the industry clusters in the region.

The Asheville MSA is comprised of the four (4) counties: Buncombe, Haywood, Henderson, and Madison. This MSA covers approximately 2,033 miles.

Figure 1: Asheville MSA County Population Distribution, 2015



Source: U.S. Census Bureau, Population Division, 2016

Demographics of Asheville MSA

POPULATION

According to the U.S. Census Bureau, the 2015 total population for the Asheville MSA is 446,840, a change of 20,976 (5%) from 2010 (416,276). Asheville's population ranked 116th out of 381 MSAs in 2015 (50th Quartile of the U.S.). As shown in Figure 1 on page 1, Buncombe County comprises 57% of the Asheville MSA followed by Henderson County (25%), Haywood County (13%), and Madison County (5%).

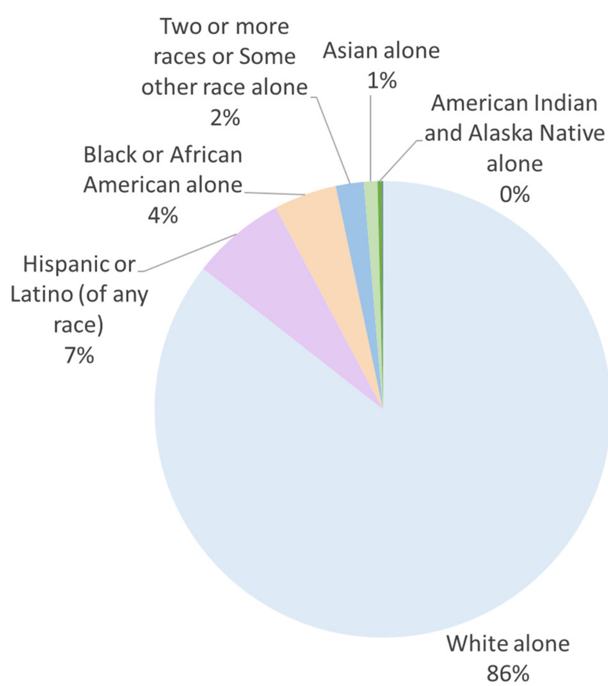
GENDER

The gender distribution in the Asheville MSA is 52% Female (226,060) and 48% Male (211,192).

RACE AND ETHNICITY

Figure 2 shows the race distribution in the Asheville MSA. Approximately 86% of the population is White, 7% is Hispanic, and 4% is Black. American Indian, Asian, and Pacific Islander each represent less than 1% of the population.

Figure 2: 2015 Asheville MSA Race and Ethnicity Distribution

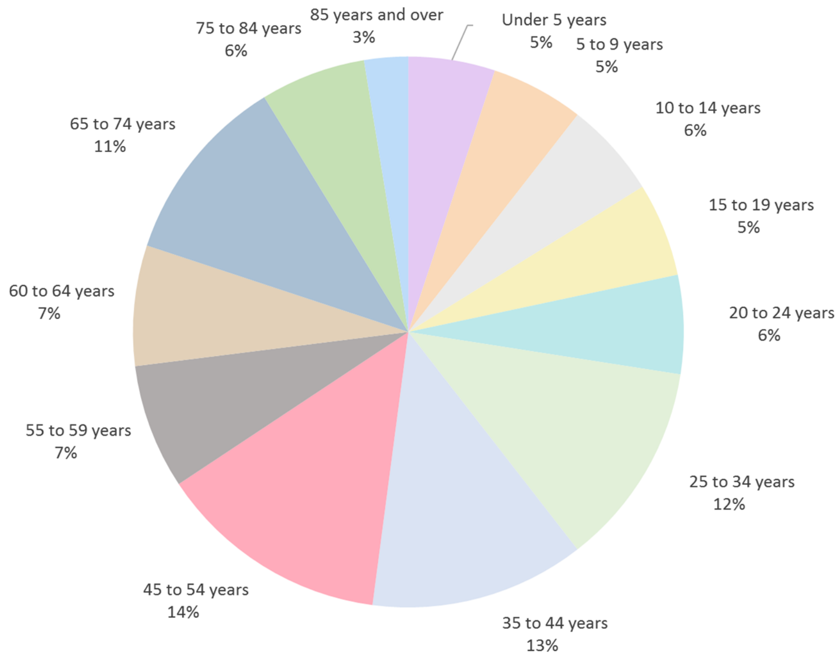


Source: U.S. Census Bureau, Population Division, 2017

AGE

Figure 3 illustrates the age distribution in the Asheville MSA. 21% of the population is 19 years of age and younger, 59% between ages 20 and 64, and 20% are 65 years of age and older.

Figure 3: Asheville MSA Age Distribution (Source: US Census Bureau)



Source: U.S. Census Bureau, 2016

Asheville MSA Business Overview

NAICS Industry Sectors

According to 2015 U.S. Census Bureau *County Business Pattern* data, the Asheville MSA has 12,163 employer establishments and 42,010 non-employer[2] establishments. There are 159,295 paid employees.

Table 1 provides summary data at the highest NAICS level on the number of establishments and number of paid employees in the Asheville MSA. Detailed levels by NAICS code contain missing values for the number of paid employees and payroll information. When data is missing, it is either (1) withheld to avoid disclosing data for individual companies, (2) not available, or (3) not comparable.

For this study, missing values have been estimated/extrapolated based on the information provided (i.e. number of establishments and establishment size). Estimating missing information provides for analysis at a granular level that can be utilized for strategy development.

Table 1: Asheville MSA Employer Non-Employer Data by Industry Sector, 2015 (Source: US Census Bureau)

		Employers		Non-Employers	
NAICS Code	NAICS Industry Sector	No. Establishments	No. Paid Employees	No. of Establishments	Receipts ($1,000)
00	Total for all sectors	12,163	159,295	42,010	1,710,526
11	Agriculture, forestry, fishing and hunting	17	68	354	13,550
21	Mining, quarrying, and oil and gas extraction	8	125	8	184
22	Utilities	25	609	57	4,198
23	Construction	1,289	7,578	5,845	331,564
31-33	Manufacturing	483	19,709	837	32,826
42	Wholesale trade	489	5,409	656	41,880
44-45	Retail trade	1,916	26,452	3,245	144,231
48-49	Transportation and warehousing	225	2,977	1,564	94,922
51	Information	172	1,988	583	15,874
52	Finance and insurance	625	3,848	982	51,948
53	Real estate and rental and leasing	674	2,181	4,603	360,165
54	Professional, scientific, and technical services	1,328	5,760	5,651	189,613

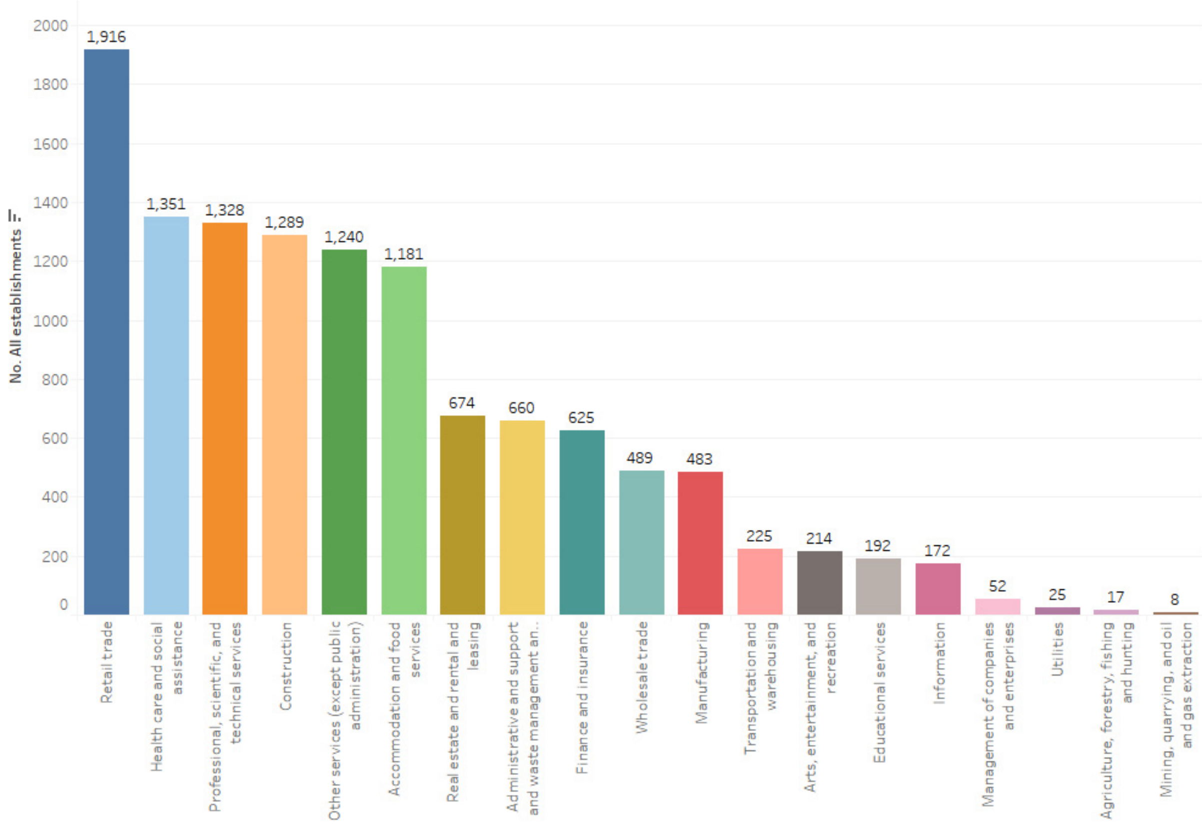
[2] Non-employer businesses have no paid employees and are subject to federal income tax. Most non-employers are self-employed individuals operating sole proprietorships, which may or may not be the owner's principal source of income. The majority of all business establishments in the United States are non-employers, yet these firms average less than 4 percent of all sales and receipts nationally.[2]

		Employers		Non-Employers	
NAICS Code	NAICS Industry Sector	No. Establishments	No. Paid Employees	No. of Establishments	Receipts ($1,000)
55	Management of companies and enterprises	52	1,716		
56	Administrative and support and waste management and remediation services	660	8,263	3,980	80,909
61	Educational services	192	4,683	1,242	15,847
62	Health care and social assistance	1,351	34,060	2,862	90,403
71	Arts, entertainment, and recreation	214	3,089	3,003	61,291
72	Accommodation and food services	1,181	23,086	664	28,585
81	Other services (except public administration)	1,240	7,681	5,874	152,536

Source: U.S. Census Bureau, 2017

Of the 12,163 employer establishments, Retail Trade represents 1,916 (16%), Health Care and Social Assistance (11%), Professional, Scientific, and Technical Services (11%), and Construction (11%) of all establishments (see Figure 4).

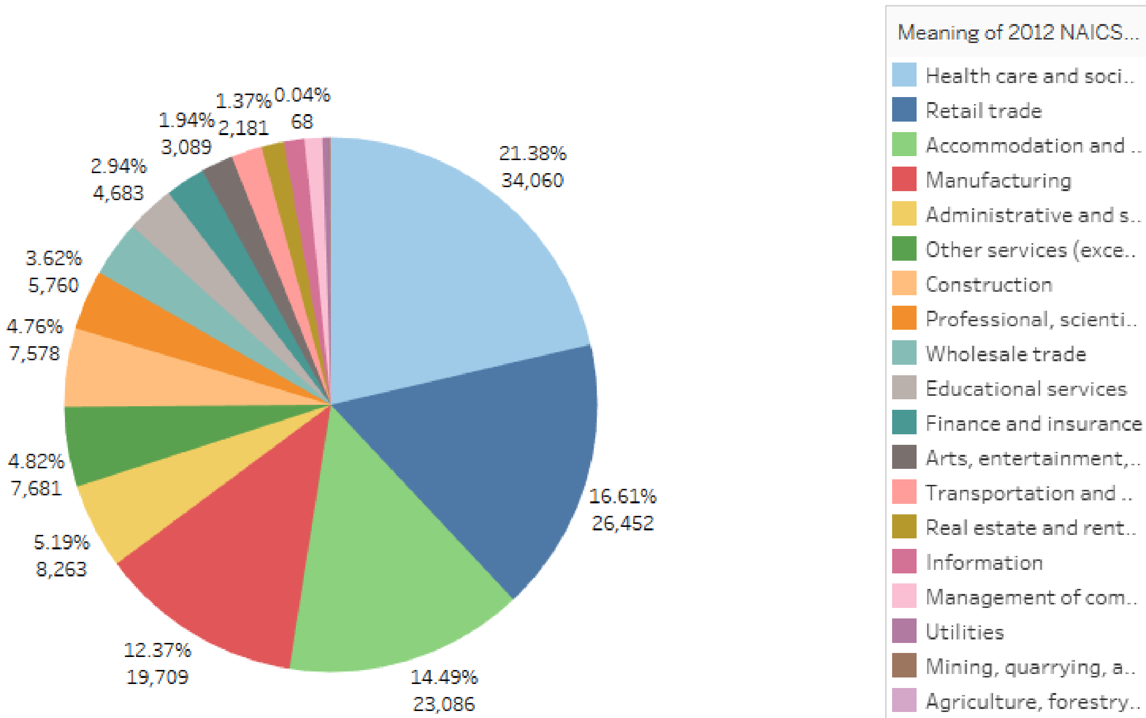
Figure 4: Number of Employer Establishments in Asheville MSA by Industry Sector, 2015



Source: U.S. Census Bureau, 2017

The Health Care and Social Assistance industry has the highest number of employees (34,060) and comprises 21% of all paid employees. Retail Trade (17%) has 26,452 paid employees, Accommodation and Food Services (14%) with 23,086 employees, followed by Manufacturing (12%) with 19,709.

Figure 5: Distribution of Paid Employees in Asheville MSA by Industry Sector, 2015

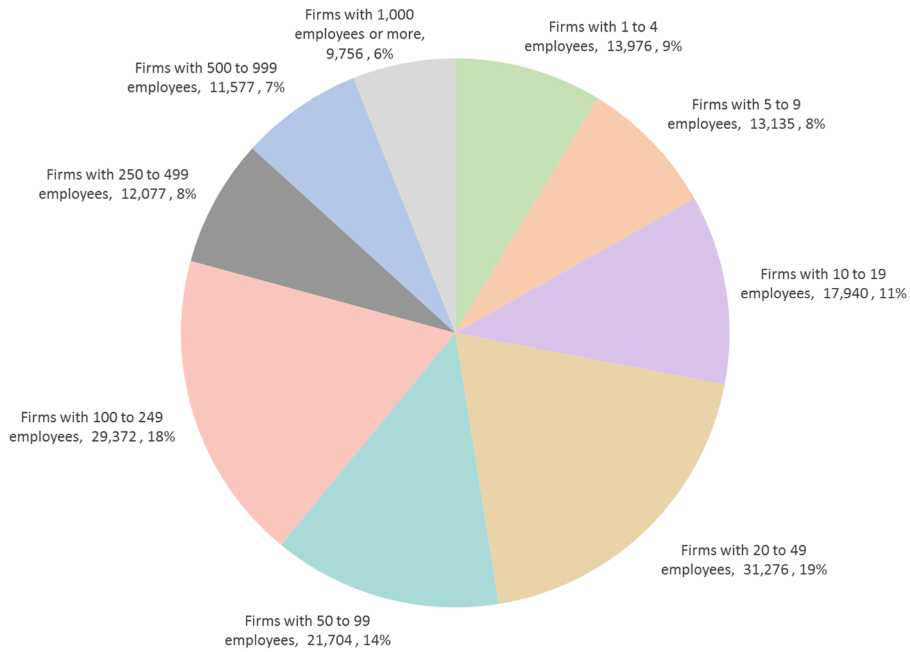


Source: U.S. Census Bureau, 2017

FIRM SIZE

As illustrated in Figure 6, 61% of all employer firms have 100 employees or less.

Figure 6: Distribution of All Paid Employees in Asheville MSA by Firm Size, 2015

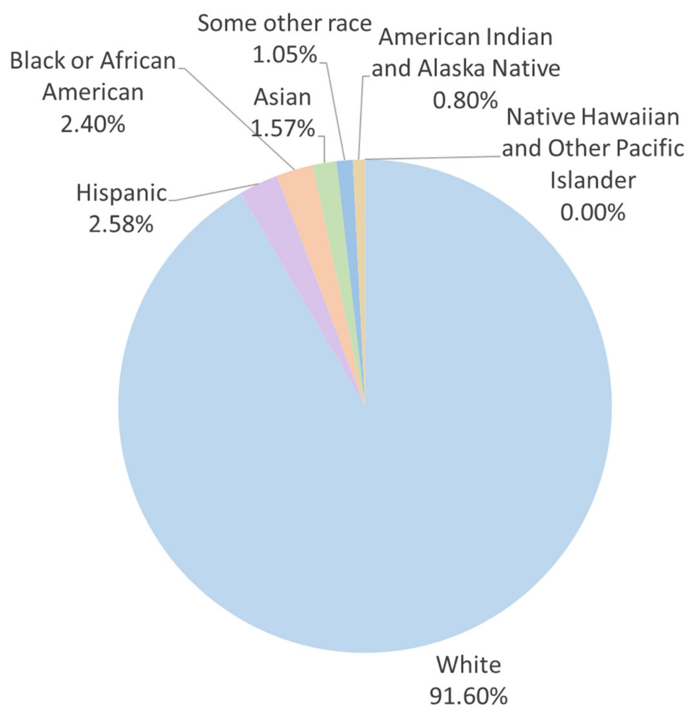


Source: U.S. Census Bureau, 2017

BUSINESS OWNERSHIP BY RACE AND ETHNICITY

According to the 2012 *Survey of Business Owners*, 92% of Asheville MSA's business owners are White, 3% Hispanic, 2% Black or African American, 2% Asian, and 1% American Indian and Alaska Native.

Figure 7: Distribution of Business Ownership by Race and Ethnicity, 2012



Source: U.S. Census Bureau, 2015

As compared with the population of the Asheville, MSA (Table 2), the business ownership of Whites is 7% greater than the representation of Whites in the entire population, Hispanic business ownership is 61% lower than Hispanic percentage in the population, and Black business ownership is 46% lower than Black's population percentage.

Table 2: Distribution of Population and Business Ownership by Race and Ethnicity, 2012

Race/Ethnicity	% of Asheville MSA Population	% of Asheville MSA Business Owners	Business Ownership % Compared to Population %
White alone	86%	92%	7% greater
Hispanic or Latino (of any race)	7%	3%	61% less
Black or African American alone	4%	2%	46% less
Two or more races or Some other race alone	2%	1%	21% less
Asian alone	1%	2%	10% greater
American Indian and Alaska Native alone	0%	1%	138% greater
Native Hawaiian and Other Pacific Islander alone	0%	0%	100% less

Source: U.S. Census Bureau, 2015

Asheville MSA Industry Cluster Data

A "cluster" is a regional concentration of related industries in a particular location. Clusters are a striking feature of economies, making regions uniquely competitive for jobs and private investment. They consist of companies, suppliers, and service providers, as well as government agencies and other institutions that provide specialized training and education, information, research, and technical support. (Delgado, Porter, & Stern, 2013).

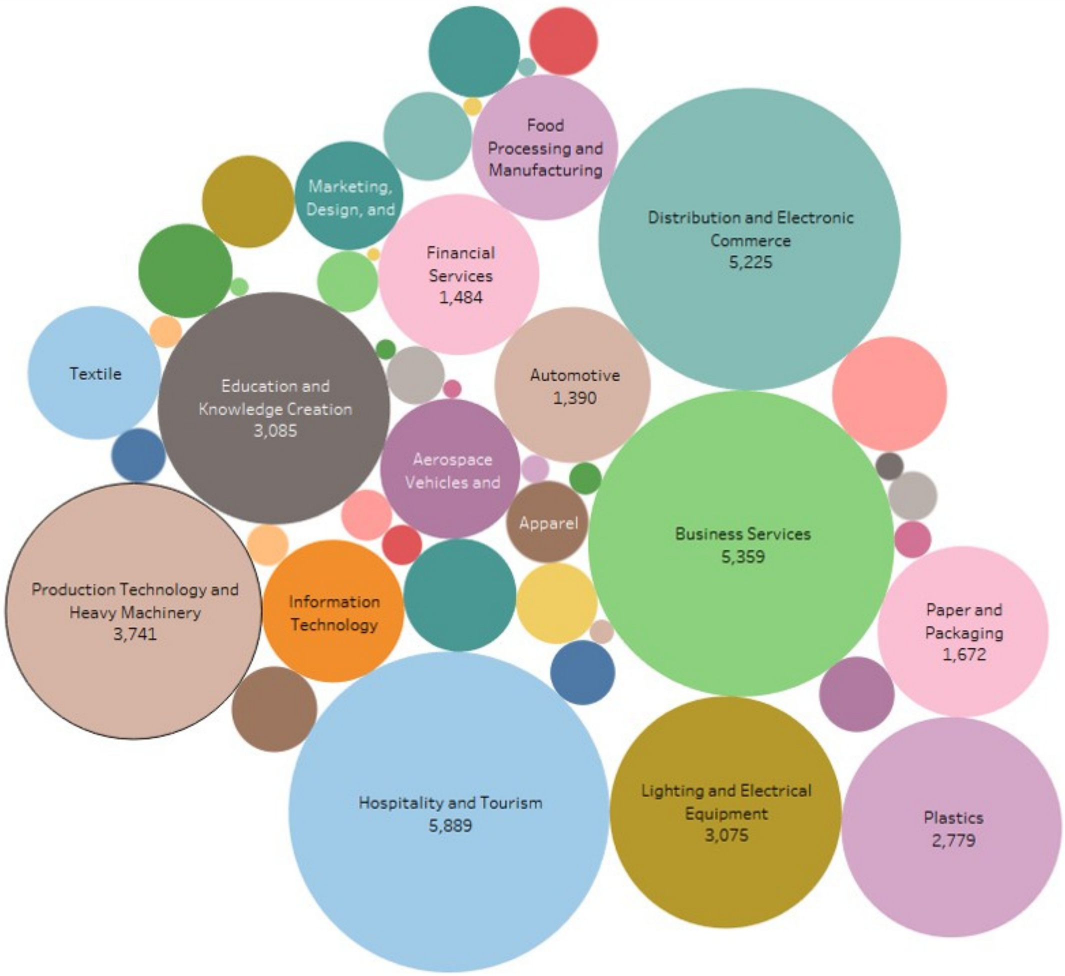
Traded Clusters

Traded clusters are groups of related industries that serve markets beyond the region in which they are located. They are free to choose their location of operation (unless the location of natural resources drives where they can be) and are highly concentrated in a few regions, tending to only appear in regions that afford specific competitive advantages. Since traded clusters compete in cross-regional markets, they are exposed to competition from other regions. (Delgado, Porter, & Stern, 2013).

According to the U.S. Cluster Mapping project developed by the Harvard Business School Institute for Strategy and Competitive (http://clustermapping.us), the Asheville MSA had 375 traded cluster establishments with 45,833 paid employees in 2015. [3]

[3] See Data Limitations: Multiple Data Sources on page XX.

Figure 8: 2015 Asheville, MSA Traded Clusters by Number of Paid Employees



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 8 illustrates the top traded clusters by number of paid employees of all Asheville MSA traded clusters (see Table 3): Hospitality and Tourism (5,889), Business Services (5,359), Distribution and Electronic Commerce (5,225), Production Technology and Heavy Machinery (3,741), and Education and Knowledge Creation (3,085).

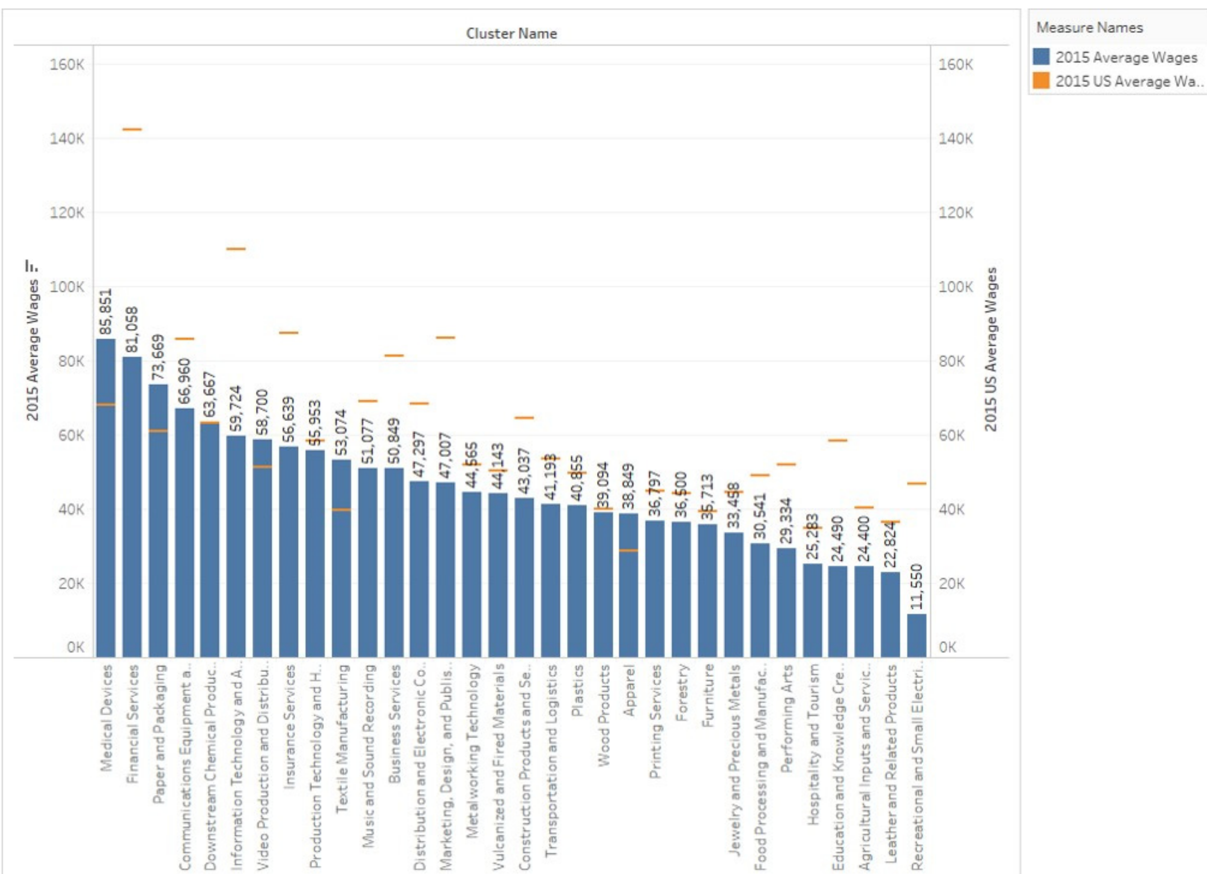
TRADED CLUSTER WAGES

Figure 9 shows the average wages by traded cluster industry type. In 2015, Asheville MSA's Medical Devices traded cluster had the highest average wage at $85,851. This average far exceeds the national average for this cluster ($68,478). There were 452 paid employees in the Medical Devices cluster.

Financial Services average wage of $81,057 (the second highest average wage) falls far below the national average for this cluster ($142,545).

The Recreational and Small Electric Goods cluster had the lowest average wage at $11,550 with 170 paid employees. This average is also far below the national average of $47,093.

Figure 9: 2015 Asheville MSA Traded Cluster Wages (Compared to US Average Wages)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 3 lists traded clusters in the Asheville MSA by estimated number of paid employees in 2015. The traded clusters have been divided into four tiers based on cluster size. Tier 1 (4th Quartile) consists of traded clusters with the highest number of paid employees. Tier 4 (1st Quartile) includes traded clusters with the fewest employees.

Table 3: List of Traded Cluster Employer Businesses by No. of Paid Employees, 2015

Traded Cluster	No. Firms	2010 Paid Employees	2015 Paid Employees	Actual Growth	Expected Growth
TIER I					
Hospitality and Tourism	24	5,596	5,889	293	601
Business Services	31	4,578	5,359	781	987
Distribution and Electronic Commerce	54	6,213	5,225	(988)	736
Production Technology and Heavy Machinery	20	1,286	3,741	2,455	197
Education and Knowledge Creation	12	2,701	3,085	384	238
Lighting and Electrical Equipment	8	2,760	3,075	315	134
Plastics	10	2,599	2,779	180	287
Paper and Packaging	6	1,675	1,672	(3)	(64)
Financial Services	17	1,423	1,484	61	17
Automotive	7	1,105	1,390	285	322
Food Processing and Manufacturing	16	987	1,217	230	116
Information Technology and Analytical Instruments	12	1,262	1,164	(98)	83
Aerospace Vehicles and Defense	2	750	1,125	375	(2)
TIER II					
Textile Manufacturing	7	913	1,018	105	(41)
Metalworking Technology	9	754	754	-	150
Construction Products and Services	8	405	731	326	84
Marketing, Design, and Publishing	20	859	678	(181)	132
Transportation and Logistics	9	745	507	(238)	91
Upstream Metal Manufacturing	6	380	490	110	43
Vulcanized and Fired Materials	7	98	479	381	9
Medical Devices	3	420	452	32	(10)
Printing Services	4	729	419	(310)	(72)
Apparel	4	714	387	(327)	(63)
Communications Equipment and Services	5	520	378	(142)	(44)
Performing Arts	7	391	324	(67)	62

Traded Cluster	No. Firms	2010 Paid Employees	2015 Paid Employees	Actual Growth	Expected Growth
TIER III					
Wood Products	7	360	267	(93)	28
Furniture	4	240	240	-	7
Leather and Related Products	2	205	216	11	(1)
Electric Power Generation and Transmission	3	90	195	105	3
Recreational and Small Electric Goods	6	110	170	60	(10)
Downstream Metal Products	5	290	150	(140)	12
Nonmetal Mining	4	160	140	(20)	7
Insurance Services	7	371	101	(270)	21
Downstream Chemical Products	5	30	93	63	1
Oil and Gas Production and Transportation	3	20	80	60	7
Biopharmaceuticals	1	20	60	40	1
Trailers, Motor Homes, and Appliances	1	70	60	(10)	27
Music and Sound Recording	3	43	46	3	9
TIER IV					
Agricultural Inputs and Services	5	50	45	(5)	1
Forestry	2	40	34	(6)	2
Jewelry and Precious Metals	1	90	24	(66)	(1)
Environmental Services	2	50	20	(30)	10
Upstream Chemical Products	2	20	20	-	2
Video Production and Distribution	1	80	20	(60)	50
Water Transportation	2	-	20	20	-
Livestock Processing	1	10	10	-	-

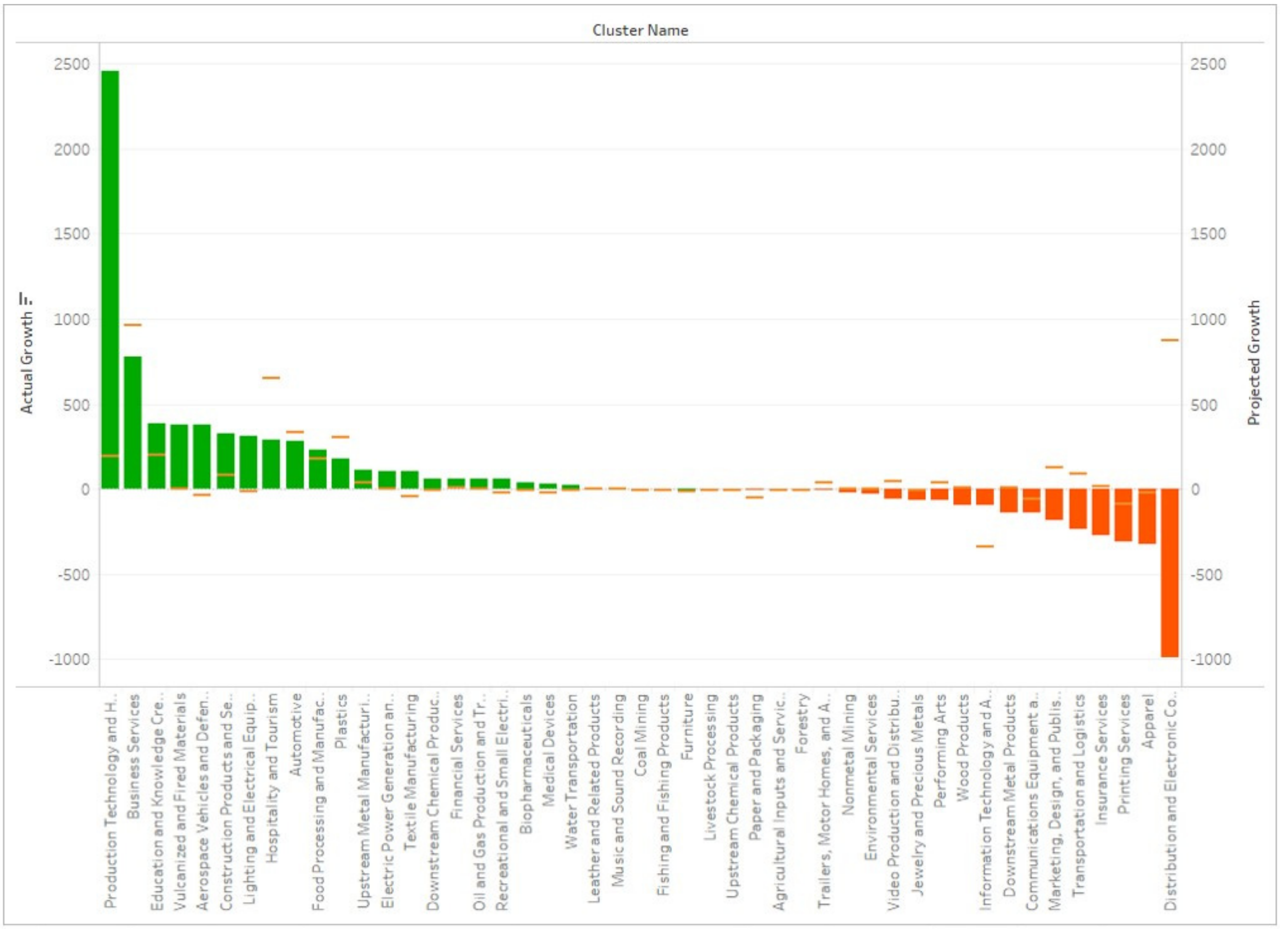
Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

TRADED CLUSTER JOB CREATION

Figure 10 shows job creation between 2010 and 2015 for the Asheville MSA as compared to the expected job creation based on national growth. The traded clusters with the largest job creation are: Production Technology and Heavy Machinery (2,455), Business Services (781), Education and Knowledge Creation (384), Vulcanized and Fired Materials (381), Aerospace Vehicles and Defense (375), Construction Products and Services (326), Lighting and Electrical Equipment (315), and Hospitality and Tourism (293).

The traded clusters with the greatest job loss for this time period are: Distribution and Electronic Commerce (-988), Apparel (-338), Printing Services (-310), Insurance Services (-270), Transportation and Logistics (-238), and Marketing, Design, and Publishing (-181).

Figure 10: Traded Cluster Job Creation and Expected Growth (2010 - 2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

TRADED SUBCLUSTERS

To better understand 2015 traded cluster economic performance in Asheville MSA, subclusters of each traded cluster are examined below.

Tier I Traded Cluster Job Creation by Subcluster

Table 4 on page 20 lists Tier I traded clusters representing clusters with the highest number of paid employees (between 1,100 and 5,900).

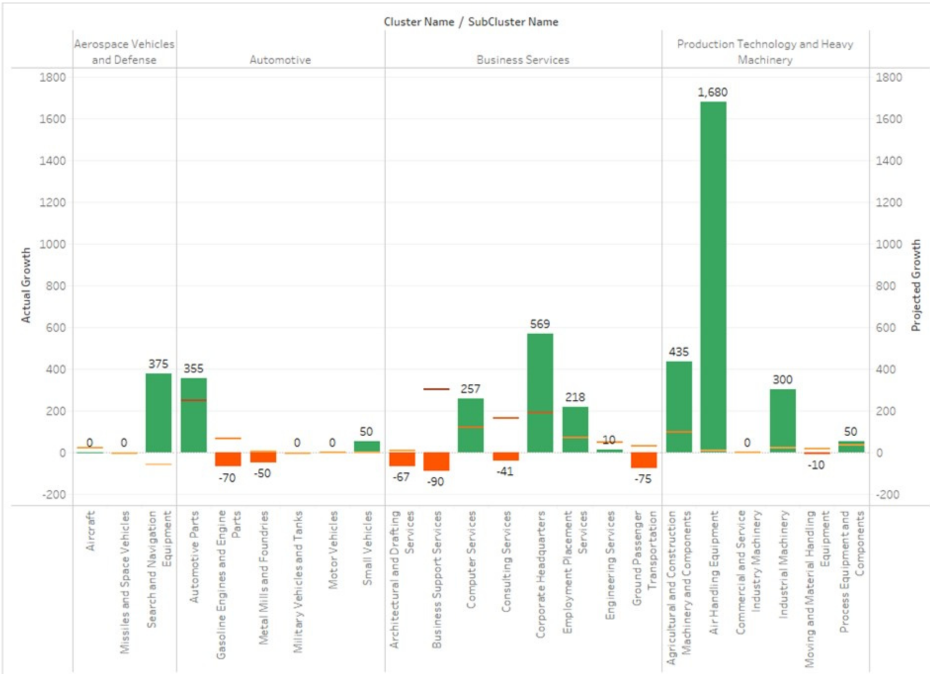
The Production, Technology, and Heavy Machinery cluster had the highest net job creation (2,455 jobs). The Air Handling Equipment subcluster had the highest growth in jobs (1,680). Business Services chad the second highest growth in traded clusters (781 jobs). (Figure 11)

The Distribution and Electronic Commerce Cluster had the highest net job loss (988). 894 jobs were lost in the Warehousing and Storage subcluster. Wholesale of Drugs and Druggist Stores subcluster lost 336 jobs. The Wholesale of Electrical and Electronic Goods subcluster grew by 512 jobs. (Figure 12)

The Colleges, Universities, and Professional Schools subcluster of Education and Knowledge cluster grew by 382 jobs. Malt Beverages subcluster within the Food Processing and Manufacturing cluster grew by 140 jobs. (Figure 13)

The Hospitality and Tourism cluster has the highest number of paid employees (5,889). Its Accommodations and Related Services subcluster grew by 876 jobs. Tourism Attractions and Related Services lost 296 and 328 jobs respectively. The Information Technology and Analytical cluster had a net loss of 98 jobs. The Electrical Equipment subcluster grew by 315 jobs and the Plastic Materials and Resin subcluster grew by 299. (Figure 14)

Figure 11: Tier I-1 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

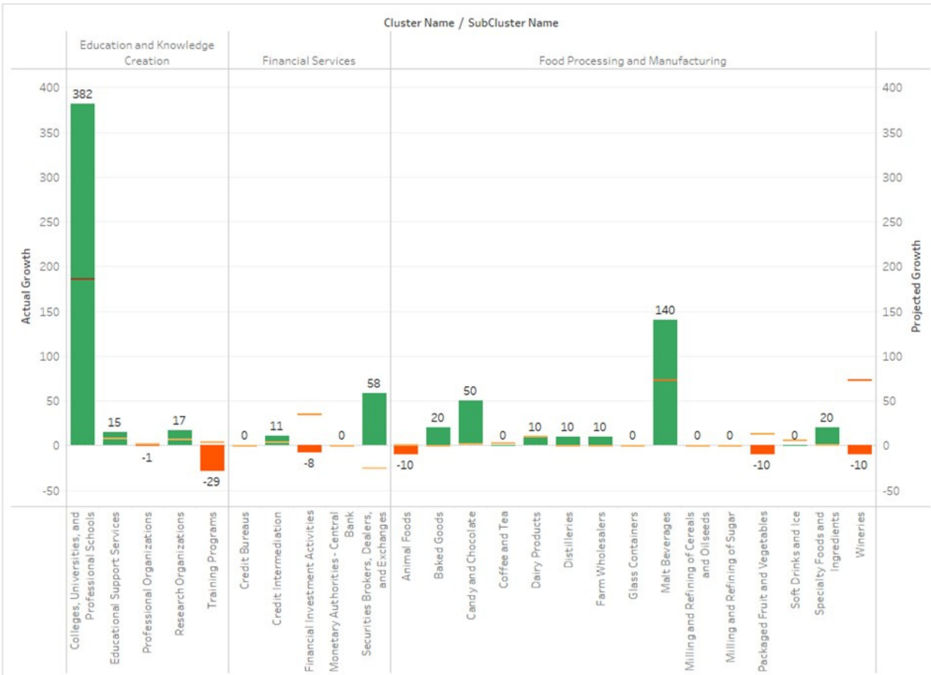


Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 12: Tier I-2 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

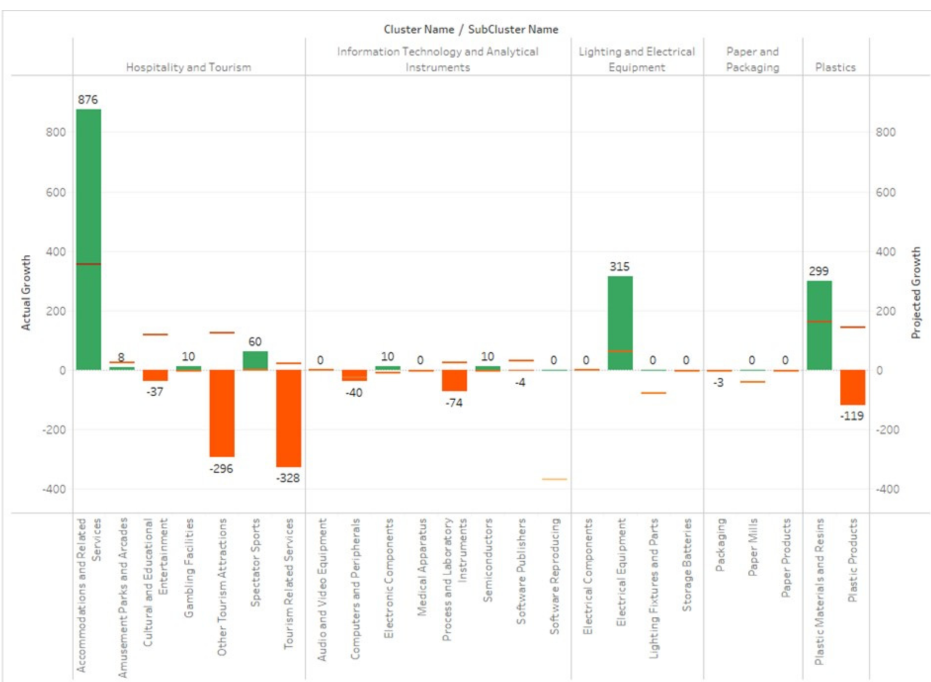
Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 13: Tier I-3 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 14: Tier I-4 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 4: Asheville MSA 2010-2015 Traded Cluster Tier I Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Aerospace Vehicles and Defense Cluster				
Search and Navigation Equipment	375	750	375	(57)
Aircraft	375	375	-	27
Missiles and Space Vehicles	-	-	-	-
Automotive Cluster				
Automotive Parts	770	1,125	355	254
Small Vehicles	10	60	50	3
Motor Vehicles	10	10	-	4
Military Vehicles and Tanks	-	-	-	-
Metal Mills and Foundries	70	20	(50)	9
Gasoline Engines and Engine Parts	245	175	(70)	69
Business Services Cluster				
Corporate Headquarters	1,147	1,716	569	193
Computer Services	542	799	257	125
Employment Placement Services	305	523	218	75
Engineering Services	455	465	10	51
Consulting Services	524	483	(41)	168
Architectural and Drafting Services	294	227	(67)	13
Ground Passenger Transportation	160	85	(75)	36
Business Support Services	1,151	1,061	(90)	307
Distribution and Electronic Commerce Cluster				
Wholesale of Electrical and Electronic Goods	420	932	512	55
Wholesale of Chemical and Allied Products	202	361	159	27
Wholesale Trade Agents and Brokers	147	248	101	-
Wholesale of Apparel and Accessories	50	76	26	6
Wholesale of Industrial Machinery, Equipment, and Supplies	195	220	25	47
Wholesale of Jewelry, Watches, Precious Stones, and Precious Metals	20	36	16	1
Wholesale of Service Establishment Equipment, and Supplies	20	36	16	-
Wholesale of Other Merchandise	148	163	15	4
Wholesale of Drugs and Druggists' Sundries	162	168	6	26
Wholesale of Furniture and Home Furnishing	145	146	1	18
Wholesale of Books, Periodicals, and Newspapers	10	10	-	(2)
Electronic and Catalog Shopping	251	249	(2)	80
Wholesale of Transportation Equipment and Supplies (except Motor Vehicles)	20	10	(10)	(1)
Wholesale of Toy and Hobby Goods and Supplies	10	-	(10)	1

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Wholesale of Sporting and Recreational Goods and Supplies	95	84	(11)	16
Wholesale of Farm and Garden Machinery and Equipment	39	20	(19)	5
Support Services	190	165	(25)	(15)
Rental and Leasing	114	74	(40)	32
Wholesale of Petroleum and Petroleum Products	153	110	(43)	(4)
Wholesale of Metals and Minerals (except Petroleum)	70	24	(46)	9
Wholesale of Professional and Commercial Equipment and Supplies	455	361	(94)	(17)
Wholesale of Farm Products and Supplies	457	360	(97)	52
Wholesale of Food Products	404	289	(115)	39
Wholesale of Paper and Paper Products	171	48	(123)	(1)
Wholesale of Construction and Mining Machinery and Equipment	435	99	(336)	62
Warehousing and Storage	1,830	936	(894)	440
Education and Knowledge Cluster				
Colleges, Universities, and Professional Schools	2,195	2,577	382	187
Research Organizations	79	96	17	8
Educational Support Services	30	45	15	9
Professional Organizations	20	19	(1)	2
Training Programs	377	348	(29)	5
Financial Services Cluster				
Securities Brokers, Dealers, and Exchanges	325	383	58	(24)
Credit Intermediation	790	801	11	5
Monetary Authorities - Central Bank	-	-	-	-
Credit Bureaus	-	-	-	-
Financial Investment Activities	308	300	(8)	36
Food Process and Manufacturing Cluster				
Malt Beverages	92	232	140	74
Candy and Chocolate	10	60	50	2
Specialty Foods and Ingredients	60	80	20	1
Baked Goods	-	20	20	-
Dairy Products	375	385	10	11
Distilleries	-	10	10	-
Farm Wholesalers	-	10	10	-
Soft Drinks and Ice	60	60	-	7
Coffee and Tea	10	10	-	3
Glass Containers	-	-	-	-
Milling and Refining of Sugar	-	-	-	-
Milling and Refining of Cereals and Oilseeds	-	-	-	-

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Packaged Fruit and Vegetables	185	175	(10)	14
Wineries	185	175	(10)	74
Animal Foods	10	-	(10)	1
Hospitality and Tourism Cluster				
Accommodations and Related Services	3,123	3,999	876	358
Spectator Sports	10	70	60	1
Gambling Facilities	-	10	10	-
Amusement Parks and Arcades	80	88	8	28
Cultural and Educational Entertainment	877	840	(37)	121
Other Tourism Attractions	952	656	(296)	128
Tourism Related Services	554	226	(328)	23
Information Technology and Analytical Instruments Cluster				
Electronic Components	70	80	10	(7)
Semiconductors	-	10	10	-
Software Reproducing	750	750	-	(366)
Audio and Video Equipment	60	60	-	3
Medical Apparatus	-	-	-	-
Software Publishers	112	108	(4)	32
Computers and Peripherals	60	20	(40)	(23)
Process and Laboratory Instruments	210	136	(74)	28
Lighting and Electrical Equipment Cluster				
Electrical Equipment	870	1,185	315	64
Lighting Fixtures and Parts	1,820	1,820	-	(76)
Electrical Components	70	70	-	3
Storage Batteries	-	-	-	-
Paper and Packaging Cluster				
Paper Mills	750	750	-	(40)
Paper Products	10	10	-	(1)
Packaging	915	912	(3)	-
Plastics Cluster				
Plastic Materials and Resins	1,116	1,415	299	163
Plastic Products	1,483	1,364	(119)	147
Production Technology and Heavy Machinery Cluster				
Air Handling Equipment	140	1,820	1,680	13
Agricultural and Construction Machinery and Components	580	1,015	435	102
Industrial Machinery	221	521	300	26
Process Equipment and Components	255	305	50	40
Commercial and Service Industry Machinery	10	10	-	1
Moving and Material Handling Equipment	80	70	(10)	21

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Tier II Traded Cluster Job Creation by Subcluster

Table 5 on page 24 lists Tier II traded clusters representing clusters with the number of paid employees between 320 and 1,000.

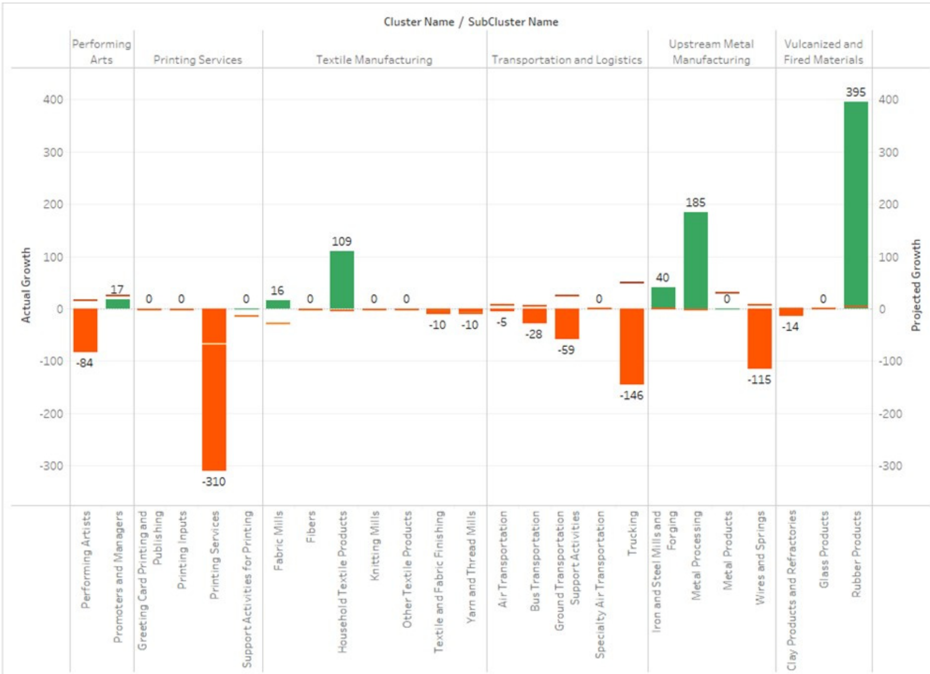
The Apparel cluster lost over 320 jobs. The Construction subcluster gained 296 jobs. Marketing, Design, and Publishing lost a total of 181 jobs. (Figure 15)

The Vulcanized and Fire Materials cluster grew by 381 jobs. While the Printing Services cluster lost 310 jobs. In the Transportation and Logistics traded cluster, the Trucking subcluster lost 146 jobs. The overall cluster lost 238 jobs; whereas the Local Logistical Services local cluster gained 319 jobs. (Figure 16)

Figure 15: Tier II-1 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 16: Tier II-2 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 5: Asheville MSA 2010-2015 Traded Cluster Tier II Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Apparel Cluster				
Men's Clothing	0	0	0	0
Women's Clothing	60	0	-60	7
Apparel Contractors	80	10	-70	-17
Accessories and Specialty Apparel	574	377	-197	-3
Communications Equipment and Services Cluster				
Communications Equipment	175	175	0	-32
Communications Equipment Components	0	0	0	0
Communications Services	345	203	-142	-18
Construction Products and Services Cluster				
Construction	365	661	296	88
Construction Components	30	40	10	3
Construction Products	0	10	10	0
Water, Sewage, and Other Systems	0	10	10	0
Construction Materials	10	10	0	0
Marketing, Design, and Publishing Cluster				

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Design Services	178	159	-19	12
Advertising Related Services	142	108	-34	17
Other Marketing Related Services	268	224	-44	66
Publishing	271	187	-84	37
Medical Devices Cluster				
Surgical and Dental Instruments and Supplies	410	442	32	-15
Optical Instruments and Ophthalmic Goods	10	10	0	1
Metalworking Technology Cluster				
Fasteners	197	337	140	51
Hand Tools	0	0	0	0
Metalworking Machinery	237	231	-6	31
Metal Processing	170	130	-40	31
Machine Tools and Accessories	150	56	-94	28
Performing Arts Cluster				
Promoters and Managers	101	118	17	27
Performing Artists	290	206	-84	17
Printing Services Cluster				
Support Activities for Printing	60	60	0	-12
Greeting Card Printing and Publishing	0	0	0	0
Printing Inputs	0	0	0	0
Printing Services	669	359	-310	-65
Textile Manufacturing Cluster				
Household Textile Products	195	304	109	-1
Fabric Mills	618	634	16	-26
Fibers	10	10	0	0
Other Textile Products	0	0	0	0
Knitting Mills	0	0	0	0
Yarn and Thread Mills	70	60	-10	-6
Textile and Fabric Finishing	20	10	-10	-1
Transportation and Logistics Cluster				
Specialty Air Transportation	10	10	0	1
Air Transportation	100	95	-5	8
Bus Transportation	88	60	-28	7
Ground Transportation Support Activities	140	81	-59	27
Trucking	407	261	-146	52
Upstream Metal Maufacturing Cluster				
Metal Processing	0	185	185	0
Iron and Steel Mills and Forging	20	60	40	2
Metal Products	175	175	0	31
Wires and Springs	185	70	-115	9

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Vulcanized and Fired Materials Cluster				
Rubber Products	60	455	395	6
Glass Products	18	18	0	2
Clay Products and Refractories	20	6	-14	1

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Tier III Traded Cluster Job Creation by Subcluster

Table 6 on page 27 lists Tier III traded clusters representing clusters with 46 to 267 paid employees.

Insurance Services cluster had 371 jobs in 2010 and lost a total 270 jobs by 2015. Metal products subcluster lost 120 jobs. (Figure 17)

Wood Products subcluster lost a total of 93 jobs. (Figure 18)

Figure 17: Tier III-1 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 18: Tier III-2 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 6: Asheville MSA 2010-2015 Traded Cluster Tier III Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Biopharmaceuticals Cluster				
Biopharmaceutical Products	20	60	40	1
Diagnostic Substances	0	0	0	0
Biological Products	0	0	0	0
Downstream Chemical Products Cluster				
Dyes, Pigments and Coating	10	60	50	1
Personal Care and Cleaning Products	10	23	13	0
Lubricating Oils and Greases	10	10	0	3
Explosives	0	0	0	0
Processed Chemical Products	0	0	0	0
Downstream Metal Products Cluster				
Metal Containers	0	0	0	0
Fabricated Metal Structures	70	60	-10	6
Ammunition	20	10	-10	3
Metal Products	200	80	-120	4
Electric Power Generation and Transmission Cluster				

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Fossil Fuel Electric Power	60	175	115	2
Electric Power Transmission	10	10	0	3
Alternative Electric Power	20	10	-10	0
Furniture Cluster				
Institutional Furniture	120	177	57	-10
Household Furniture	30	42	12	0
Mobile Homes	0	0	0	0
Office Furniture	10	0	-10	0
Wood Cabinets and Woodwork	80	21	-59	6
Insurance Services Cluster				
Reinsurance Carriers	0	0	0	0
Insurance Related Services	39	18	-21	10
Insurance Carriers	332	83	-249	16
Leather and Related Products Cluster				
Personal Leather Goods and Luggage	10	31	21	-1
Women's Handbags and Purses	0	0	0	0
Textile Bags and Canvas Products	195	185	-10	10
Music and Sound Recording Cluster				
Music and Sound Recording	43	46	3	9
Nonmetal Mining Cluster				
Nonmetal Mining	160	140	-20	7
Oil and Gas Production and Transportation Cluster				
Oil and Gas Extraction	10	60	50	2
Support Activities for Oil and Gas Operations	10	20	10	6
Pipeline Transportation	0	0	0	0
Oil and Gas Machinery	0	0	0	0
Drilling Wells	0	0	0	0
Petroleum Processing	0	0	0	0
Recreational and Small Electric Goods Cluster				
Motorcycles and Bicycles	10	60	50	2
Electric Housewares	0	10	10	0
Sporting and Athletic Goods	0	10	10	0
Recreational and Decorative Goods	80	80	0	-12
Games, Toys, and Children's Vehicles	10	10	0	-3
Office Supplies	10	0	-10	-2
Trailers, Motor Homes, and Appliances Cluster				
Household Appliances	0	0	0	0
Burial Caskets	0	0	0	0
Trailers and Motor Homes	70	60	-10	47
Wood Products Cluster				

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Wood Processing	90	85	-5	9
Prefabricated Wood Building	70	60	-10	-5
Wood Components and Products	200	122	-78	15

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Tier IV Traded Cluster Job Creation by Subcluster

Table 7 on page 30 lists Tier IV traded clusters representing clusters with less than 46 paid employees.

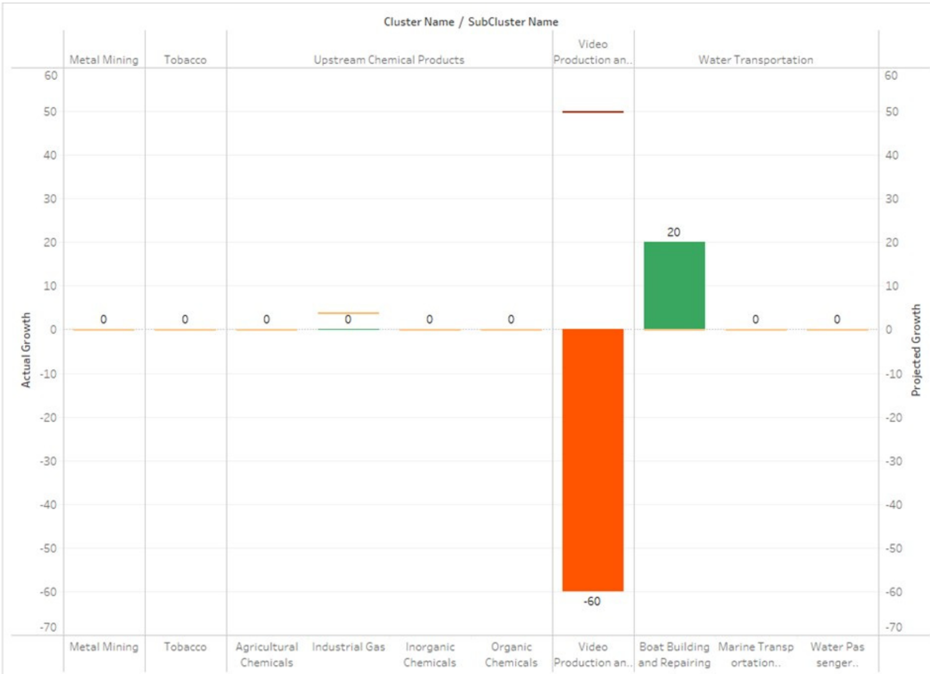
Jewelry and Precious Metals Products traded cluster 66 jobs.

Video Production and Distribution lost 60 jobs.

Figure 19: Tier IV-1 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 20: Tier IV-2 Traded Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 7: Asheville MSA 2010-2015 Traded Cluster Tier IV Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Agricultural Inputs and Services Cluster				
Fertilizers	10	10	0	1
Farm Management and Labor Services	10	10	0	2
Agricultural Services	30	25	-5	-1
Coal Mining Cluster				
Coal Mining	0	0	0	0
Environmental Services Cluster				
Other Waste Management Services	10	10	0	2
Waste Processing	20	10	-10	5
Waste Collection	20	0	-20	1
Fishing and Fishing Products Cluster				
Fishing and Fishing Products	0	0	0	0
Footwear Cluster				
Footwear Components	0	0	0	0
Footwear	0	0	0	0
Forestry Cluster				

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Forestry	40	34	-6	2
Jewelry and Precious Metals Cluster				
Jewelry and Precious Metals Products	90	24	-66	-1
Livestock Processing Cluster				
Livestock Merchant Wholesalers	10	10	0	-1
Meat Processing	0	0	0	0
Metal Mining Cluster				
Metal Mining	0	0	0	0
Tobacco Cluster				
Tobacco	0	0	0	0
Upstream Chemical Products Cluster				
Industrial Gas	10	10	0	4
Inorganic Chemicals	10	10	0	0
Agricultural Chemicals	0	0	0	0
Organic Chemicals	0	0	0	0
Video Production and Distribution Cluster				
Video Production and Distribution	80	20	-60	50
Water Transportation Cluster				
Boat Building and Repairing	0	20	20	0
Marine Transportation Services	0	0	0	0
Water Passenger Transportation	0	0	0	0

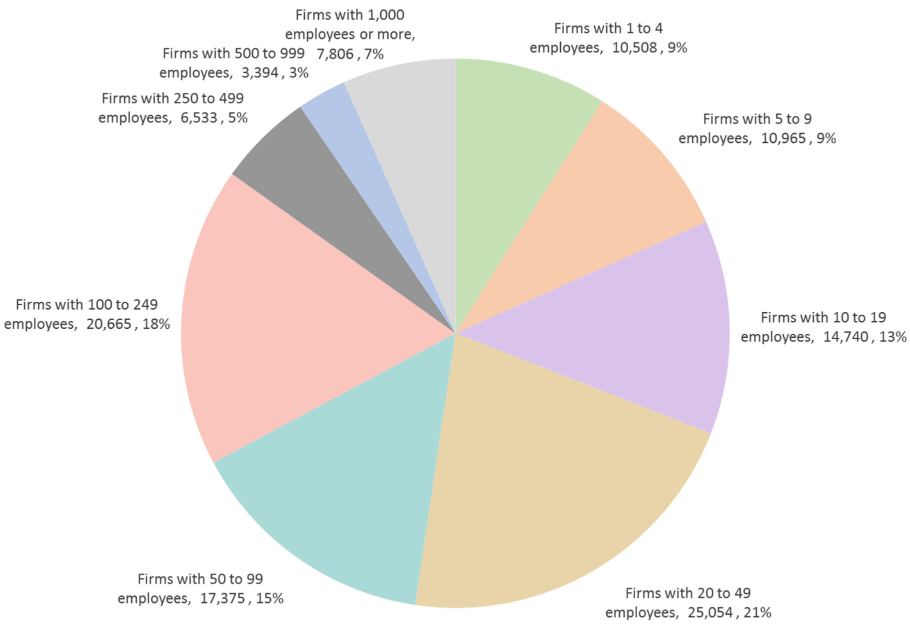
Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Local Clusters

Local clusters consist of industries that serve the local market. They are prevalent in every region of the country, regardless of the competitive advantages of a particular location. As a result, a region's employment in local clusters is usually proportional to the population of that region. Moreover, the majority of a region's employment comes from jobs in local clusters. Since local clusters are tied to the regions in which they are located, they are not directly exposed to competition from other regions. (Delgado, Porter, & Stern, 2013).

The Asheville MSA has 292 local cluster establishments employing 116,984 employees. 67% of all local cluster firms have 100 employees or less. In contrast, 44% of traded cluster firms have less than 100 employees.

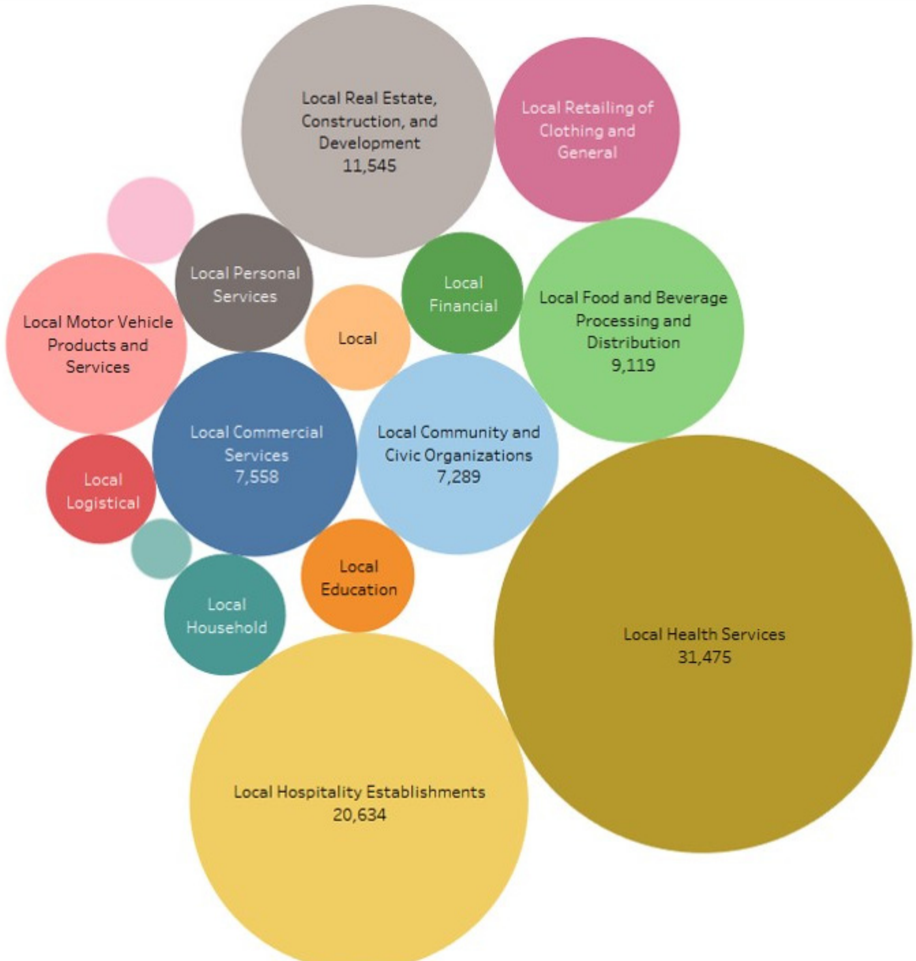
Figure 21: Distribution of Local Cluster Paid Employees in Asheville MSA by Firm Size, 2015



Source: U.S. Census Bureau, 2017

Figure 22 illustrates that the top local industry clusters by number of paid employees are: Local Health Services (31,475), Local Hospitality Establishments (20,634), Local Real Estate, Construction, and Development (11,545), Local Food and Beverage Processing and Distribution (9,119), Local Commercial Services (7,558), and Local Community and Civic Organizations (7,289).

Figure 22: 2015 Asheville, MSA Local Clusters by Number of Paid Employees

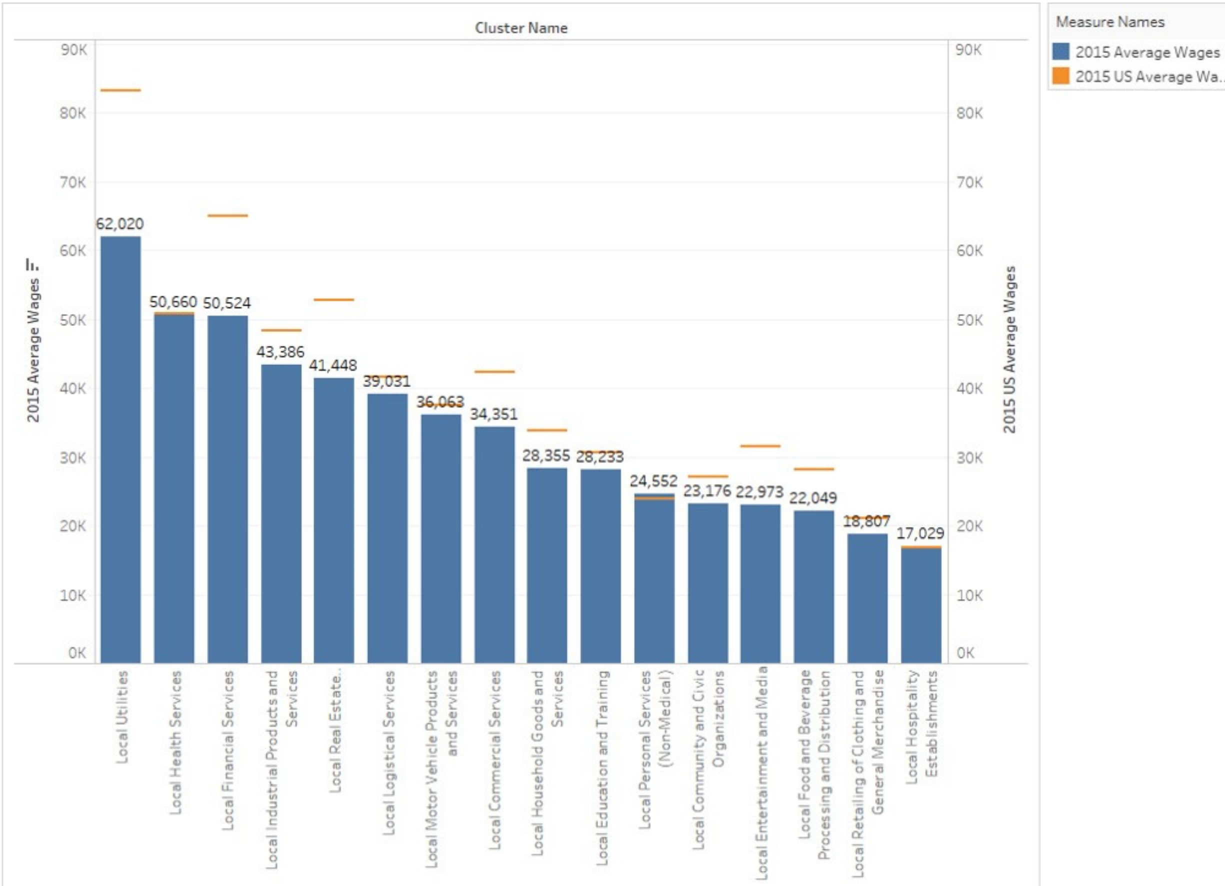


Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

LOCAL CLUSTER WAGES

Figure 23 shows the 2015 average wages by local cluster industry type. The Local Utilities cluster had the highest average wage at $62,020. This average is well below the national average of $83,447 for the local utilities cluster. Local Utilities is one of the smallest industries in the Asheville MSA (1,365 paid employees). The Local Hospitality Establishments cluster had the lowest average wage at $17,029. This Local Hospitality cluster average is the same as the national average for this cluster. It is also the second largest local cluster in the Asheville MSA (20,634 paid employees). The average wage for the Local Financial Services cluster ($50,660) is also the same as its national average.

Figure 23: Asheville MSA 2015 Local Cluster Wages (Compared to US Average Wages)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 8 lists local clusters in the Asheville MSA by estimated number of paid employees. The clusters have been divided into four tiers based on size. Tier 1 (4th Quartile) consists of local clusters with the greatest number of paid employee. Tier 4 (1st Quartile) includes local clusters with the fewest employees.

Table 8: List of Local Cluster Businesses by No. of Paid Employees, 2015

Local Cluster	No. Firms	2010 Paid Employees	2015 Paid Employees	Actual Growth	Expected Growth
TIER I					
Local Health Services	34	29,189	31,475	2,286	2,008
Local Hospitality Establishments	12	16,424	20,634	4,210	2,738
Local Real Estate, Construction, and Development	52	13,105	11,545	(1,560)	1,240
Local Food and Beverage Processing and Distribution	21	6,844	9,119	2,275	656
TIER II					
Local Commercial Services	32	7,062	7,558	496	1,279
Local Community and Civic Organizations	19	7,289	7,289	-	551
Local Retailing of Clothing and General Merchandise	15	8,511	6,179	(2,332)	638
Local Motor Vehicle Products and Services	25	5,531	5,893	362	683
TIER III					
Local Personal Services (Non-Medical)	18	3,325	3,436	111	281
Local Household Goods and Services	15	2,411	2,662	251	158
Local Financial Services	6	2,852	2,643	(209)	57
Local Education and Training	4	2,137	2,327	190	199
TIER IV					
Local Logistical Services	14	1,854	2,173	319	228
Local Entertainment and Media	10	2,400	2,025	(375)	(166)
Local Utilities	128	1,190	1,365	175	(56)
Local Industrial Products and Services	6	792	661	(131)	90

LOCAL CLUSTER JOB CREATION

Figure 24 shows the job creation performance of the local clusters between 2010 and 2015. The highest local cluster performers are: Local Hospitality Establishments (4,210), Local Health Services (2,286), Local Food and Beverage Processing and Distribution (2,275), and Local Commercial Services (496). Hospitality and Food and Beverage far exceeded expected job creation based on national growth. Commercial Services fell short of expected job growth.

The local clusters with the greatest job loss are: Local Retailing of Clothing and General Merchandise (-2,332), Local Real Estate, Construction, and Development (-1,560), and Local Entertainment and Media (-375).

Figure 24: Local Cluster Job Creation and Expected Growth (2010 – 2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

LOCAL SUBCLUSTERS

To better understand 2015 local cluster economic performance in Asheville MSA, subclusters of each local cluster are examined below.

Tier I Local Cluster Job Creation by Subcluster

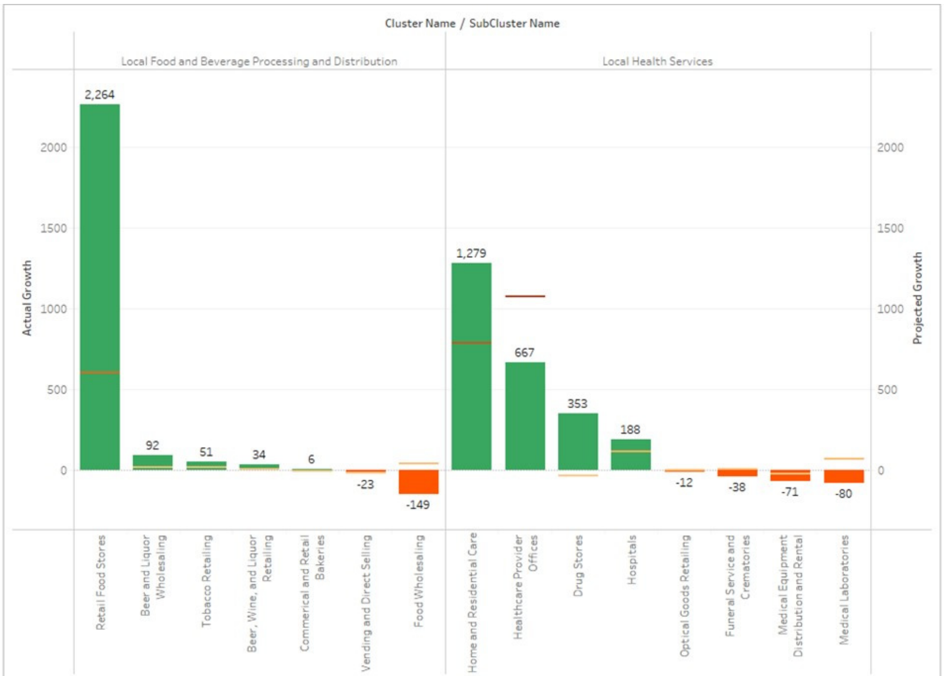
Table 9 on page 38 lists Tier I local clusters representing clusters with the highest number of paid employees (between 9,000 and 31,500).

Local Health Services cluster had the 2nd highest growth in jobs (2,286). It was only projected to grow by 607 jobs based on the national growth averages. The Home and Residential Care subcluster grew by

1,279 jobs. Local Food and Beverage Processing Distribution cluster is the 3rd largest cluster by growth (2,275). The Retail Food Stores subcluster grew by over 2,200 jobs. (Figure 25)

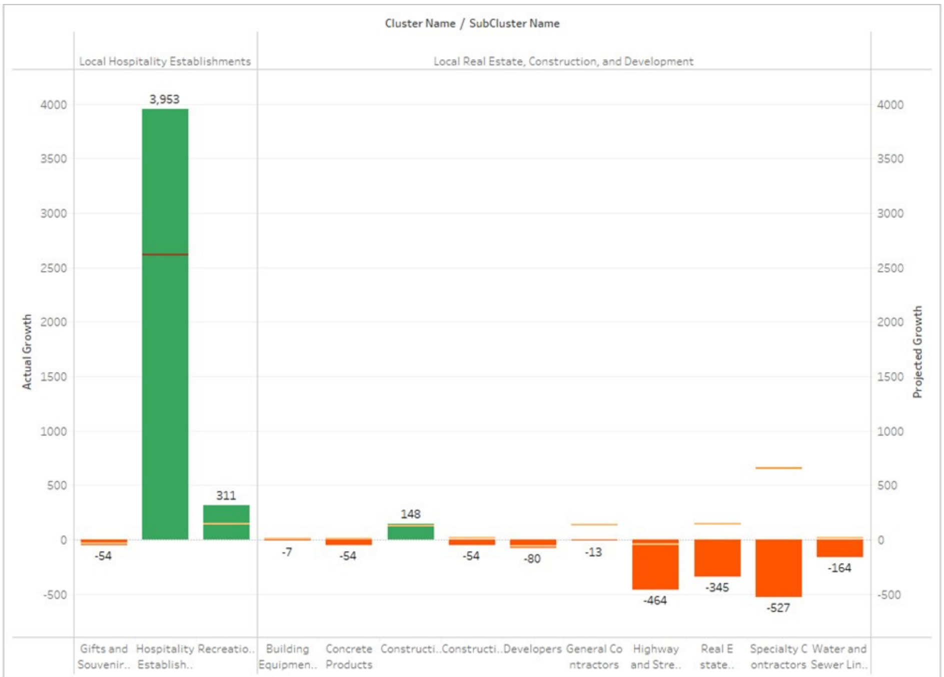
Local Hospitality Establishments had the highest growth of all local clusters (4,210 jobs). The Hospitality Establishments subcluster grew by 3,953 jobs. Although the Local Real Estate, Construction, and Development Cluster had the 3rd highest number of paid employees, this cluster lost 1,560 jobs between 2010 and 2015. (Figure 26)

Figure 25: Tier I-1 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 26: Tier I-2 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 9: Asheville MSA 2010-2015 Local Cluster Tier I Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Local Food and Beverage Processing and Distribution Cluster				
Retail Food Stores	5,544	7,808	2,264	607
Beer and Liquor Wholesaling	235	327	92	20
Tobacco Retailing	38	89	51	23
Beer, Wine, and Liquor Retailing	148	182	34	14
Commercial and Retail Bakeries	100	106	6	-
Vending and Direct Selling	200	177	(23)	(10)
Food Wholesaling	579	430	(149)	46
Local Health Services Cluster				
Home and Residential Care	8,125	9,404	1,279	794
Healthcare Provider Offices	8,513	9,180	667	1,083
Drug Stores	938	1,291	353	(30)
Hospitals	10,350	10,538	188	123
Optical Goods Retailing	71	59	(12)	6
Funeral Service and Crematories	306	268	(38)	12
Medical Equipment Distribution and Rental	144	73	(71)	(18)

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Medical Laboratories	742	662	(80)	75
Local Hospitality Establishments Cluster				
Hospitality Establishments	14,947	18,900	3,953	2,628
Recreational Facilities and Instruction	1,220	1,531	311	155
Gifts and Souvenirs Retailing	257	203	(54)	(28)
Local Real Estate, Construction, and Development Cluster				
Construction Materials Retailing	2,087	2,235	148	138
Building Equipment Distribution	139	132	(7)	20
General Contractors	2,033	2,020	(13)	141
Concrete Products	377	323	(54)	20
Construction Materials Wholesaling	269	215	(54)	26
Developers	142	62	(80)	(54)
Water and Sewer Line Construction	318	154	(164)	23
Real Estate Services	1,949	1,604	(345)	154
Highway and Street Construction	803	339	(464)	(38)
Specialty Contractors	4,988	4,461	(527)	665

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

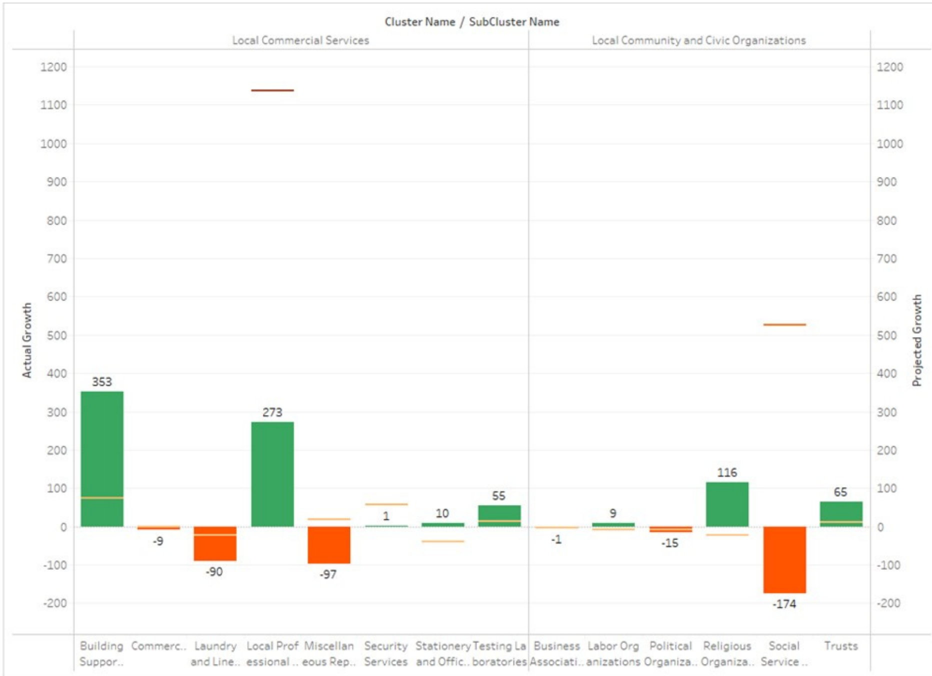
Tier II Local Cluster Job Creation by Subcluster

Table 10 on page 27 lists Tier II local clusters representing clusters with 5,000 to 8,000 paid employees.

Local Commercial Services grew by a total of 496 jobs. Building Support Services and Local Professional Services subclusters grew by 353 and 273 jobs respectively. The Local Community and Civic Organizations cluster had a zero-net gain/loss in jobs. Religious Organizations subcluster grew by 116 jobs. Social Service Organizations, however, lost 174. (Figure 27)

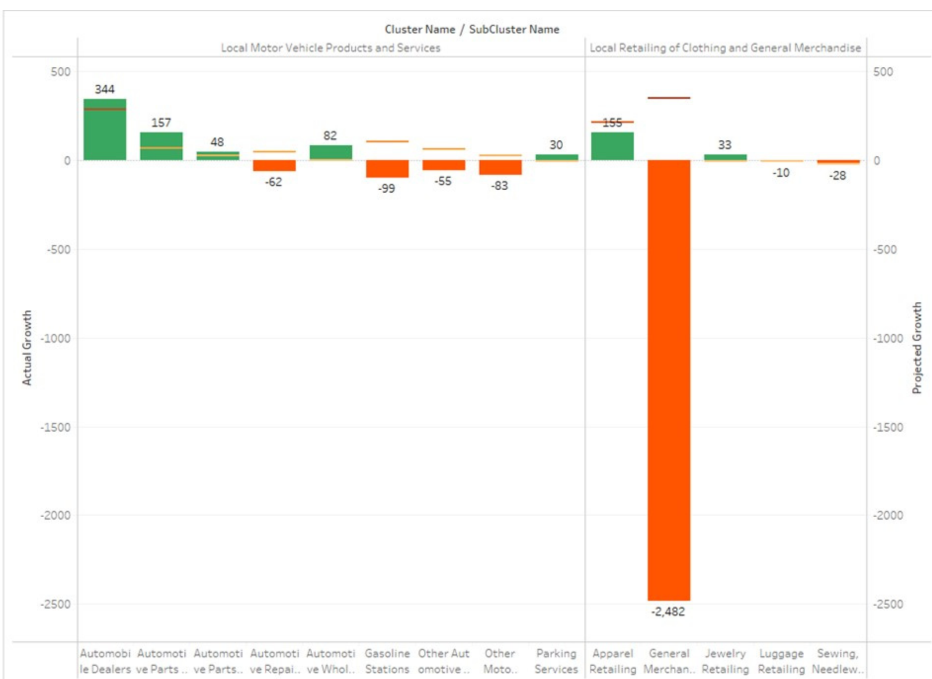
Local Retailing of Clothing and General Merchandise saw huge losses in jobs (2,332 total). Its subcluster, General Merchandise Retailing alone lost 2,482 jobs. (Figure 28)

Figure 27: Tier II-1 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 28: Tier II-2 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 10: Asheville MSA 2010-2015 Local Cluster Tier II Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Local Commercial Services Cluster				
Building Support Services	835	1,188	353	77
Local Professional Services	4,946	5,219	273	1,139
Testing Laboratories	64	119	55	16
Stationery and Office Supply Retailing	165	175	10	(36)
Security Services	345	346	1	59
Commercial Photography, Printing and Signmaking	51	42	(9)	2
Laundry and Linen Services	383	293	(90)	(20)
Miscellaneous Repair Services	273	176	(97)	22
Local Community and Civic Organizations Cluster				
Religious Organizations	3,629	3,745	116	(21)
Trusts	85	150	65	13
Labor Organizations	61	70	9	(5)
Business Associations	117	116	(1)	(1)
Political Organizations	20	5	(15)	(6)
Social Service Organizations	3,377	3,203	(174)	528
Local Motor Vehicle Products and Services Cluster				
Automobile Dealers	1,461	1,805	344	293
Automotive Parts Retailing	730	887	157	73
Automotive Wholesaling	70	152	82	8
Automotive Parts Wholesaling	290	338	48	32
Parking Services	30	60	30	3
Other Automotive Services	449	394	(55)	69
Automotive Repair Shops	784	722	(62)	54
Other Motor Vehicles Distribution	351	268	(83)	33
Gasoline Stations	1,366	1,267	(99)	111
Local Retialing of Clothing and General Merchandising Cluster				
Apparel Retailing	1,694	1,849	155	219
Jewelry Retailing	172	205	33	1
Luggage Retailing	20	10	(10)	2
Sewing, Needlework, and Piece Goods Retailing	137	109	(28)	(14)
General Merchandise Retailing	6,488	4,006	(2,482)	354

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Tier III Local Cluster Job Creation by Subcluster

Table 11 on page 43 lists Tier III local clusters representing clusters with 2,200 and 3,500 paid employees.

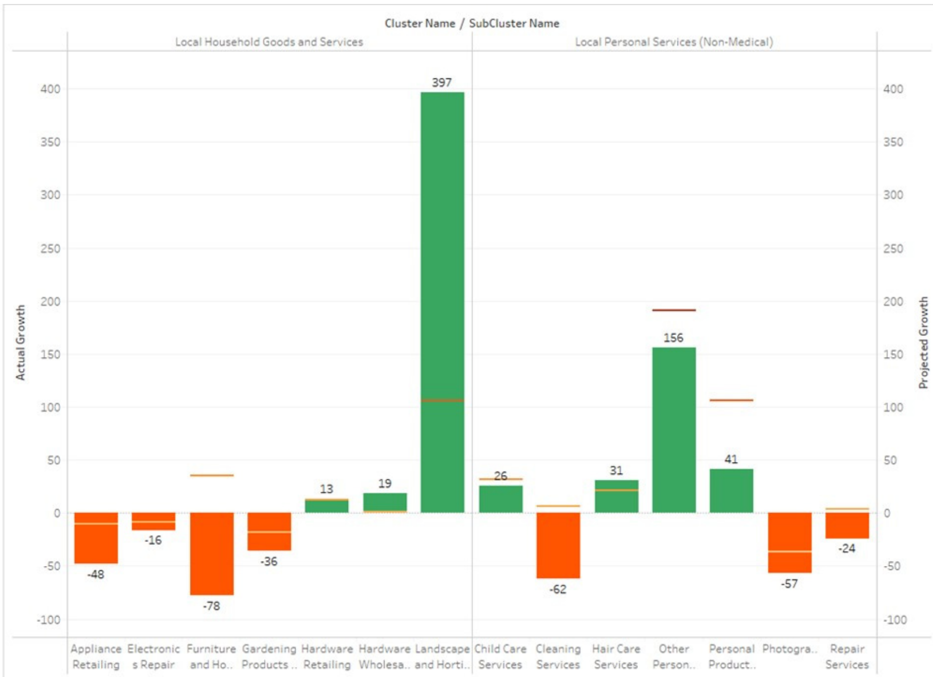
Local Education and Training cluster gained 288 jobs, but lost 98. Job Training Services subcluster had a gain of 211. Deposit taking institutions subcluster lost 197 jobs. (Figure 29)

Local Household Goods and Services had a net gain of 251 jobs. Landscape and Horticultural Services subcluster gained 397 jobs with an expected growth of 107. (Figure 30)

Figure 29: Tier III-1 Local Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 30: Tier III-2 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 11: Asheville MSA 2010-2015 Local Cluster Tier III Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Local Education and Training Cluster				
Job Training Services	565	776	211	(57)
Elementary and Secondary Schools	1,418	1,495	77	257
Recreational and Other Services	154	56	(98)	30
Local Financial Services Cluster				
Insurance Agents and Brokers	594	661	67	36
Collection Agencies	60	60	-	(8)
Tax Return Preparation Services	308	289	(19)	(33)
Pension, Health, and Welfare Funds	120	60	(60)	47
Deposit-taking Institutions	1,770	1,573	(197)	4
Local Household Goods and Services Cluster				
Landscape and Horticultural Services	721	1,118	397	107
Hardware Wholesaling	10	29	19	2
Hardware Retailing	174	187	13	13
Electronics Repair	40	24	(16)	(8)
Gardening Products and Supplies Retailing	371	335	(36)	(17)

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Appliance Retailing	149	101	(48)	(9)
Furniture and Homefurnishings Retailing	946	868	(78)	36
Local Personal Services (Non-Medical) Cluster				
Other Personal Services	1,082	1,238	156	192
Personal Products Retailing	499	540	41	107
Hair Care Services	477	508	31	22
Child Care Services	967	993	26	33
Repair Services	52	28	(24)	5
Photographic and Photofinishing Services	118	61	(57)	(36)
Cleaning Services	130	68	(62)	7

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

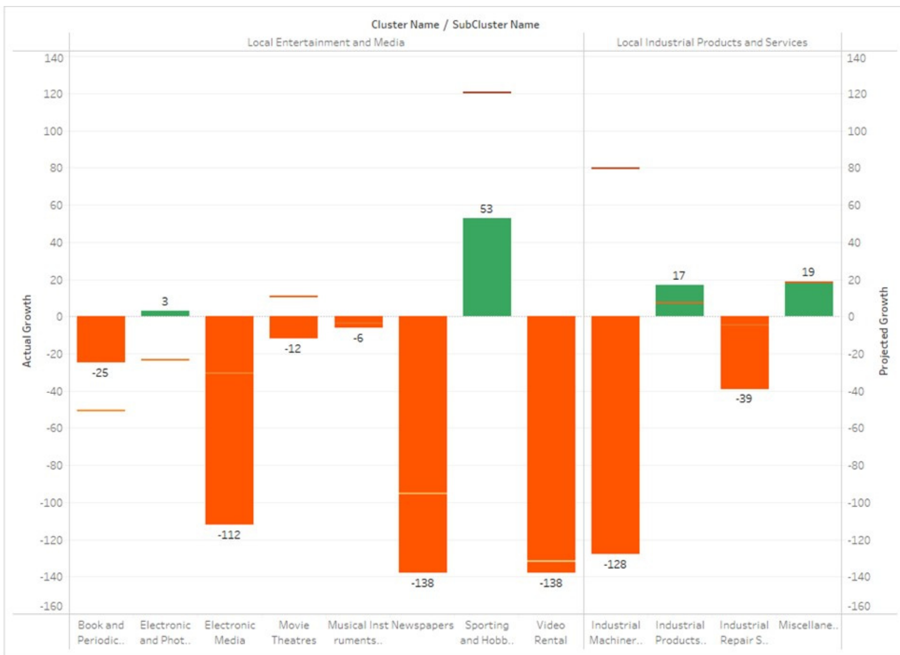
Tier IV Local Cluster Job Creation by Subcluster

Table 12 on page 46 lists Tier IV local clusters representing clusters with fewer than 2,200 paid employees.

Local Entertainment and Media had a net loss of 375 jobs. Video Rental (-138), Newspapers (-138), and Electronic Media (-112) subclusters had the greatest loss. (Figure 31)

The Local Logistical Services cluster has 2,173 paid employees. 319 new jobs were created between 2010 and 2015. Local Utilities gained 140 jobs in its Communications Services subcluster, but lost 86 jobs in the Heating Oil and Other Fuel Dealers subcluster. (Figure 32)

Figure 31: Tier IV-1 Local Cluster Job Creation/Loss by Subcluster (2010-2015)



Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Figure 32: Tier IV-2 Local Cluster Job Creation/Loss by Subcluster (2010-2015)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Table 12: Asheville MSA 2010-2015 Local Cluster Tier IV Cluster and Subcluster Growth

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Local Entertainment and Media Cluster				
Sporting and Hobby Retailing	499	552	53	121
Electronic and Photographic Retailing	395	398	3	(23)
Musical Instruments Retailing	80	74	(6)	(3)
Movie Theatres	195	183	(12)	11
Book and Periodical Retailing	269	244	(25)	(50)
Electronic Media	440	328	(112)	(30)
Newspapers	360	222	(138)	(95)
Video Rental	162	24	(138)	(131)
Local Industrial Products and Services Cluster				
Miscellaneous Equipment Rental and Leasing	97	116	19	19
Industrial Products and Services Wholesaling	120	137	17	8
Industrial Repair Services	92	53	(39)	(4)
Industrial Machinery and Distribution	483	355	(128)	80
Local Logistical Services Cluster				
Passenger Car Rental	60	152	92	(1)
Local Passenger Transportation	152	240	88	12
Local Transportation Services	1,532	1,603	71	220

Cluster/Subcluster	2010 Employment	2015 Employment	Actual Growth	Expected Growth
Truck Leasing	20	85	65	7
Warehousing Services	90	93	3	6
Local Utilities Cluster				
Communications Services	468	608	140	(34)
Electric Power Distribution	240	296	56	(4)
Natural Gas Distribution	120	175	55	3
Sanitary Services	70	80	10	2
Heating Oil and Other Fuel Dealers	292	206	(86)	(24)

Source: Institute for Strategy and Competitiveness, Harvard Business School, 2017

Asheville MSA Economic Leakage Analysis

Addressing economic leakage places a focus on utilizing local business to provide the goods and services that the Asheville MSA currently imports from outside the region. This "localization" approach leads to local business expansion, job creation, and a healthier economy in which more community residents can participate. Participation in a healthy economy affects the financial condition of individuals and families. The benefits, however, affect many key dimensions of communities and families including health and education.

"Localization" does not mean the elimination of exports or decreasing the participation in a global economy. Research shows that an increase in localization increases the pool of businesses equipped to export goods and/or services outside of their local area.

Methodology for Analyzing Economic Leakage

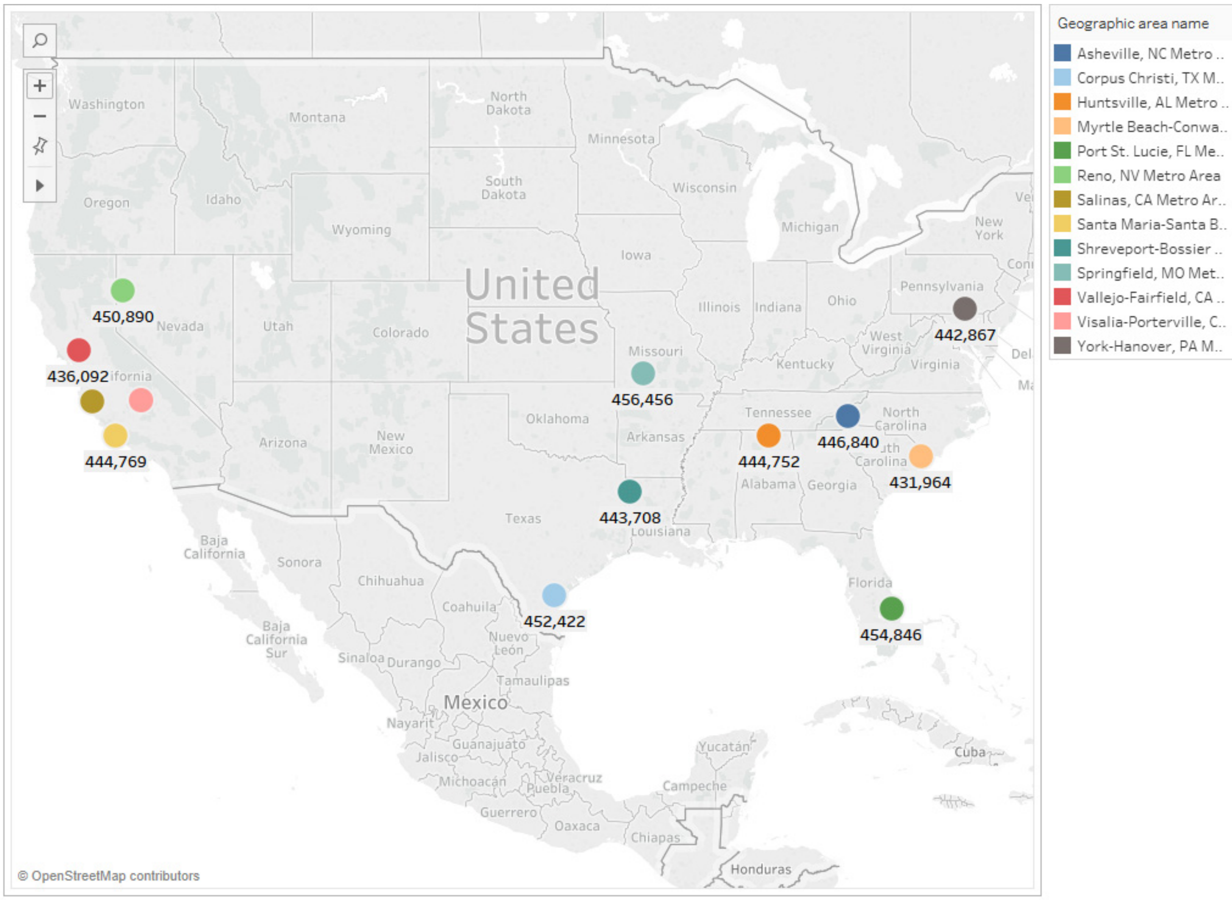
Although import data for goods, services, and capital exists at a national level, measuring economic leakage at a local level is a challenge. The various economic databases (federal, state, and private) utilize different methodologies for data collection and data adjustment to address sampling errors and other uncertainties. Too often, these databases are not architected to work together. ED3 Group utilizes an approach that is intended to provide broad guidance to the New Economy Coalition and other key stakeholders as they develop strategies to advance job creation.

BENCHMARK USED IN DETERMINING ECONOMIC LEAKAGE

With only 15.4% of the overall GDP going to imports (according to the World Bank), the U.S. is a relatively self-reliant economy. Buying patterns are very similar from region to region. Therefore, a local or regional economy that is "self-reliant" will have a composition of paid jobs and types of businesses consistent with the national average. When a region's key economic indicators are proportionately larger than the average for the U.S., a higher level of export is occurring. If the indicators are proportionately smaller, there is a high likelihood of import or economic leakage. This utilization of national data as the benchmark for determining economic leakage provides guidance on potential areas for import substitution.

An "Import Index" was calculated by comparing the Asheville MSA number of paid employees with the national average (see Table 13 on page 52 and Table 14 on 66). The national average is calculated using the number of paid employees in a typical U.S. MSA similar in population size as the Asheville MSA (see Figure 33). If the Import Index deviates significantly from the national average, there is a high likelihood of economic leakage/import. An Import Index much higher than the national average are areas of a strong traded and/or local industry.

Figure 33: MSA Areas of Similar Populations (Source: US Census Bureau)



HISTORICAL PERFORMANCE AND PLAUSIBILITY

The import index identifies industries that have a high potential for import substitution. This index provides guidance on potential areas that can be further assessed for plausibility. Part of this plausibility analysis is to examine the subcluster Expected Growth (Exp. Growth) based on the 2010 to 2015 national growth rate and the Actual Growth (Act. Growth) based on the Asheville MSA growth/loss in jobs from 2010 to 2015.

Import/Export Analysis Table 13 on page 51 for Local Cluster industries and Table 14 on page 66 for Traded Cluster industries contain detailed information by industry. The detail is being provided so that the New Economy Coalition can explore opportunities for minority business creation and/or expansion at the most granular level of industry identification. Each table contains the following data:

- **Cluster Name:** Local or Traded Industry Cluster Name
- **Subcluster Name:** Subcluster for Local or Traded Cluster
- **Subcluster Expected Growth (Exp. Growth):** National growth rate for this subcluster from 2010 to 2015
- **Subcluster Actual Growth (Act. Growth):** Actual growth rate from 2010 to 2015 for Asheville MSA
- **NAICS Industry:** 6 Digit NAICS Industry
- **2015 Number of Establishments (2015 No. Firms):** Number of establishments in Asheville MSA
- **2015 Number of Paid Employees (2015 No. Paid Employees):** Number of paid employees in
- **2015 National MSA Average:** National benchmark the average number of paid employees for MSAs with similar populations
- **Import Index:** Comparison of number of paid employees in Asheville MSA with national benchmark. Substantially low percentages (highlighted in **green**) indicate high likelihood of import and serve as candidates for import substitution. Substantially high percentages (highlighted in **blue**) are exceeding national averages and in many cases, may be key export industries within the Asheville MSA.
- **Number of Potential New Jobs (No. New Jobs):** The number of jobs created if Asheville MSA creates or expands jobs in this industry to meet the national average

LOCAL CLUSTER IMPORT/EXPORT ANALYSIS

Table 13 identifies local cluster industries (green highlight) that have a high likelihood of experiencing economic leakage and are candidates for import substitution. The local cluster industries exceeding the national average (blue highlight) are more likely to export their goods and services to other regions outside of the Asheville MSA.

High Performing Local Cluster Industries

The following are examples of the local cluster industries in the Asheville MSA exceeding the national average:

- Continuing care retirement communities (338%)
- Reupholstery and furniture repair (286%)
- Offices of mental health practitioners (except physicians) (275%)
- Temporary shelters (252%)
- Pet care (except veterinary services) (247%)
- Book stores (219%)
- Supermarkets and other grocery (except convenience stores) (198%)
- Automotive transmission repair (184%)
- Commercial photography (176%)
- Funeral homes and funeral services (171%)
- Nursing care facilities (skilled nursing facilities) (163%)
- Cafeterias, grill buffets, and buffets (158%)
- Tobacco stores (146%)
- Beer and merchant wholesalers (145%)
- Siding contractors (138%)
- Home health equipment rental (133%)
- Full service restaurants (130%)
- Home health care services (128%)
- Building inspection services (126%)
- Caterers (117%)
- Child day care services (115%)
- Beauty salons (115%)
- Drinking places (alcoholic beverages) (113%)

Local Cluster Candidates for Import Substitution

The following are examples of the local cluster industries in the Asheville MSA that are much lower than the national average, have a high likelihood for economic leakage, and are good candidates to consider for import substitution. The examples selected also have positive national growth rates from 2010 to 2015. All except some of the construction contractors have positive actual growth rates in the Asheville MSA:

- School and employee bus transportation (1%)
- Document preparation services (11%)
- Home and garden equipment repair and maintenance (12%)
- Barber shops (14%)
- General freight trucking, local (23%)
- Nail salons (23%)
- Armored car services (22%)
- Clothing accessories stores (27%)
- Drywall and insulation contractors (28%)
- Convenience stores (31%)
- Baked goods stores (33%)
- Framing contractors (32%)
- Tile and terrazzo contractors (36%)
- Psychiatric and substance abuse hospitals (39%)
- Specialty (except psychiatric and substance abuse) hospitals (39%)
- Security guards and patrol services (39%)
- Nonresidential property managers (40%)
- Testing laboratories (47%)
- Court reporting and stenotype services (48%)
- Masonry contractors (50%)
- Flooring contractors (50%)
- Diet and weight reducing centers (52%)

- Parking lots and garages (53%)
- Confectionary and nut stores (64%)
- Children's and infants' clothing stores (65%)
- Snack and nonalcoholic beverage bars (71%)

Table 13: Local Cluster Import/Export Index (Source: US Census Bureau)

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		■ - Potential for Import Substitution		■ - Probable Export	
Local Commercial Services					
Building Support Services | Exp. Growth: 9%, Act. Growth: 42%					
561710 Exterminating and pest control services	17	216	216	**100%**	
561720 Janitorial services	107	891	869	**103%**	
561790 Other services to buildings and dwellings	15	81	81	**100%**	
Commercial Photography, Printing and Signmaking | Exp. Growth: 5%, Act. Growth: -18%					
339950 Sign manufacturing	4	29	71	**41%**	42
541922 Commercial photography	7	13	7	**176%**	
Laundry and Linen Services | Exp. Growth: -5%, Act. Growth: -24%					
812320 Drycleaning and laundry services (except coin-operated)	17	134	181	**74%**	47
812331 Linen supply	1	7	156	**4%**	149
812332 Industrial launderers	5	149	138	**108%**	
Local Professional Services | Exp. Growth: 23%, Act. Growth: 5%					
541110 Offices of lawyers	244	1,105	905	**122%**	
541211 Offices of certified public accountants	99	561	438	**128%**	
541219 Other accounting services	57	212	274	**77%**	62
541350 Building inspection services	19	24	19	**126%**	
541620 Environmental consulting services	24	67	91	**74%**	24
561110 Office administrative services	36	520	488	**107%**	
561320 Temporary help services	37	2,385	2,771	**86%**	386
561410 Document preparation services	10	45	414	**11%**	369
561431 Private mail centers	6	20	32	**62%**	12
561439 Other business service centers (including copy shops)	4	17	25	**67%**	8
561491 Repossession services	2	5	5	**99%**	0
561492 Court reporting and stenotype services	3	6	13	**48%**	7
561990 All other support services	35	247	144	**172%**	
Miscellaneous Repair Services | Exp. Growth: 8%, Act. Growth: -36%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
561622 Locksmiths	6	10	23	**44%**	13
811212 Computer and office machine repair and maintenance	13	49	32	**153%**	
811310 Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	26	98	366	**27%**	268
811411 Home and garden equipment repair and maintenance	4	4	32	**12%**	28
811412 Appliance repair and maintenance	7	15	23	**64%**	8
Security Services | Exp. Growth: 17%, Act. Growth: 1%					
561611 Investigation services	5	57	44	**128%**	
561612 Security guards and patrol services	8	213	539	**40%**	326
561613 Armored car services	1	15	65	**22%**	51
561621 Security systems services (except locksmiths)	9	63	108	**58%**	45
Stationery and Office Supply Retailing | Exp. Growth: -22%, Act. Growth: -20%					
453210 Office supplies and stationery stores	8	132	112	**118%**	
Testing Laboratories | Exp. Growth: 24%, Act. Growth: 86%					
541380 Testing laboratories	11	119	252	**47%**	133
Local Community and Civic Organizations					
Business Associations | Exp. Growth: -1%, Act. Growth: -1%					
813910 Business associations	21	116	78	**148%**	
Labor Organizations | Exp. Growth: -8%, Act. Growth: 15%					
813930 Labor unions and similar labor organizations	11	70	83	**84%**	13
Political Organizations | Exp. Growth: -31%, Act. Growth: -75%					
813940 Political organizations	6	5	107	**5%**	102
Religious Organizations | Exp. Growth: -1%, Act. Growth: 3%					
813110 Religious organizations	440	3,745	2,220	**169%**	
Social Service Organizations | Exp. Growth: 16%, Act. Growth: -5%					
624110 Child and youth services	29	400	255	**157%**	
624120 Services for the elderly and persons with disabilities	46	1,343	1,080	**124%**	
624190 Other individual and family services	57	401	463	**87%**	62
624210 Community food services	6	18	98	**18%**	80
624221 Temporary shelters	12	281	112	**252%**	
624229 Other community housing services	5	100	51	**195%**	
624230 Emergency and other relief services	4	42	66	**64%**	24
813212 Voluntary health organizations	6	35	30	**116%**	

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
813219 Other grantmaking and giving services	8	23	58	**40%**	35
813311 Human rights organizations	5	14	46	**31%**	32
813312 Environment, conservation and wildlife organizations	23	187	114	**164%**	
813319 Other social advocacy organizations	8	139	60	**233%**	
813410 Civic and social organizations	33	154	280	**55%**	126
813990 Other similar organizations (except business, professional, labor, and political organizations)	15	66	200	**33%**	134
Trusts | Exp. Growth: 15%, Act. Growth: 76%					
813211 Grantmaking foundations	24	150	65	**230%**	
Local Education and Training					
Elementary and Secondary Schools | Exp. Growth: 18%, Act. Growth: 5%					
611110 Elementary and secondary schools	42	1,495	800	**187%**	
Job Training Services | Exp. Growth: -10%, Act. Growth: 37%					
611519 Other technical and trade schools	11	58	82	**71%**	24
624310 Vocational rehabilitation services	5	718	449	**160%**	
Recreational and Other Services | Exp. Growth: 19%, Act. Growth: -64%					
611610 Fine arts schools	22	56	74	**76%**	18
Local Entertainment and Media					
Book and Periodical Retailing | Exp. Growth: -18%, Act. Growth: -9%					
451211 Book stores	33	244	111	**219%**	
Electronic and Photographic Retailing | Exp. Growth: -6%, Act. Growth: 1%					
443142 Electronics stores	54	398	418	**95%**	20
Electronic Media | Exp. Growth: -7%, Act. Growth: -26%					
515112 Radio stations	12	153	80	**192%**	
515120 Television broadcasting	1	175	180	**97%**	5
Movie Theatres | Exp. Growth: 5%, Act. Growth: -6%					
512131 Motion picture theaters (except drive-ins)	9	183	201	**91%**	18
Musical Instruments Retailing | Exp. Growth: -4%, Act. Growth: -8%					
451140 Musical instrument and supplies stores	12	74	52	**142%**	
Newspapers | Exp. Growth: -26%, Act. Growth: -38%					
511110 Newspaper publishers	11	222	221	**100%**	
Sporting and Hobby Retailing | Exp. Growth: 24%, Act. Growth: 11%					
451110 Sporting goods stores	45	338	466	**73%**	128
451120 Hobby, toy, and game stores	19	214	240	**89%**	26

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
Video Rental | Exp. Growth: -81%, Act. Growth: -85%					
532230 Video tape and disc rental	5	24	51	**47%**	27
Local Financial Services					
Collection Agencies | Exp. Growth: -13%, Act. Growth: -31%					
561440 Collection agencies	2	42	54	**77%**	12
Deposit-taking Institutions | Exp. Growth: 0%, Act. Growth: -11%					
522110 Commercial banking	113	1,107	1,460	**76%**	353
522130 Credit unions	36	466	365	**128%**	
Insurance Agents and Brokers | Exp. Growth: 6%, Act. Growth: 11%					
524210 Insurance agencies and brokerages	177	661	726	**91%**	65
Pension, Health, and Welfare Funds | Exp. Growth: 39%, Act. Growth: -69%					
524292 Third party administration of insurance and pension funds	2	37	69	**54%**	32
Tax Return Preparation Services | Exp. Growth: -11%, Act. Growth: -6%					
541213 Tax preparation services	40	289	258	**112%**	
Local Food and Beverage Processing and Distribution					
Beer and Liquor Wholesaling | Exp. Growth: 9%, Act. Growth: 39%					
424810 Beer and ale merchant wholesalers	4	327	225	**145%**	
Beer, Wine, and Liquor Retailing | Exp. Growth: 10%, Act. Growth: 23%					
445310 Beer, wine, and liquor stores	38	182	207	**88%**	25
Commercial and Retail Bakeries | Exp. Growth: 0%, Act. Growth: -8%					
311811 Retail bakeries	8	46	85	**54%**	39
311812 Commercial bakeries	4	47	100	**47%**	53
Food Wholesaling | Exp. Growth: 8%, Act. Growth: -24%					
424410 General line grocery merchant wholesalers	2	17	156	**11%**	139
424420 Packaged frozen food merchant wholesalers	3	12	121	**10%**	109
424430 Dairy product (except dried or canned) merchant wholesalers	3	3	69	**4%**	66
424450 Confectionery merchant wholesalers	5	9	188	**5%**	179
424490 Other grocery and related products merchant wholesalers	20	398	437	**91%**	39
Retail Food Stores | Exp. Growth: 11%, Act. Growth: 41%					
445110 Supermarkets and other grocery (except convenience) stores	95	7,575	3,819	**198%**	
445120 Convenience stores	22	37	119	**31%**	82
445210 Meat markets	4	18	49	**37%**	31

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	- Potential for Import Substitution			- Probable Export	
445230 Fruit and vegetable markets	7	27	26	**104%**	
445291 Baked goods stores	2	10	29	**33%**	20
445292 Confectionery and nut stores	9	21	33	**64%**	12
445299 All other specialty food stores	14	68	59	**116%**	
446191 Food (health) supplement stores	16	52	60	**86%**	8
Tobacco Retailing | Exp. Growth: 60%, Act. Growth: 134%					
453991 Tobacco stores	18	89	61	**146%**	
Vending and Direct Selling | Exp. Growth: -5%, Act. Growth: -12%					
454210 Vending machine operators	6	28	33	**86%**	5
454390 Other direct selling establishments	34	140	123	**114%**	
722330 Mobile food services	10	9	92	**10%**	83
Local Health Services					
Drug Stores | Exp. Growth: -3%, Act. Growth: 38%					
446110 Pharmacies and drug stores	69	1,291	869	**148%**	
Funeral Service and Crematories | Exp. Growth: 4%, Act. Growth: -12%					
812210 Funeral homes and funeral services	20	234	136	**171%**	
0 Cemeteries and crematories	10	34	40	**86%**	6
Healthcare Provider Offices | Exp. Growth: 15%, Act. Growth: 7%					
621111 Offices of physicians (except mental health specialists)	294	4,729	3,416	**138%**	
621112 Offices of physicians, mental health specialists	19	49	56	**88%**	7
621210 Offices of dentists	188	1,357	1,189	**114%**	
621310 Offices of chiropractors	80	202	160	**126%**	
621320 Offices of optometrists	37	225	173	**130%**	
621330 Offices of mental health practitioners (except physicians)	71	382	139	**275%**	
621340 Offices of physical, occupational and speech therapists, and audiologists	73	525	368	**143%**	
621391 Offices of podiatrists	8	55	51	**108%**	
621399 Offices of all other miscellaneous health practitioners	41	91	69	**132%**	
621410 Family planning centers	2	22	60	**36%**	38
621420 Outpatient mental health and substance abuse centers	28	525	245	**215%**	
621492 Kidney dialysis centers	7	142	170	**84%**	28
621493 Freestanding ambulatory surgical and emergency centers	11	184	215	**86%**	31

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		- Potential for Import Substitution		- Probable Export	
621498 All other outpatient care centers	12	424	456	**93%**	32
621991 Blood and organ banks	3	50	126	**40%**	76
621999 All other miscellaneous ambulatory health care services	9	147	61	**243%**	
Home and Residential Care | Exp. Growth: 10%, Act. Growth: 16%					
621610 Home health care services	44	2,069	1,623	**128%**	
623110 Nursing care facilities (skilled nursing facilities)	36	3,462	2,123	**163%**	
623210 Residential intellectual and developmental disability facilities	29	736	558	**132%**	
623220 Residential mental health and substance abuse facilities	18	488	308	**158%**	
623311 Continuing care retirement communities	17	1,863	552	**338%**	
623312 Assisted living facilities for the elderly	30	646	586	**110%**	
623990 Other residential care facilities	10	140	118	**119%**	
Hospitals | Exp. Growth: 1%, Act. Growth: 2%					
622110 General medical and surgical hospitals	5	10,188	6,238	**163%**	
622210 Psychiatric and substance abuse hospitals	1	175	450	**39%**	276
622310 Specialty (except psychiatric and substance abuse) hospitals	1	175	446	**39%**	271
Medical Equipment Distribution and Rental | Exp. Growth: -13%, Act. Growth: -49%					
532291 Home health equipment rental	11	73	55	**133%**	
Medical Laboratories | Exp. Growth: 10%, Act. Growth: -11%					
339116 Dental laboratories	19	103	129	**80%**	26
621511 Medical laboratories	13	442	196	**226%**	
621512 Diagnostic imaging centers	10	117	137	**85%**	20
Optical Goods Retailing | Exp. Growth: 8%, Act. Growth: -17%					
446130 Optical goods stores	15	59	98	**60%**	39
Local Hospitality Establishments					
Gifts and Souvenirs Retailing | Exp. Growth: -11%, Act. Growth: -21%					
453220 Gift, novelty, and souvenir stores	59	203	232	**88%**	29
Hospitality Establishments | Exp. Growth: 18%, Act. Growth: 26%					
722310 Food service contractors	25	375	397	**95%**	22
722320 Caterers	23	129	111	**117%**	
722410 Drinking places (alcoholic beverages)	47	500	442	**113%**	
722511 Full-service restaurants	432	10,159	7,798	**130%**	
722513 Limited-service restaurants	345	6,655	6,098	**109%**	

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
722514 Cafeterias, grill buffets, and buffets	14	481	304	158%	
722515 Snack and nonalcoholic beverage bars	71	601	844	71%	243
Recreational Facilities and Instruction | Exp. Growth: 13%, Act. Growth: 25%					
611620 Sports and recreation instruction	24	108	123	88%	15
713910 Golf courses and country clubs	15	516	776	66%	260
713940 Fitness and recreational sports centers	49	856	645	133%	
713950 Bowling centers	4	51	75	68%	24
Local Household Goods and Services					
Appliance Retailing | Exp. Growth: -6%, Act. Growth: -32%					
443141 Household appliance stores	18	101	84	121%	
Electronics Repair | Exp. Growth: -20%, Act. Growth: -40%					
811211 Consumer electronics repair and maintenance	4	2	16	13%	14
811213 Communication equipment repair and maintenance	4	22	136	16%	114
Furniture and Homefurnishings Retailing | Exp. Growth: 4%, Act. Growth: -8%					
442110 Furniture stores	57	369	278	133%	
442210 Floor covering stores	12	97	95	102%	
442291 Window treatment stores	2	14	12	119%	
442299 All other home furnishings stores	45	315	241	131%	
561740 Carpet and upholstery cleaning services	10	40	49	82%	9
811420 Reupholstery and furniture repair	7	37	13	286%	
Gardening Products and Supplies Retailing | Exp. Growth: -5%, Act. Growth: -10%					
444210 Outdoor power equipment stores	7	54	44	123%	
444220 Nursery, garden center, and farm supply stores	29	220	175	126%	
453110 Florists	24	61	69	88%	8
Hardware Retailing | Exp. Growth: 8%, Act. Growth: 7%					
444130 Hardware stores	20	187	176	106%	
Hardware Wholesaling | Exp. Growth: 20%, Act. Growth: 190%					
423710 Hardware merchant wholesalers	4	29	80	36%	51
Landscape and Horticultural Services | Exp. Growth: 15%, Act. Growth: 55%					
561730 Landscaping services	205	1,118	1,004	111%	
Local Industrial Products and Services					
Industrial Machinery and Distribution | Exp. Growth: 17%, Act. Growth: -27%					
332710 Machine shops	26	355	282	126%	
Industrial Products and Services Wholesaling | Exp. Growth: 6%, Act. Growth: 14%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
■ - Potential for Import Substitution ■ - Probable Export					
423930 Recyclable material merchant wholesalers	11	109	142	**77%**	33
423990 Other miscellaneous durable goods merchant wholesalers	11	28	77	**36%**	49
Industrial Repair Services | Exp. Growth: -5%, Act. Growth: -42%					
811219 Other electronic and precision equipment repair and maintenance	10	53	44	**119%**	
Miscellaneous Equipment Rental and Leasing | Exp. Growth: 129%, Act. Growth: 65%					
532210 Consumer electronics and appliances rental	13	105	64	**163%**	
532310 General rental centers	6	56	21	**261%**	
Local Logistical Services					
Local Passenger Transportation | Exp. Growth: 8%, Act. Growth: 72%					
485113 Bus and other motor vehicle transit systems	2	89	138	**65%**	49
485410 School and employee bus transportation	1	3	351	**1%**	348
485991 Special needs transportation	4	42	44	**96%**	2
621910 Ambulance services	7	128	231	**55%**	103
Local Transportation Services | Exp. Growth: 14%, Act. Growth: 5%					
484110 General freight trucking, local	23	43	187	**23%**	144
484122 General freight trucking, long-distance, less than truckload	14	291	361	**81%**	70
484210 Used household and office goods moving	11	171	123	**139%**	
484220 Specialized freight (except used goods) trucking, local	30	110	289	**38%**	179
492110 Couriers and express delivery services	16	613	619	**99%**	6
492210 Local messengers and local delivery	7	38	43	**88%**	5
562111 Solid waste collection	24	337	312	**108%**	
Passenger Car Rental | Exp. Growth: 0%, Act. Growth: 153%					
532111 Passenger car rental	17	152	124	**123%**	
Truck Leasing | Exp. Growth: 36%, Act. Growth: 325%					
532120 Truck, utility trailer, and RV (recreational vehicle) rental and leasing	9	85	85	**100%**	0
Warehousing Services | Exp. Growth: 6%, Act. Growth: 3%					
531130 Lessors of mini-warehouses and self-storage units	45	93	91	**102%**	
Local Motor Vehicle Products and Services					
Automobile Dealers | Exp. Growth 20%, Act. Growth: 24%					
441110 New car dealers	30	1,613	1,537	**105%**	
441120 Used car dealers	46	192	190	**101%**	

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	- Potential for Import Substitution			- Probable Export	
Automotive Parts Retailing | Exp. Growth: 10%, Act. Growth: 22%					
441310 Automotive parts and accessories stores	67	609	541	**113%**	
441320 Tire dealers	44	278	281	**99%**	3
Automotive Parts Wholesaling | Exp. Growth: 11%, Act. Growth: 14%					
423120 Motor vehicle supplies and new parts merchant wholesalers	23	278	207	**134%**	
423130 Tire and tube merchant wholesalers	4	50	49	**102%**	
423140 Motor vehicle parts (used) merchant wholesalers	1	3	29	**9%**	26
Automotive Repair Shops | Exp. Growth: 7%, Act. Growth: -8%					
811111 General automotive repair	128	448	451	**99%**	3
811112 Automotive exhaust system repair	3	11	114	**10%**	103
811113 Automotive transmission repair	11	48	26	**184%**	
811118 Other automotive mechanical and electrical repair and maintenance	4	10	25	**40%**	15
811121 Automotive body, paint, and interior repair and maintenance	49	196	280	**70%**	84
811122 Automotive glass replacement shops	5	9	30	**30%**	21
Automotive Wholesaling | Exp. Growth: 12%, Act. Growth: 117%					
423110 Automobile and other motor vehicle merchant wholesalers	8	152	154	**99%**	2
Gasoline Stations | Exp. Growth: 8%, Act. Growth: -7%					
447110 Gasoline stations with convenience stores	186	1,071	1,100	**97%**	29
447190 Other gasoline stations	27	196	176	**111%**	
Other Automotive Services | Exp. Growth: 15%, Act. Growth: -12%					
488410 Motor vehicle towing	17	62	82	**76%**	20
811191 Automotive oil change and lubrication shops	24	173	101	**172%**	
811192 Car washes	20	142	225	**63%**	83
811198 All other automotive repair and maintenance	5	17	20	**84%**	3
Other Motor Vehicles Distribution | Exp. Growth: 10%, Act. Growth: -27%					
441210 Recreational vehicle dealers	4	65	93	**70%**	28
441222 Boat dealers	3	4	67	**6%**	63
441228 Motorcycle, ATV, and all other motor vehicle dealers	17	139	105	**132%**	
453930 Manufactured (mobile) home dealers	8	47	26	**183%**	
Parking Services | Exp. Growth: 11%, Act. Growth: 20%					
812930 Parking lots and garages	3	36	68	**53%**	32

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
			■ - Potential for Import Substitution		■ - Probable Export
Local Personal Services (Non-Medical)					
Child Care Services | Exp. Growth: 3%, Act. Growth: 3%					
624410 Child day care services	83	993	860	**115%**	
Cleaning Services | Exp. Growth: 5%, Act. Growth: -48%					
812310 Coin-operated laundries and drycleaners	13	68	51	**134%**	
Hair Care Services | Exp. Growth: 5%, Act. Growth: 5%					
812111 Barber shops	1	3	18	**14%**	16
812112 Beauty salons	109	485	420	**115%**	
812113 Nail salons	10	13	56	**23%**	43
Other Personal Services | Exp. Growth: 25%, Act. Growth: 20%					
532220 Formal wear and costume rental	1	3	23	**11%**	21
532299 All other consumer goods rental	4	119	70	**169%**	
541940 Veterinary services	70	736	495	**149%**	
812191 Diet and weight reducing centers	1	15	28	**52%**	14
812199 Other personal care services	39	81	132	**61%**	51
812910 Pet care (except veterinary) services	41	289	117	**247%**	
812990 All other personal services	28	52	51	**102%**	
Personal Products Retailing | Exp. Growth: 21%, Act. Growth: 8%					
446120 Cosmetics, beauty supplies, and perfume stores	22	156	184	**85%**	28
446199 All other health and personal care stores	24	58	101	**58%**	43
453910 Pet and pet supplies stores	21	184	157	**117%**	
453998 All other miscellaneous store retailers (except tobacco stores)	27	142	134	**106%**	
Photographic and Photofinishing Services | Exp. Growth: -31%, Act. Growth: -55%					
541921 Photography studios, portrait	30	51	45	**113%**	
812922 One-hour photofinishing	1	3	3	**80%**	1
Repair Services | Exp. Growth: 9%, Act. Growth: -46%					
811490 Other personal and household goods repair and maintenance	13	28	43	**66%**	15
Local Real Estate, Construction, and Development					
Building Equipment Distribution | Exp. Growth: 14%, Act. Growth: -10%					
423720 Plumbing and heating equipment and supplies (hydronics) merchant wholesalers	11	62	90	**69%**	28
423730 Warm air heating and air-conditioning equipment and supplies merchant wholesalers	13	60	66	**91%**	6
423740 Refrigeration equipment and supplies merchant wholesalers	1	3	21	**12%**	18

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
Concrete Products | Exp. Growth: 5%, Act. Growth: -20%					
327320 Ready-mix concrete manufacturing	5	263	121	**217%**	
327390 Other concrete product manufacturing	2	37	130	**28%**	93
Construction Materials Retailing | Exp. Growth: 204%, Act. Growth: -1%					
444110 Home centers	11	1,580	1,102	**143%**	
444120 Paint and wallpaper stores	12	57	49	**116%**	
444190 Other building material dealers	65	428	367	**116%**	
Construction Materials Wholesaling | Exp. Growth: 10%, Act. Growth: -27%					
423310 Lumber, plywood, millwork, and wood panel merchant wholesalers	9	112	111	**101%**	
423320 Brick, stone, and related construction material merchant wholesalers	3	8	27	**29%**	19
423330 Roofing, siding, and insulation material merchant wholesalers	3	35	45	**78%**	10
423390 Other construction material merchant wholesalers	2	42	49	**85%**	7
Developers | Exp. Growth: -38%, Act. Growth: -56%					
237210 Land subdivision	17	62	82	**76%**	20
General Contractors | Exp. Growth: 7%, Act. Growth: -1%					
236115 New single-family housing construction (except for-sale builders)	233	754	303	**249%**	
236116 New multifamily housing construction (except for-sale builders)	4	12	20	**60%**	8
236117 New housing for-sale builders	47	115	105	**110%**	
236118 Residential remodelers	161	408	465	**88%**	57
236220 Commercial and institutional building construction	42	731	515	**142%**	
Highway and Street Construction | Exp. Growth: -5%, Act. Growth: -58%					
237310 Highway, street, and bridge construction	16	339	369	**92%**	30
Real Estate Services | Exp. Growth: 8%, Act. Growth: -18%					
531110 Lessors of residential buildings and dwellings	72	485	369	**131%**	
531120 Lessors of nonresidential buildings (except mini-warehouses)	39	139	156	**89%**	17
531190 Lessors of other real estate property	13	30	68	**44%**	38
531210 Offices of real estate agents and brokers	251	368	402	**91%**	34
531311 Residential property managers	98	283	555	**51%**	272
531312 Nonresidential property managers	16	53	131	**40%**	78
531320 Offices of real estate appraisers	34	41	38	**108%**	

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
531390 Other activities related to real estate	18	49	68	72%	19
541191 Title abstract and settlement offices	1	3	73	3%	70
541370 Surveying and mapping (except geophysical) services	33	146	81	180%	
Specialty Contractors | Exp. Growth: 13%, Act. Growth: -10%					
238110 Poured concrete foundation and structure contractors	25	110	239	46%	129
238120 Structural steel and precast concrete contractors	2	69	53	131%	
238130 Framing contractors	17	50	156	32%	106
238140 Masonry contractors	27	79	159	50%	80
238150 Glass and glazing contractors	10	105	62	170%	
238160 Roofing contractors	26	582	319	182%	
238170 Siding contractors	20	68	49	138%	
238190 Other foundation, structure, and building exterior contractors	4	29	91	32%	62
238210 Electrical contractors and other wiring installation contractors	145	754	911	83%	157
238220 Plumbing, heating, and air-conditioning contractors	182	1,212	1,248	97%	36
238290 Other building equipment contractors	12	114	125	91%	11
238310 Drywall and insulation contractors	19	87	307	28%	220
238320 Painting and wall covering contractors	52	194	233	83%	39
238330 Flooring contractors	16	46	92	50%	46
238340 Tile and terrazzo contractors	13	42	118	36%	76
238350 Finish carpentry contractors	53	135	130	104%	
238390 Other building finishing contractors	7	16	35	45%	19
238910 Site preparation contractors	61	409	357	114%	
238990 All other specialty trade contractors	37	240	479	50%	239
332322 Sheet metal work manufacturing	5	63	182	35%	119
337212 Custom architectural woodwork and millwork manufacturing	3	39	46	85%	7
562991 Septic tank and related services	7	27	46	58%	19
Water and Sewer Line Construction | Exp. Growth: 7%, Act. Growth: -52%					
237110 Water and sewer line and related structures construction	20	154	231	67%	77
Local Retailing of Clothing and General Merchandise					
Apparel Retailing | Exp. Growth: 13%, Act. Growth: 9%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
448110 Men's clothing stores	9	44	51	**87%**	7
448120 Women's clothing stores	51	355	433	**82%**	78
448130 Children's and infants' clothing stores	9	57	88	**65%**	31
448140 Family clothing stores	59	950	1,038	**92%**	88
448150 Clothing accessories stores	9	24	88	**27%**	64
448190 Other clothing stores	12	149	205	**73%**	56
448210 Shoe stores	36	270	318	**85%**	48
General Merchandise Retailing | Exp. Growth: 38%, Act. Growth: -31%					
452111 Department stores (except discount department stores)	8	677	643	**105%**	
452112 Discount department stores	6	634	726	**87%**	92
452910 Warehouse clubs and supercenters	8	2,196	2,208	**99%**	12
452990 All other general merchandise stores	60	529	521	**102%**	
453310 Used merchandise stores	64	416	345	**120%**	
Jewelry Retailing | Exp. Growth: 0%, Act. Growth: 19%					
448310 Jewelry stores	37	205	163	**126%**	
Luggage Retailing | Exp. Growth: 9%, Act. Growth: -53%					
448320 Luggage and leather goods stores	2	10	8	**118%**	
Sewing, Needlework, and Piece Goods Retailing | Exp. Growth: -10%, Act. Growth: -20%					
451130 Sewing, needlework, and piece goods stores	12	109	61	**180%**	
Local Utilities					
Communications Services | Exp. Growth: -5%, Act. Growth: -47%					
517110 Wired telecommunications carriers	43	598	791	**76%**	193
517911 Telecommunications resellers	3	8	104	**7%**	97
Electric Power Distribition | Exp. Growth: -2%, Act. Growth: 23%					
221122 Electric power distribution	13	296	441	**67%**	145
Heating Oil and Other Fuel Dealers | Exp. Growth: -8%, Act. Growth: -29%					
454310 Fuel dealers	28	206	81	**254%**	
Natural Gas Distribution | Exp. Growth: 2%, Act. Growth: -7%					
221210 Natural gas distribution	3	112	127	**88%**	16
Sanitary Services | Exp. Growth: 2%, Act. Growth: 11%					
221320 Sewage treatment facilities	1	15	27	**53%**	13
562212 Solid waste landfill	2	17	24	**72%**	7
562910 Remediation services	4	47	75	**62%**	28

TRADED CLUSTER IMPORT/EXPORT ANALYSIS

Table 14 identifies traded cluster industries (green highlight) that have a high likelihood of experiencing economic leakage and are candidates for import substitution. The traded cluster industries exceeding the national average (blue highlight) are most likely to export their goods and services to other regions outside of the Asheville MSA.

High Performing Traded Cluster Industries

The following are examples of the traded cluster industries in the Asheville MSA exceeding the national average:

- Executive search services (742%)
- Curtain and linen mills (663%)
- Recreation and vacation camps (except campgrounds) (591%)
- Textile bags and canvas mills (569%)
- Museums (460%)
- Art dealers (319%)
- Packaging and labeling services (292%)
- Graphic design services (277%)
- Jewelry and silverware manufacturing (262%)
- Industrial building construction (261%)
- Integrated record production/distribution (232%)
- Breweries (224%)
- Tour operators (211%)
- Nonwoven fabric mills (199%)
- Bed and breakfast inns (189%)
- Carter bus industry (188%)
- Sound recording studios (186%)
- Employment placement agencies (183%)
- Marketing consulting services (181%)
- Independent artists, writers and performers (171%)
- Theater companies and dinner theaters (137%)
- Book publishers (126%)
- Amusement arcades (125%)
- Landscape architectural services (114%)
- Fruit and vegetable canning (111%)

Traded Cluster Candidates for Import Substitution

The following are examples of the traded cluster industries in the Asheville MSA that are much lower than the national average, have a high probability of economic leakage, and are good candidates to consider for import substitution. The examples selected also have positive national growth and actual Asheville MSA growth rates from 2010 to 2015. :

- Amusement and theme parks (1%)
- Zoos and botanical gardens (2%)
- Junior colleges (3%)
- Grain and field bean merchant wholesalers (3%)
- Other computer related services (3%)
- Men's and boys' clothing and furnishings merchant wholesalers (6%)
- Flour milling (7%)
- Cookie and cracker manufacturing (7%)
- Pharmaceutical preparation manufacturing (8%)
- Research and development in the physical, engineering, and life sciences (except biotechnology) (9%)
- Farm labor contractors and crew leaders (12%)
- Coffee and team manufacturing (15%)
- Research and development in biotechnology (16%)

- Piece goods, notions, and other dry goods merchant wholesalers (18%)
- Mail-order houses (21%)
- Rooming and boarding houses (23%)
- Engineering services (26%)
- Other spectator sports (27%)
- RV (recreational vehicle) parks and campgrounds (29%)
- Distilleries (33%)
- Data processing, hosting, and related services (34%)
- Paint and coating manufacturing (34%)
- Historical sites (42%)
- Custom computer programming services (42%)
- Computer systems design services (49%)
- Music publishers (50%)
- Promoters of performing arts, sports, and similar events without facilities (58%)
- Educational support services (60%)
- Agents and managers for artists, athletes, entertainers, and other public figures (61%)
- Electronic shopping (67%)

Table 14: Traded Cluster Import/Export Index (Source: US Census Bureau)

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		■ - Potential for Import Substitution		■ - Probable Export	
Aerospace Vehicles and Defense					
Aircraft | Exp. Growth: 7%, Act. Growth: 0%					
336412 Aircraft engine and engine parts manufacturing	1	375	185	**203%**	
Search and Navigation Equipment | Exp. Growth: -15%, Act. Growth: 100%					
334511 Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	1	750	750	**100%**	
Agricultural Inputs and Services					
Agricultural Services | Exp. Growth: -4%, Act. Growth: 13%					
115112 Soil preparation, planting, and cultivating	1	15	66	**22%**	51
115114 Postharvest crop activities (except cotton ginning)	1	15	283	**5%**	269
115210 Support activities for animal production	3	5	25	**20%**	20
Farm Management and Labor Services | Exp. Growth: 24%, Act. Growth: 45%					
115115 Farm labor contractors and crew leaders	1	15	123	**12%**	109
Fertilizers | Exp. Growth: 6%, Act. Growth: -30%					
325314 Fertilizer (mixing only) manufacturing	1	7	26	**27%**	19
Apparel					
Accessories and Specialty Apparel | Exp. Growth: 2%, Act. Growth: -36%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
314999 All other miscellaneous textile product mills	10	192	38	506%	
315280 Other cut and sew apparel manufacturing	1	3	76	3%	73
315990 Apparel accessories and other apparel manufacturing	1	175	117	149%	
Apparel Contractors | Exp. Growth: -21%, Act. Growth: -91%					
315210 Cut and sew apparel contractors	3	8	13	59%	5
Automotive					
Automotive Parts | Exp. Growth: 33%, Act. Growth: 48%					
336340 Motor vehicle brake system manufacturing	2	764	764	100%	
336350 Motor vehicle transmission and power train parts manufacturing	1	375	111	338%	
Gasoline Engines and Engine Parts | Exp. Growth: 28%, Act. Growth: -29%					
336310 Motor vehicle gasoline engine and engine parts manufacturing	1	175	232	75%	58
Metal Mills and Foundries | Exp. Growth: 13%, Act. Growth: -72%					
331523 Nonferrous metal die-casting foundries	2	17	25	67%	8
331524 Aluminum foundries (except die-casting)	1	3	250	1%	247
Motor Vehicles | Exp. Growth: 39%, Act. Growth: -5%					
336370 Motor vehicle metal stamping	2	10	279	3%	270
Small Vehicles | Exp. Growth: 26%, Act. Growth: 670%					
336999 All other transportation equipment manufacturing	2	77	40	193%	
Biopharmaceuticals					
Biopharmaceutical Products | Exp. Growth: 5%, Act. Growth: 85%					
325412 Pharmaceutical preparation manufacturing	2	37	435	8%	398
Business Services					
Architectural and Drafting Services | Exp. Growth: 4%, Act. Growth: -24%					
541310 Architectural services	55	167	136	123%	
541320 Landscape architectural services	19	50	44	114%	
541340 Drafting services	2	5	144	3%	139
Business Support Services | Exp. Growth: 27%, Act. Growth: -11%					
533110 Lessors of nonfinancial intangible assets (except copyrighted works)	2	5	22	23%	17
541199 All other legal services	8	8	37	22%	29
541214 Payroll services	2	5	131	4%	126
541930 Translation and interpretation services	2	5	174	3%	169

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
541990 All other professional, scientific, and technical services	18	53	70	**76%**	17
561210 Facilities support services	11	378	262	**145%**	
561330 Professional employer organizations	9	51	199	**26%**	148
561421 Telephone answering services	2	37	39	**94%**	2
561422 Telemarketing bureaus and other contact centers	6	433	533	**81%**	100
561920 Convention and trade show organizers	9	48	43	**112%**	
Computer Services | Exp. Growth: 23%, Act. Growth: 47%					
518210 Data processing, hosting, and related services	8	144	429	**34%**	285
541511 Custom computer programming services	84	164	393	**42%**	229
541512 Computer systems design services	52	366	752	**49%**	386
541513 Computer facilities management services	4	122	100	**122%**	
541519 Other computer related services	7	3	93	**3%**	90
Consulting Services | Exp. Growth: 32%, Act. Growth: -8%					
541611 Administrative management and general management consulting services	123	350	397	**88%**	47
541612 Human resources consulting services	10	52	67	**77%**	15
541614 Process, physical distribution, and logistics consulting services	9	12	89	**14%**	77
541618 Other management consulting services	5	9	20	**45%**	11
541690 Other scientific and technical consulting services	17	60	132	**45%**	72
Corporate Headquarters | Exp. Growth: 17%, Act. Growth: 50%					
551112 Offices of other holding companies	6	7	91	**8%**	84
551114 Corporate, subsidiary, and regional managing offices	46	1,709	1,934	**88%**	225
Employment Placement Services | Exp. Growth: 24%, Act. Growth: 71%					
561311 Employment placement agencies	9	394	216	**183%**	
561312 Executive search services	15	129	17	**742%**	
Engineering Services | Exp. Growth: 11%, Act. Growth: 2%					
541330 Engineering services	75	465	1,811	**26%**	1,346
Ground Passenger Transportation | Exp. Growth: 22%, Act. Growth: -73%					
485310 Taxi service	3	24	21	**113%**	
485320 Limousine service	4	15	24	**62%**	9
485999 All other transit and ground passenger transportation	2	5	11	**45%**	6
Communications Equipment and Services					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		■ - Potential for Import Substitution		■ - Probable Export	
Communications Equipment | Exp. Growth: -18%, Act. Growth: 99%					
334220 Radio and television broadcasting and wireless communications equipment manufacturing	2	349	417	84%	68
Communications Services | Exp. Growth: -5%, Act. Growth: -47%					
515210 Cable and other subscription programming	1	3	3	100%	
517210 Wireless telecommunications carriers (except satellite)	19	173	270	64%	97
517410 Satellite telecommunications	1	3	4	68%	1
517919 All other telecommunications	2	5	33	15%	28
Construction Products and Services					
Construction | Exp. Growth: 24%, Act. Growth: 90%					
236210 Industrial building construction	4	260	100	261%	
237120 Oil and gas pipeline and related structures construction	3	8	233	3%	225
237130 Power and communication line and related structures construction	11	216	232	93%	16
237990 Other heavy and civil engineering construction	3	212	75	284%	
Construction Components | Exp. Growth: 11%, Act. Growth: 33%					
327991 Cut stone and stone product manufacturing	5	40	73	54%	33
Construction Materials | Exp. Growth: 0%, Act. Growth: -5%					
324121 Asphalt paving mixture and block manufacturing	2	10	27	35%	18
Construction Products | Exp. Growth: 27%, Act. Growth: 500%					
332996 Fabricated pipe and pipe fitting manufacturing	2	5	80	6%	75
Water, Sewage, and Other Systems | Exp. Growth: 4%, Act. Growth: 500%					
221310 Water supply and irrigation systems	2	5	139	4%	134
Distribution and Electronic Commerce					
Electronic and Catalog Shopping | Exp. Growth: 34%, Act. Growth: 1%					
454111 Electronic shopping	65	178	266	67%	88
454112 Electronic auctions	1	15	16	88%	2
454113 Mail-order houses	7	61	290	21%	229
Rental and Leasing | Exp. Growth: 28%, Act. Growth: -42%					
532411 Commercial air, rail, and water transportation equipment rental and leasing	1	3	164	2%	161
532412 Construction, mining, and forestry machinery and equipment rental and leasing	4	30	170	18%	140
532490 Other commercial and industrial machinery and equipment rental and leasing	13	34	151	22%	117

■ - Potential for Import Substitution ■ - Probable Export

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
Support Services | Exp. Growth: -8%, Act. Growth: -13%					
561499 All other business support services	4	43	18	**237%**	
561910 Packaging and labeling services	5	122	42	**292%**	
Warehousing and Storage | Exp. Growth: 24%, Act. Growth: -49%					
493110 General warehousing and storage	7	916	1,314	**70%**	398
493120 Refrigerated warehousing and storage	2	10	108	**9%**	98
493190 Other warehousing and storage	2	14	116	**12%**	102
Wholesale of Apparel and Accessories | Exp. Growth: 11%, Act. Growth: 96%					
424310 Piece goods, notions, and other dry goods merchant wholesalers	4	11	60	**18%**	49
424320 Men's and boys' clothing and furnishings merchant wholesalers	3	5	82	**6%**	77
424330 Women's, children's, and infants' clothing and accessories merchant wholesalers	4	82	36	**230%**	
Wholesale of Books, Periodicals, and Newspapers | Exp. Growth: -16%, Act. Growth: 70%					
424920 Book, periodical, and newspaper merchant wholesalers	2	17	47	**36%**	30
Wholesale of Chemical and Allied Products | Exp. Growth: 13%, Act. Growth: 69%					
424610 Plastics materials and basic forms and shapes merchant wholesalers	3	40	22	**180%**	
424690 Other chemical and allied products merchant wholesalers	13	301	195	**154%**	
Wholesale of Construction and Mining Machinery and Equipment | Exp. Growth: 14%, Act. Growth: -77%					
423810 Construction and mining (except oil well) machinery and equipment merchant wholesalers	5	99	164	**60%**	65
Wholesale of Drugs and Druggists' Sundries | Exp. Growth: 16%, Act. Growth: 4%					
424210 Drugs and druggists' sundries merchant wholesalers	13	168	195	**86%**	27
Wholesale of Electrical and Electronic Goods | Exp. Growth: 13%, Act. Growth: 130%					
423610 Electrical apparatus and equipment, wiring supplies, and related equipment merchant wholesalers	23	636	238	**268%**	
423620 Household appliances, electric housewares, and consumer electronics merchant wholesalers	2	209	138	**152%**	
423690 Other electronic parts and equipment merchant wholesalers	16	121	167	**72%**	46
Wholesale of Farm and Garden Machinery and Equipment | Exp. Growth: 14%, Act. Growth: -49%					
423820 Farm and garden machinery and equipment merchant wholesalers	5	20	133	**15%**	113
Wholesale of Farm Products and Supplies | Exp. Growth: 11%, Act. Growth: -27%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
424910 Farm supplies merchant wholesalers	11	75	208	**36%**	133
424930 Flower, nursery stock, and florists' supplies merchant wholesalers	8	215	131	**164%**	
424940 Tobacco and tobacco product merchant wholesalers	1	35	110	**31%**	75
493130 Farm product warehousing and storage	2	10	13	**73%**	4
Wholesale of Food Products | Exp. Growth: 10%, Act. Growth: -37%					
424440 Poultry and poultry product merchant wholesalers	1	3	13	**20%**	10
424470 Meat and meat product merchant wholesalers	3	32	54	**59%**	22
424480 Fresh fruit and vegetable merchant wholesalers	9	56	337	**17%**	281
424820 Wine and distilled alcoholic beverage merchant wholesalers	6	163	203	**80%**	40
Wholesale of Furniture and Home Furnishing | Exp. Growth: 12%, Act. Growth: 1%					
423210 Furniture merchant wholesalers	7	74	37	**199%**	
423220 Home furnishing merchant wholesalers	11	72	101	**71%**	29
Wholesale of Industrial Machinery, Equipment, and Supplies | Exp. Growth: 24%, Act. Growth: 13%					
423830 Industrial machinery and equipment merchant wholesalers	29	177	529	**33%**	352
423840 Industrial supplies merchant wholesalers	8	43	117	**37%**	74
Wholesale of Jewelry, Watches, Precious Stones, and Precious Metals | Exp. Growth: 4%, Act. Growth: 80%					
423940 Jewelry, watch, precious stone, and precious metal merchant wholesalers	9	36	18	**202%**	
Wholesale of Metals and Minerals (except Petroleum) | Exp. Growth: 13%, Act. Growth: -66%					
423510 Metal service centers and other metal merchant wholesalers	8	24	138	**17%**	114
Wholesale of Other Merchandise | Exp. Growth: 3%, Act. Growth: 10%					
424950 Paint, varnish, and supplies merchant wholesalers	3	21	18	**120%**	
424990 Other miscellaneous nondurable goods merchant wholesalers	14	142	63	**224%**	
Wholesale of Paper and Paper Products | Exp. Growth: -1%, Act. Growth: -71%					
424110 Printing and writing paper merchant wholesalers	2	17	8	**221%**	
424120 Stationery and office supplies merchant wholesalers	4	28	60	**47%**	32
424130 Industrial and personal service paper merchant wholesalers	2	5	63	**8%**	58
Wholesale of Petroleum and Petroleum Products | Exp. Growth: -2%, Act. Growth: -28%					
424710 Petroleum bulk stations and terminals	10	100	124	**80%**	24

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
424720 Petroleum and petroleum products merchant wholesalers (except bulk stations and terminals)	2	10	26	**36%**	17
Wholesale of Professional and Commercial Equipment and Supplies | Exp. Growth: -4%, Act. Growth: -20%					
423420 Office equipment merchant wholesalers	9	119	88	**135%**	
423430 Computer and computer peripheral equipment and software merchant wholesalers	8	22	126	**17%**	104
423440 Other commercial equipment merchant wholesalers	10	64	36	**178%**	
423450 Medical, dental, and hospital equipment and supplies merchant wholesalers	10	83	172	**48%**	89
423460 Ophthalmic goods merchant wholesalers	1	15	18	**83%**	3
423490 Other professional equipment and supplies merchant wholesalers	5	63	22	**282%**	
Wholesale of Service Establishment Equipment, and Supplies | Exp. Growth: 2%, Act. Growth: 80%					
423850 Service establishment equipment and supplies merchant wholesalers	5	36	76	**48%**	40
Wholesale of Sporting and Recreational Goods and Supplies | Exp. Growth: 17%, Act. Growth: -12%					
423910 Sporting and recreational goods and supplies merchant wholesalers	6	84	103	**81%**	19
Wholesale of Transportation Equipment and Supplies (except Motor Vehicles) | Exp. Growth: -5%, Act. Growth: -75%					
423860 Transportation equipment and supplies (except motor vehicle) merchant wholesalers	2	5	58	**9%**	53
Wholesale Trade Agents and Brokers | Exp. Growth: 0%, Act. Growth: 69%					
425120 Wholesale trade agents and brokers	49	248	308	**81%**	60
Downstream Chemical Products					
Dyes, Pigments and Coating | Exp. Growth: 24%, Act. Growth: 45%					
325510 Paint and coating manufacturing	1	15	43	**34%**	29
Lubricating Oils and Greases | Exp. Growth: 28%, Act. Growth: -30%					
324191 Petroleum lubricating oil and grease manufacturing	1	7	15	**48%**	8
Personal Care and Cleaning Products | Exp. Growth: 2%, Act. Growth: -20%					
325611 Soap and other detergent manufacturing	1	3	6	**45%**	3
325612 Polish and other sanitation good manufacturing	1	3	21	**12%**	19
325620 Toilet preparation manufacturing	3	3	7	**44%**	4
Downstream Metal Products					
Ammunition | Exp. Growth: 13%, Act. Growth: -88%					
332994 Small arms, ordnance, and ordnance accessories manufacturing	1	3	18	**14%**	15

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		■ - Potential for Import Substitution		■ - Probable Export	
Fabricated Metal Structures | Exp. Growth: 8%, Act. Growth: 6%					
332312 Fabricated structural metal manufacturing	4	74	210	**35%**	136
Metal Products | Exp. Growth: 6%, Act. Growth: 10%					
332215 Metal kitchen cookware, utensil, cutlery, and flatware (except precious) manufacturing	1	3	11	**23%**	8
332510 Hardware manufacturing	1	3	51	**5%**	49
332999 All other miscellaneous fabricated metal product manufacturing	3	40	51	**78%**	11
Education and Knowledge Creation					
Colleges, Universities, and Professional Schools | Exp. Growth: 8%, Act. Growth: 17%					
611210 Junior colleges	1	3	88	**3%**	85
611310 Colleges, universities, and professional schools	14	2,567	892	**288%**	
Educational Support Services | Exp. Growth: 30%, Act. Growth: 50%					
611710 Educational support services	19	45	75	**60%**	30
Professional Organizations | Exp. Growth: 11%, Act. Growth: -5%					
813920 Professional organizations	4	19	26	**74%**	7
Research Organizations | Exp. Growth: 10%, Act. Growth: 24%					
541711 Research and development in biotechnology	2	5	31	**16%**	26
541712 Research and development in the physical, engineering, and life sciences (except biotechnology)	13	76	873	**9%**	797
541720 Research and development in the social sciences and humanities	2	17	12	**139%**	
Training Programs | Exp. Growth: 1%, Act. Growth: -4%					
611420 Computer training	4	10	139	**7%**	129
611430 Professional and management development training	17	159	55	**290%**	
611630 Language schools	1	15	32	**46%**	17
611691 Exam preparation and tutoring	11	46	76	**60%**	30
611699 All other miscellaneous schools and instruction	26	133	57	**235%**	
Electric Power Generation and Transmission					
Alternative Electric Power | Exp. Growth: -1%, Act. Growth: -88%					
221111 Hydroelectric power generation	1	3	33	**8%**	30
Electric Power Transmission | Exp. Growth: 29%, Act. Growth: -30%					
221121 Electric bulk power transmission and control	1	7	73	**10%**	66
Fossil Fuel Electric Power | Exp. Growth: 4%, Act. Growth: 218%					
221112 Fossil fuel electric power generation	4	191	130	**147%**	
Environmental Services					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
Other Waste Management Services | Exp. Growth: 18%, Act. Growth: -75%					
562998 All other miscellaneous waste management services	1	3	9	**27%**	7
Waste Processing | Exp. Growth: 27%, Act. Growth: -28%					
562920 Materials recovery facilities	1	15	27	**54%**	13
Financial Services					
Credit Intermediation | Exp. Growth: 1%, Act. Growth: -1%					
522120 Savings institutions	27	509	90	**563%**	
522210 Credit card issuing	1	3	58	**4%**	55
522220 Sales financing	6	17	30	**57%**	13
522291 Consumer lending	13	55	85	**65%**	30
522292 Real estate credit	19	45	114	**40%**	69
522298 All other nondepository credit intermediation	17	139	95	**146%**	
522320 Financial transactions processing, reserve, and clearinghouse activities	5	16	21	**77%**	5
522390 Other activities related to credit intermediation	1	3	89	**3%**	87
Financial Investment Activities | Exp. Growth: 13%, Act. Growth: 7%					
523910 Miscellaneous intermediation	4	19	28	**67%**	9
523920 Portfolio management	24	139	100	**139%**	
523930 Investment advice	37	91	60	**151%**	
523991 Trust, fiduciary, and custody activities	3	80	36	**221%**	
Securities Brokers, Dealers, and Exchanges | Exp. Growth: -7%, Act. Growth: 17%					
522310 Mortgage and nonmortgage loan brokers	11	21	47	**45%**	26
523110 Investment banking and securities dealing	2	14	11	**126%**	
523120 Securities brokerage	92	332	208	**159%**	
523130 Commodity contracts dealing	1	7	5	**145%**	
523140 Commodity contracts brokerage	2	5	34	**15%**	29
Food Processing and Manufacturing					
Baked Goods | Exp. Growth: 32%, Act. Growth: 17%					
311211 Flour milling	1	3	37	**7%**	34
311821 Cookie and cracker manufacturing	1	15	195	**7%**	181
Candy and Chocolate | Exp. Growth: 19%, Act. Growth: 740%					
311352 Confectionery manufacturing from purchased chocolate	3	84	35	**238%**	
Coffee and Tea | Exp. Growth: 29%, Act. Growth: 20%					
311920 Coffee and tea manufacturing	3	12	79	**15%**	67

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	- Potential for Import Substitution			- Probable Export	
Dairy Products | Exp. Growth: 3%, Act. Growth: 1%					
311511 Fluid milk manufacturing	1	375	177	**212%**	
311513 Cheese manufacturing	1	3	227	**1%**	224
Distilleries | Exp. Growth: 76%, Act. Growth: 300%					
312140 Distilleries	1	3	8	**33%**	5
Farm Wholesalers | Exp. Growth: 2%, Act. Growth: 300%					
424510 Grain and field bean merchant wholesalers	1	3	83	**3%**	80
Malt Beverages | Exp. Growth: 80%, Act. Growth: 149%					
311213 Malt manufacturing	1	7	7	**100%**	
312120 Breweries	17	222	99	**224%**	
Packaged Fruit and Vegetables | Exp. Growth: 8%, Act. Growth: 2%					
311421 Fruit and vegetable canning	5	189	170	**111%**	
Soft Drinks and Ice | Exp. Growth: 11%, Act. Growth: -43%					
312111 Soft drink manufacturing	1	35	27	**127%**	
Specialty Foods and Ingredients | Exp. Growth: 2%, Act. Growth: -30%					
311941 Mayonnaise, dressing, and other prepared sauce manufacturing	2	5	50	**10%**	45
311942 Spice and extract manufacturing	1	3	126	**2%**	124
311999 All other miscellaneous food manufacturing	1	35	78	**44%**	44
Wineries | Exp. Growth: 40%, Act. Growth: 5%					
312130 Wineries	4	194	192	**101%**	
Forestry | Exp. Growth: 6%, Act. Growth: -28%					
113310 Logging	9	24	46	**52%**	22
115310 Support activities for forestry	2	5	21	**24%**	16
Furniture					
Household Furniture | Exp. Growth: 1%, Act. Growth: 63%					
337121 Upholstered household furniture manufacturing	2	17	27	**64%**	10
337122 Nonupholstered wood household furniture manufacturing	8	32	13	**253%**	
Institutional Furniture | Exp. Growth: -8%, Act. Growth: 48%					
337127 Institutional furniture manufacturing	3	177	68	**262%**	
Wood Cabinets and Woodwork | Exp. Growth: 7%, Act. Growth: -74%					
337110 Wood kitchen cabinet and countertop manufacturing	10	21	67	**31%**	46
Hospitality and Tourism					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
Accommodations and Related Services | Exp. Growth: 11%, Act. Growth: 28%					
561591 Convention and visitors bureaus	2	5	16	**31%**	11
721110 Hotels (except casino hotels) and motels	130	3,748	2,567	**146%**	
721191 Bed-and-breakfast inns	45	170	90	**189%**	
721199 All other traveler accommodation	9	33	54	**62%**	21
721211 RV (recreational vehicle) parks and campgrounds	8	28	95	**29%**	67
721310 Rooming and boarding houses	2	5	22	**23%**	17
Amusement Parks and Arcades | Exp. Growth: 35%, Act. Growth: 1%					
713110 Amusement and theme parks	1	3	260	**1%**	257
713120 Amusement arcades	5	78	63	**123%**	
Cultural and Educational Entertainment | Exp. Growth: 14%, Act. Growth: 3%					
453920 Art dealers	26	76	24	**319%**	
712110 Museums	11	820	178	**460%**	
712120 Historical sites	3	4	10	**42%**	6
712130 Zoos and botanical gardens	1	3	157	**2%**	155
Gambling Facilities | Exp. Growth: -12%, Act. Growth: 300%					
713290 Other gambling industries	1	3	102	**2%**	99
Other Tourism Attractions | Exp. Growth: 13%, Act. Growth: -31%					
713920 Skiing facilities	1	175	443	**39%**	268
713990 All other amusement and recreation industries	29	284	181	**157%**	
721214 Recreational and vacation camps (except campgrounds)	20	197	33	**591%**	
Spectator Sports | Exp. Growth: 8%, Act. Growth: 190%					
711211 Sports teams and clubs	3	24	28	**85%**	4
711219 Other spectator sports	2	5	19	**27%**	14
Tourism Related Services | Exp. Growth: 4%, Act. Growth: -49%					
487110 Scenic and sightseeing transportation, land	1	15	10	**151%**	
487990 Scenic and sightseeing transportation, other	2	5	10	**49%**	5
532292 Recreational goods rental	2	10	20	**48%**	10
561510 Travel agencies	12	82	166	**49%**	84
561520 Tour operators	13	54	26	**211%**	
561599 All other travel arrangement and reservation services	6	120	86	**139%**	
Information Technology and Analytical Instruments					
Audio and Video Equipment | Exp. Growth: 5%, Act. Growth: -43%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
			■ - Potential for Import Substitution		■ - Probable Export
334310 Audio and video equipment manufacturing	1	35	184	**19%**	150
Computers and Peripherals | Exp. Growth: -38%, Act. Growth: -73%					
333316 Photographic and photocopying equipment manufacturing	1	3	9	**28%**	6
334118 Computer terminal and other computer peripheral equipment manufacturing	2	14	26	**54%**	12
Electronic Components | Exp. Growth: -9%, Act. Growth: -55%					
334412 Bare printed circuit board manufacturing	1	15	57	**26%**	42
334418 Printed circuit assembly (electronic assembly) manufacturing	1	15	245	**6%**	230
334419 Other electronic component manufacturing	1	3	122	**2%**	120
Process and Laboratory Instruments | Exp. Growth: 13%, Act. Growth: -55%					
334513 Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables	3	66	77	**86%**	11
334515 Instrument manufacturing for measuring and testing electricity and electrical systems	1	7	25	**28%**	18
334519 Other measuring and controlling device manufacturing	2	22	196	**11%**	174
334413 Semiconductor and related device manufacturing	1	3	41	**6%**	38
Software Publishers | Exp. Growth: 29%, Act. Growth: -4%					
511210 Software publishers	12	108	230	**47%**	122
Software Reproducing | Exp. Growth: -35%, Act. Growth: 0%					
334614 Software and other prerecorded compact disc, tape, and record reproducing	1	750	378	**198%**	
Insurance Services					
Insurance Carriers | Exp. Growth: 5%, Act. Growth: -69%					
524113 Direct life insurance carriers	3	20	84	**23%**	65
524114 Direct health and medical insurance carriers	7	22	238	**9%**	216
524126 Direct property and casualty insurance carriers	8	38	236	**16%**	198
524127 Direct title insurance carriers	6	15	63	**24%**	48
524128 Other direct insurance (except life, health, and medical) carriers	1	7	6	**121%**	
Insurance Related Services | Exp. Growth: 25%, Act. Growth: -73%					
524291 Claims adjusting	6	8	17	**48%**	9
524298 All other insurance related activities	1	3	27	**9%**	25
Jewelry and Precious Metals					
Jewelry and Precious Metals Products | Exp. Growth: -1%, Act. Growth: -73%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
339910 Jewelry and silverware manufacturing	8	24	9	**262%**	
Leather and Related Products					
Personal Leather Goods and Luggage | Exp. Growth: -9%, Act. Growth: 210%					
316998 All other leather good and allied product manufacturing	3	31	23	**135%**	
Textile Bags and Canvas Products | Exp. Growth: 5%, Act. Growth: -5%					
314910 Textile bag and canvas mills	6	185	33	**569%**	
Lighting and Electrical Equipment					
Electrical Components | Exp. Growth: 5%, Act. Growth: 76%					
335931 Current-carrying wiring device manufacturing	2	109	47	**233%**	
335999 All other miscellaneous electrical equipment and component manufacturing	2	14	63	**22%**	49
Electrical Equipment | Exp. Growth: 7%, Act. Growth: 47%					
335312 Motor and generator manufacturing	1	75	76	**99%**	1
335313 Switchgear and switchboard apparatus manufacturing	3	755	145	**520%**	
335314 Relay and industrial control manufacturing	2	449	129	**348%**	
Lighting Fixtures and Parts | Exp. Growth: -4%, Act. Growth: -56%					
335121 Residential electric lighting fixture manufacturing	2	49	35	**139%**	
335122 Commercial, industrial, and institutional electric lighting fixture manufacturing	1	3	84	**3%**	82
335129 Other lighting equipment manufacturing	1	750	170	**441%**	
Livestock Processing					
Livestock Merchant Wholesalers | Exp. Growth: -12%, Act. Growth: 45%					
424520 Livestock merchant wholesalers	1	15	14	**103%**	
Marketing, Design, and Publishing					
Advertising Related Services | Exp. Growth: 12%, Act. Growth: -33%					
541810 Advertising agencies	25	53	92	**58%**	39
541850 Outdoor advertising	4	21	34	**61%**	13
541860 Direct mail advertising	1	3	45	**6%**	42
541870 Advertising material distribution services	2	5	18	**28%**	13
541890 Other services related to advertising	6	14	78	**18%**	64
Design Services | Exp. Growth: 7%, Act. Growth: -15%					
541410 Interior design services	20	44	36	**123%**	
541420 Industrial design services	1	3	14	**18%**	12
541430 Graphic design services	38	93	34	**277%**	

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
		■ - Potential for Import Substitution		■ - Probable Export	
541490 Other specialized design services	5	12	20	61%	8
Other Marketing Related Services | Exp. Growth: 25%, Act. Growth: -21%					
541613 Marketing consulting services	67	176	97	181%	
541820 Public relations agencies	6	13	24	53%	11
541830 Media buying agencies	1	3	32	8%	29
541840 Media representatives	2	5	31	16%	26
541910 Marketing research and public opinion polling	5	15	38	39%	23
Publishing | Exp. Growth: 14%, Act. Growth: -34%					
511120 Periodical publishers	6	75	87	87%	12
511130 Book publishers	5	29	23	125%	
511199 All other publishers	3	3	9	33%	6
519110 News syndicates	1	3	60	4%	57
519130 Internet publishing and broadcasting and web search portals	12	60	114	52%	54
519190 All other information services	2	10	18	54%	8
Medical Devices					
Optical Instruments and Ophthalmic Goods | Exp. Growth: 6%, Act. Growth: -30%					
339115 Ophthalmic goods manufacturing	1	7	32	22%	25
Surgical and Dental Instruments and Supplies | Exp. Growth: -4%, Act. Growth: 11%					
339112 Surgical and medical instrument manufacturing	1	75	181	41%	107
339113 Surgical appliance and supplies manufacturing	7	382	135	283%	
Metalworking Technology					
Fasteners | Exp. Growth: 26%, Act. Growth: 70%					
332721 Precision turned product manufacturing	11	327	92	357%	
332722 Bolt, nut, screw, rivet, and washer manufacturing	1	7	18	39%	11
Machine Tools and Accessories | Exp. Growth: 18%, Act. Growth: -60%					
333515 Cutting tool and machine tool accessory manufacturing	1	15	28	52%	14
333517 Machine tool manufacturing	3	46	342	13%	296
Metal Processing | Exp. Growth: 15%, Act. Growth: 55%					
327910 Abrasive product manufacturing	2	37	59	62%	22
332313 Plate work manufacturing	1	3	45	6%	42
332813 Electroplating, plating, polishing, anodizing, and coloring	1	35	73	47%	39
Metalworking Machinery | Exp. Growth: 13%, Act. Growth: -3%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
333511 Industrial mold manufacturing	7	108	77	**141%**	
333514 Special die and tool, die set, jig, and fixture manufacturing	4	123	71	**173%**	
Music and Sound Recording | Exp. Growth: 22%, Act. Growth: 6%					
512220 Integrated record production/distribution	2	17	7	**232%**	
512230 Music publishers	1	3	5	**50%**	3
512240 Sound recording studios	5	26	14	**186%**	
Nonmetal Mining | Exp. Growth: 8%, Act. Growth: -45%					
212312 Crushed and broken limestone mining and quarrying	1	7	52	**14%**	45
212313 Crushed and broken granite mining and quarrying	3	44	29	**150%**	
212321 Construction sand and gravel mining	1	35	40	**86%**	6
212399 All other nonmetallic mineral mining	1	3	65	**4%**	62
Oil and Gas Production and Transportation					
Oil and Gas Extraction | Exp. Growth: 24%, Act. Growth: 245%					
211111 Crude petroleum and natural gas extraction	1	35	225	**15%**	191
Support Activities for Oil and Gas Operations | Exp. Growth: 63%, Act. Growth: -50%					
213112 Support activities for oil and gas operations	1	3	892	**0%**	890
541360 Geophysical surveying and mapping services	1	3	26	**10%**	23
Paper and Packaging					
Packaging | Exp. Growth: 0%, Act. Growth: 5%					
322211 Corrugated and solid fiber box manufacturing	1	75	302	**25%**	227
322212 Folding paperboard box manufacturing	1	175	139	**126%**	
322219 Other paperboard container manufacturing	2	209	244	**86%**	35
322220 Paper bag and coated and treated paper manufacturing	3	502	144	**348%**	
Paper Mills | Exp. Growth: -5%, Act. Growth: 0%					
322121 Paper (except newsprint) mills	1	750	750	**100%**	
Paper Products | Exp. Growth: -14%, Act. Growth: -30%					
322230 Stationery product manufacturing	1	7	45	**16%**	38
Performing Arts					
Performing Artists | Exp. Growth: 6%, Act. Growth: -32%					
711110 Theater companies and dinner theaters	10	98	71	**137%**	
711120 Dance companies	1	3	4	**57%**	2
711130 Musical groups and artists	11	33	48	**69%**	15

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
711510 Independent artists, writers, and performers	43	65	38	**171%**	
Promoters and Managers | Exp. Growth: 27%, Act. Growth: 17%					
711310 Promoters of performing arts, sports, and similar events with facilities	10	93	145	**64%**	52
711320 Promoters of performing arts, sports, and similar events without facilities	10	18	31	**58%**	13
711410 Agents and managers for artists, athletes, entertainers, and other public figures	4	7	12	**61%**	5
Plastics					
Plastic Materials and Resins | Exp. Growth: 15%, Act. Growth: 29%					
325211 Plastics material and resin manufacturing	6	420	178	**236%**	
326112 Plastics packaging film and sheet (including laminated) manufacturing	1	75	83	**90%**	8
326113 Unlaminated plastics film and sheet (except packaging) manufacturing	2	182	88	**207%**	
326121 Unlaminated plastics profile shape manufacturing	2	5	64	**8%**	59
326130 Laminated plastics plate, sheet (except packaging), and shape manufacturing	2	757	396	**191%**	
Plastic Products | Exp. Growth: 10%, Act. Growth: -12%					
326122 Plastics pipe and pipe fitting manufacturing	1	175	85	**206%**	
326150 Urethane and other foam product (except polystyrene) manufacturing	1	35	142	**24%**	107
326160 Plastics bottle manufacturing	2	29	204	**14%**	175
326191 Plastics plumbing fixture manufacturing	1	15	100	**15%**	85
326199 All other plastics product manufacturing	10	1,059	310	**342%**	
Printing Services | Exp. Growth: -10%, Act. Growth: -47%					
323111 Commercial printing (except screen and books)	24	302	374	**81%**	72
323113 Commercial screen printing	10	47	65	**73%**	18
323117 Books printing	1	3	82	**3%**	79
Support Activities for Printing | Exp. Growth: -20%, Act. Growth: -18%					
323120 Support activities for printing	2	49	21	**239%**	
Production Technology and Heavy Machinery					
Agricultural and Construction Machinery and Components | Exp. Growth: 18%, Act. Growth: 69%					
333112 Lawn and garden tractor and home lawn and garden equipment manufacturing	1	15	11	**135%**	
333120 Construction machinery manufacturing	1	3	31	**8%**	28
333611 Turbine and turbine generator set units manufacturing	1	3	336	**1%**	333

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
■ - Potential for Import Substitution ■ - Probable Export					
333612 Speed changer, industrial high-speed drive, and gear manufacturing	1	35	51	**68%**	17
333613 Mechanical power transmission equipment manufacturing	1	175	105	**166%**	
333618 Other engine equipment manufacturing	3	755	328	**230%**	
Air Handling Equipment | Exp. Growth: 9%, Act. Growth: 704%					
333413 Industrial and commercial fan and blower and air purification equipment manufacturing	2	49	39	**127%**	
333414 Heating equipment (except warm air furnaces) manufacturing	1	3	18	**14%**	16
333415 Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing	2	1,075	312	**345%**	
Commercial and Service Industry Machinery | Exp. Growth: 10%, Act. Growth: -5%					
333318 Other commercial and service industry machinery manufacturing	2	10	61	**16%**	51
Industrial Machinery | Exp. Growth: 12%, Act. Growth: 126%					
333241 Food product machinery manufacturing	1	35	35	**98%**	1
333249 Other industrial machinery manufacturing	10	116	56	**208%**	
333993 Packaging machinery manufacturing	1	15	107	**14%**	93
333999 All other miscellaneous general purpose machinery manufacturing	4	335	154	**218%**	
Moving and Material Handling Equipment | Exp. Growth: 27%, Act. Growth: -48%					
333922 Conveyor and conveying equipment manufacturing	1	35	54	**64%**	19
333924 Industrial truck, trailer, and stacker machinery manufacturing	1	7	88	**8%**	81
Process Equipment and Components | Exp. Growth: 16%, Act. Growth: -3%					
332911 Industrial valve manufacturing	1	175	122	**143%**	
332919 Other metal valve and pipe fitting manufacturing	1	3	3	**100%**	
333913 Measuring and dispensing pump manufacturing	1	35	35	**100%**	
339991 Gasket, packing, and sealing device manufacturing	2	37	185	**20%**	148
Recreational and Small Electric Goods					
Electric Housewares | Exp. Growth: 20%, Act. Growth: 300%					
335210 Small electrical appliance manufacturing	1	3	7	**38%**	4
Games, Toys, and Children's Vehicles | Exp. Growth: -27%, Act. Growth: -50%					
339930 Doll, toy, and game manufacturing	2	5	53	**9%**	48
Motorcycles and Bicycles | Exp. Growth: 23%, Act. Growth: 340%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
336991 Motorcycle, bicycle, and parts manufacturing	3	44	154	29%	110
Recreational and Decorative Goods | Exp. Growth: -15%, Act. Growth: 31%					
339992 Musical instrument manufacturing	5	85	77	110%	
339999 All other miscellaneous manufacturing	3	20	105	19%	85
Sporting and Athletic Goods | Exp. Growth: -3%, Act. Growth: 700%					
339920 Sporting and athletic goods manufacturing	1	7	626	1%	619
Textile Manufacturing					
Fabric Mills | Exp. Growth: -4%, Act. Growth: -2%					
313220 Narrow fabric mills and schiffli machine embroidery	1	35	35	100%	
313230 Nonwoven fabric mills	6	574	288	199%	
Fibers | Exp. Growth: -4%, Act. Growth: -75%					
325220 Artificial and synthetic fibers and filaments manufacturing	1	3	3	100%	
Household Textile Products | Exp. Growth: -1%, Act. Growth: 58%					
314110 Carpet and rug mills	1	15	15	100%	
314120 Curtain and linen mills	4	294	44	663%	
Textile and Fabric Finishing | Exp. Growth: -4%, Act. Growth: -53%					
313310 Textile and fabric finishing mills	2	10	8	121%	
Yarn and Thread Mills | Exp. Growth: -8%, Act. Growth: 10%					
313110 Fiber, yarn, and thread mills	2	77	69	112%	
Trailers, Motor Homes, and Appliances					
Trailers and Motor Homes | Exp. Growth: 67%, Act. Growth: 14%					
336214 Travel trailer and camper manufacturing	3	80	31	255%	
Transportation and Logistics					
Air Transportation | Exp. Growth: 8%, Act. Growth: -10%					
481111 Scheduled passenger air transportation	4	81	127	64%	46
488119 Other airport operations	2	5	60	8%	55
488190 Other support activities for air transportation	3	4	186	2%	182
Bus Transportation | Exp. Growth: 8%, Act. Growth: 1%					
485510 Charter bus industry	2	89	47	188%	
Ground Transportation Support Activities | Exp. Growth: 24%, Act. Growth: -30%					
488490 Other support activities for road transportation	2	77	38	203%	
488510 Freight transportation arrangement	11	21	199	11%	178
Specialty Air Transportation | Exp. Growth: 12%, Act. Growth: -75%					

Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
	■ - Potential for Import Substitution			■ - Probable Export	
481211 Nonscheduled chartered passenger air transportation	1	3	54	**5%**	52
Trucking | Exp. Growth: 13%, Act. Growth: -36%					
484121 General freight trucking, long-distance, truckload	42	202	461	**44%**	259
484230 Specialized freight (except used goods) trucking, long-distance	8	59	466	**13%**	407
Upstream Chemical Products					
Industrial Gas | Exp. Growth: 100%, Act. Growth: -75%					
325120 Industrial gas manufacturing	1	3	94	**3%**	91
Inorganic Chemicals | Exp. Growth: 26%, Act. Growth: -30%					
325180 Other basic inorganic chemical manufacturing	1	7	129	**5%**	122
Upstream Metal Manufacturing					
Iron and Steel Mills and Forging | Exp. Growth: 11%, Act. Growth: 85%					
332111 Iron and steel forging	2	37	22	**168%**	
Metal Processing | Exp. Growth: 15%, Act. Growth: 55%					
331221 Rolled steel shape manufacturing	1	175	105	**167%**	
331410 Nonferrous metal (except aluminum) smelting and refining	1	15	7	**223%**	
Metal Products | Exp. Growth: 6%, Act. Growth: 10%					
332119 Metal crown, closure, and other metal stamping (except automotive)	1	175	111	**157%**	
Wires and Springs | Exp. Growth: 5%, Act. Growth: -52%					
331222 Steel wire drawing	1	75	150	**50%**	76
332618 Other fabricated wire product manufacturing	1	15	141	**10%**	127
Video Production and Distribution | Exp. Growth: 62%, Act. Growth: -75%					
512110 Motion picture and video production	13	20	22	**93%**	2
Vulcanized and Fired Materials					
Clay Products and Refractories | Exp. Growth: 3%, Act. Growth: -70%					
327110 Pottery, ceramics, and plumbing fixture manufacturing	7	6	19	**32%**	13
Glass Products | Exp. Growth: 11%, Act. Growth: -42%					
327212 Other pressed and blown glass and glassware manufacturing	1	3	99	**3%**	97
327215 Glass product manufacturing made of purchased glass	4	8	76	**11%**	68
Rubber Products | Exp. Growth: 10%, Act. Growth: 598%					
326211 Tire manufacturing (except retreading)	1	3	108	**2%**	105

- Potential for Import Substitution - Probable Export

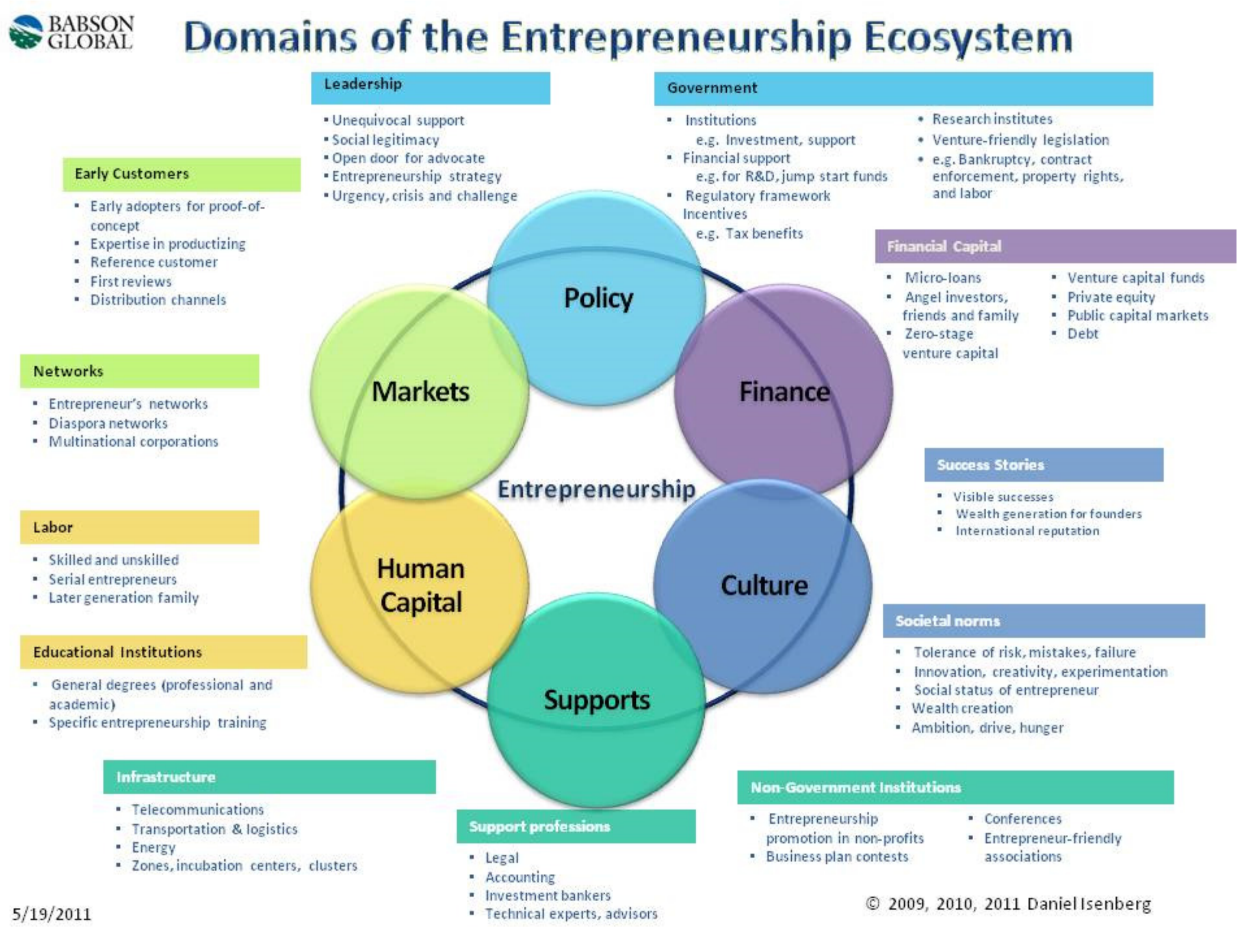
Cluster/Subcluster/NAICS Industry	2015 No. Firms	2015 Est. No. Paid Employees	2015 National MSA Average	Import Index	No. New Jobs
326212 Tire retreading	1	7	24	**29%**	17
326291 Rubber product manufacturing for mechanical use	1	35	22	**157%**	
326299 All other rubber product manufacturing	1	375	115	**325%**	
Water Transportation					
Boat Building and Repairing | Exp. Growth: 12%, Act. Growth: 500%					
336611 Ship building and repairing	1	3	233	**1%**	231
336612 Boat building	1	3	129	**2%**	127
Wood Products					
Prefabricated Wood Building | Exp. Growth: -8%, Act. Growth: -44%					
321992 Prefabricated wood building manufacturing	3	40	24	**167%**	
Wood Components and Products | Exp. Growth: 8%, Act. Growth: -50%					
321214 Truss manufacturing	1	15	134	**11%**	119
321918 Other millwork (including flooring)	1	7	16	**45%**	9
321920 Wood container and pallet manufacturing	2	37	88	**42%**	51
321999 All other miscellaneous wood product manufacturing	7	42	10	**407%**	
Wood Processing | Exp. Growth: 10%, Act. Growth: -14%					
321113 Sawmills	7	75	58	**129%**	
321912 Cut stock, resawing lumber, and planning	1	3	41	**6%**	39

Asheville MSA Entrepreneurial Ecosystem

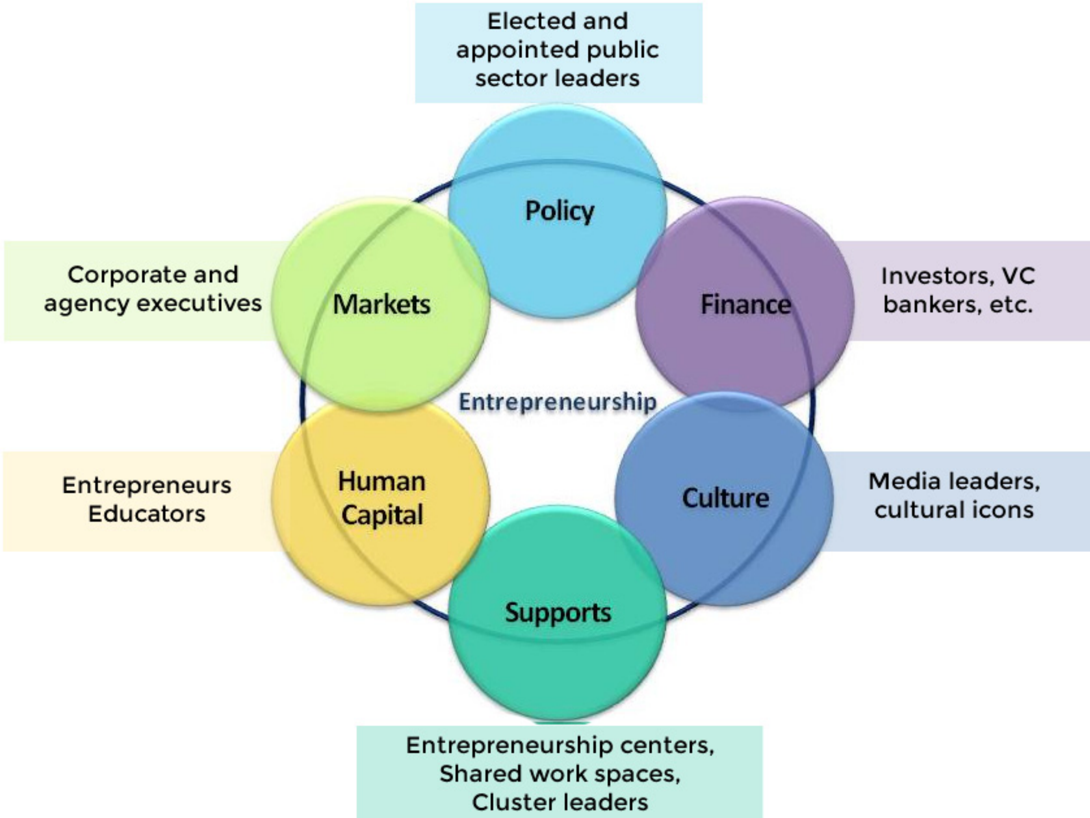
ED3 Group conducted 33 interviews to get anecdotal information from minority business owners, business development organizations, supplier diversity professionals, and community stakeholders throughout the Asheville MSA. The interview questions and discussions focused on the entrepreneurial ecosystem in the Asheville MSA and its support of minority businesses in general.

The ecosystem model used to categorize the responses is illustrated in Figure 1.

Figure 34: Entrepreneurship Ecosystem Domains (Source: Babson College)



To foster strong entrepreneurial ecosystems, this model emphasizes the importance of a committed coalition of local leaders from each of the domains as illustrated below:



The following is a summary by category of comments from the interviews:

Policy

- Not enough visible political will or commitment in the Asheville region to advance minority business
- Not convinced that political leaders see value in advancing the Asheville economy by expanding minority businesses
- The City of Asheville should establish a set aside program to help cultivate minority businesses
- Educational system needs to have a greater focus on developing entrepreneurial minds
- It would be great if the Earned Income Disregard (EID) program could be re-introduced. It allows for the freezing of rent for 1-2 years, if HACA residents are receiving more income. It helps to incentivize entrepreneurship rather than punish people for trying to be more self-sufficient.
- The government is seeking to consolidate the mental health industry. Small businesses have a very difficult time. It feels as though the government is working against them, wanting to put them out of business in order to achieve their objective of consoldiation. This effort eliminates/minimizes the diversity of mental health care providers.

Finance

- Capital is the number one challenge for minority businesses
- Need more creative sources of capital. No matter the lender, the criteria is still the same (i.e. credit, collateral, etc.) and too great of a hindrance.
- Funding may be available,however navigation of the system and overcoming the barriers of the system are the challenges
- Self Help and Carolina Small Business Fund have been extremely helpful. Could not have survived without them.
- When dealing with banking institutions, it is very difficult to overcome the biases.
- Lack of collateral and/or home ownership is a problem
- The more trafficked locations are not affordable (i.e. downtown). Location can make it difficult to survive as a business.
- Fear of not being able to feed your family is a huge barrier to starting a business. It is difficult to take the risk when you already feel financially unfit.

Culture

- More exposure to successful entrepreneurs of color is needed in order to grow an entrepreneurial culture in minority communities. Exposure to a few successful minority businesses can spawn other minority businesses.
- For minority businesses, it feels as though power is concentrated in a few hands in the Asheville region and there is a silent intent to keep it that way.
- Although there are quite a few individuals and organizations that want to help advance minority businesses, at times it feels very paternalistic. The heart is in the right place, but there is a disconnect with the approach.
- Need more minority and minority entrepreneur leadership in advancing minority entrepreneurship.
- There is low minority participation in outreach, networking, and training events across many organizations. Minority business owners fault the organization for not having effective training and/or outreach. Organizations express concerns about the drive of minority business owners.
- We need to find a way to create “space” for innovation. When you’re in survival mode, you’re innovative with your resources, but desire opportunities or space to think more creatively and innovatively about business opportunities
- Long-term mentors are needed. Unfortunately, many professionals of color move from the area. Be great to try to do more to keep them in the community.
- The Asheville region’s minority business culture needs to also be understood from a historical perspective. Most of the business class has come from outside of the area. A divide exists in the community that needs to be bridged.
- When attempting to learn more about my industry from other businesses in the industry, it was very difficult to find anyone willing to share. No matter your level of education, it was difficult to get anyone to open up about procedures, challenges, etc. Even offered money to people in the business in order to try to get advice. Finally met another person of color in the industry and they were tremendously helpful. Minority businesses need more resources they can access for practical advice from other business owners.

Supports

- Youth need more exposure to entrepreneurship, innovation, and technology
- Need more diversity in the provision of business development services.
- Want support resources who can speak specifically to the challenges/nuances facing minority start ups and emerging businesses
- The focus seems to be on low wealth communities only. Although poverty is an issue in minority communities, the community is not monolithic. If there is a focus on minority business creation and expansion (not just the most difficult cases), it helps the entire community. It gives others models to connect with, relate to, and network with at a deeper level that isn't readily available or accessible now.
- Minority businesses do not feel welcome at the Chamber of Commerce
- When attending Chamber events, it is difficult to establish a connection within the Chamber culture unless you are extremely successful
- Minority startups need to see other successful minority businesses and learn from them.
- It might be helpful to create a coalition of minority businesses. A minority chamber would be nice, however, it would be great if the existing Chamber could establish a program that placed more of an emphasis on inclusion.
- Minority entrepreneurs need support and true allies. Ask entrepreneurs what they need.
- There needs to be greater collaboration between support organizations. Often, it feels like a silo'd approach.
- Access to technology is a challenge for youth and adults
- Need more Spanish speaking business development resources
- Minority civic organizations are not active in minority economic development
- In the Hispanic community, we're witnessing more instances where individuals are pooling their monies to open up small businesses.
- Networking at government-sponsored events has not produced any fruit. Does not feel like a good use of time when time is at a premium.

Human Capital

- The availability of minority businesses in the region ready, willing, and able is very low. How can we increase the pool?
- Training modules need to be more culturally relevant
- Need to create condensed consolidated training protocol that is easier to understand and help demystify the business startup process
- Personal budgeting education is needed. Many are nervous about branching out although research has shown a net positive gain over benefits lost. The unknown is scary when additional income may affect food, transportatin, and childcare.
- Classroom style training does not work for everyone. Need to consider small group/one-on-one training as well as cohort/peer training
- MountainBiz Works' *BirdsEye* (formerly *Foundations*) program is really great for start ups.

Markets

- Buncombe county is absent from working with minority businesses.

- There needs to be more outreach to minority businesses from the largest industries in the region.
- In addition to entrepreneurial opportunities for low wealth communities, there should be an initiative that seeks to create and expand business opportunities for minorities of all educational levels and socio-economic classes.
- Need to explore more acquisition opportunities of existing businesses that already have a solid track record. The solid track record may aid in overcoming some of the financial hurdles facing minority business owners.
- Micro sectors are prevalent, but limiting. Difficult to build family wealth. Need a program that helps to transition micro sectors.
- Minority businesses need to consider markets outside of the Asheville region. There's more trade than buying.

Minority Businesses in the Asheville MSA Region

ED3 Group has included a listing of 387 minority businesses in the Asheville region in the Appendix. This listing is a compilation of the various lists reviewed for the economic leakage study. An electronic version of this list with more detailed information accompanies this report.

Please Note: Some businesses listed were labeled as MBE without a specific race designation.

Data Sources, Limitations, and Interactive Charts

Sources

Delgado, M., Porter, M. E., & Stern, S. (2013). U.S. Cluster Benchmark Definitions.

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Data Limitations

The data used in this analysis are publicly available sources. The analysis is therefore constrained by the data available including restrictive industry and regional definitions, estimated data, and currency.

Multiple Sources

The primary data sources used for this study are the U.S. Census Bureau and Harvard Business School's Institute for Strategy and Competitiveness. Some of the differences between these two sources include the level of granularity and industry definitions. We have attempted to achieve as much one-to-one mapping as possible given the state of the data. Although in some cases, we could not achieve an exact one-to-one mapping from one source to the other, the final analysis provides the data accuracy necessary to provide guidance on the status of industry clusters and economic leakage in the Asheville MSA.

Confidentiality

The U.S. Census Bureau's County Business Patterns (CBP) data serves as the primary source of information for economic leakage. Some CBP data has been coded by the Census Bureau to protect firm confidentiality. To overcome this limitation, the ED3 Group calculated estimates using midpoints of ranges where necessary. These estimations do not impact the results in aggregate.

CURRENCY

The U.S. Census Bureau data has a lag of at least two years making it impossible to include the most current economic activity in the analyses. For example, the latest Survey of Business Owners is based on 2012 data. Economic patterns and trends, however, change slowly, therefore, the lag does not significantly reduce the value of the data for economic leakage and evaluation purposes.

INTERACTIVE CHARTS

A Tableau public site has been set up of interactive charts used in this report. The site is located at: https://public.tableau.com/profile/western.north.carolina.new.economy.coalition#!/

Additionally, these reports can be accessed individually by clicking on the links below:

- Asheville MSA County Populations, 2015
- Asheville MSA Number of Employer Establishments by NAICS Industry Sector, 2015
- Distribution of Paid Employees by NAIC Industry Sector, 2015
- Local Cluster-TierI-1
- Local Cluster-TierI-2
- Local Cluster-TierII-1
- Local Cluster-TierII-2
- Local Cluster-TierIII-1
- Local Cluster -TierIII-2
- Local Cluster -TierIV-1
- Local Cluster -TierIV-2
- Traded Cluster -TierI-1
- Traded Cluster -TierI-2
- Traded Cluster -TierI-3
- Traded Cluster -TierI-4
- Traded Cluster -TierII-1
- Traded Cluster -TierII-2
- Traded Cluster -TierIII-1
- Traded Cluster -TierIII-2
- Traded Cluster -TierIV-1
- Traded Cluster -TierIV-2
- Asheville MSA Local Clusters: 2015 Job Creation (Actual Growth) and Projected Growth by Cluster and SubCluster
- Asheville MSA Traded Clusters: 2015 Job Creation (Actual Growth) and Projected Growth by Cluster and SubCluster
- Local Cluster Industry Sizes by Number of Paid Employees
- Traded Cluster Industry Sizes by Number of Paid Employees
- Traded Cluster Job Growth
- Local Cluster Job Growth
- Traded Wages
- Local Wages

WNC NEC Asheville MSA Economic Leakage Study

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