

This publication was prepared by:

Beacon Economics

Christopher Thornberg
Founding Partner
5777 W. Century Blvd., Suite 895
Los Angeles, California 90045
310.571.3399
Chris@BeaconEcon.com

Robert Kleinhenz
Economist & Executive Director of Research
5777 W. Century Blvd., Suite 895
Los Angeles, California 90045
424.646.4652
Robert@BeaconEcon.com

Alan Hooper
Senior Research Associate
Beacon Economics, LLC
Alan@BeaconEcon.com

For further information about this publication please contact:

Victoria Pike Bond
Director of Communications
Beacon Economics, LLC
415.457.6030
Victoria@BeaconEcon.com

Rick Smith
Director of Business Development
Beacon Economics, LLC
858.997.1834
Rick@BeaconEcon.com

Or visit our website at www.BeaconEcon.com.

Reproduction of this document or any portion therein is prohibited without the expressed written permission of Beacon Economics. Copyright ©2017 by Beacon Economics LLC.

INTRODUCTION

The City of Long Beach charged Beacon Economics with assembling data and conducting analysis on economic and demographic conditions that would support the development of an informed, fact-based economic development strategy for the City. As a first step, Beacon Economics delivered **Economic Development Support Analysis Part 1: Economic Overview**, which provided a detailed view of the City’s industries, its workforce and labor market, and its demographics. The original scope of work for the overall project also called for an analysis of specific geographic areas within the city, to obtain more granular understanding of employment and demographic patterns and trends, thereby allowing for more targeted economic development efforts in parts of the city as needed. The City initially asked for an analysis of selected business districts and neighborhoods. However, as the City’s Economic Development Commission moved through its fact-finding process, its primary focus shifted from creating an economic development strategy that targets specific geographic areas to one which targets specific industries and where they are located.

This segment of research, entitled **Economic Development Support Analysis Part 2: Industry Cluster Analysis**, provides an in-depth look at the following sectors in the City of Long Beach:

- Logistics
- Leisure and Hospitality
- Business Services
- Education
- Health Services

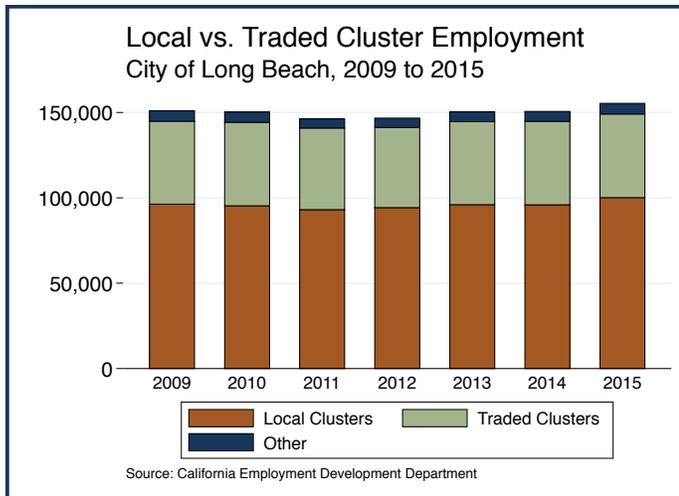
Individual industries within each sector are grouped according to whether they are “traded” or “local”. Traded industries generate new income and grow the local economy while local industries recirculate income once it has been earned.

Each industry is described in terms of the number of establishments, employment levels, and average wages. Where possible, leading individual industries are identified within the industry clusters. Characteristics of industry clusters within the city are compared with those of California as a whole. Significantly, the research also shows where the industry clusters are geographically concentrated within the city boundaries and how they are aligned with known geographies of business districts, key infrastructure, and neighborhoods. While many of the findings below may quantitatively confirm “conventional wisdom” about where industries are located and how large or small they may be, there are also some unexpected results that will likely influence the City’s economic development efforts.

TRADED VS. LOCAL CLUSTER OVERVIEW

The Long Beach economy in recent years has seen job gains across most private sector industries as well as increases in the public sector payroll. In turn, the unemployment rate had seen steady improvement,

finishing 2016 just above 5%. Other “real time” indicators of the City’s recent economic performance point to a local economy that is reasonably healthy and will likely see continued improvement going forward.



While it is essential to monitor the vital signs of the local labor market and economy, one must go beyond these indicators when shaping an appropriate economic development strategy. The central goal of economic development is to grow the local economic “pie” so there is more available for its residents and businesses. In fundamental terms, a successful economic development strategy will drive growth in total personal income, which measures the overall well being of a community and its residents, and increases in income per capita, which measures the well being of individual residents.

Where are sources of new growth for the local economy? An answer to this question requires differentiating between the industries that largely serve the local resident population and those that sell goods or services to customers outside the local economy. In simple terms, spending that takes place in local industries is generally due to locally earned income that recirculates within the local economy. By comparison, traded industries are a source of new income, hence new local spending. For example, a Long Beach factory that sells its manufactured products to a customer outside the city will generate new income to the factory and its employees. To the extent that the factory employees reside in Long Beach, at least some of this new income will be spent on the local economy, thereby increasing activity in among local industries and local clusters.

In this sense, if the goal is to grow the local economy, that new growth must typically come from expansion among the traded industries. Doing so will lead job and income creation within the traded industries themselves, but it will also increase the size of the economic pie, meaning growth and more jobs among the local industries as well.

Long Beach Cluster Employment Characteristics, 2015

Cluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Location Quotient*
			Long Beach (000s)	Long Beach (%)	CA (%)	
Transportation and Logistics	100	8.9	+868	+10.8	+6.8	5.8
Aerospace Vehicles and Defense	12	4.3	-4,668	-52.2	-5.9	4.2
Local Health Services	634	25.2	+1,568	+6.6	+20.0	1.6
Local Community and Civic Organizations	149	10.8	+2,324	+27.5	+31.9	1.4
Education and Knowledge Creation	198	7.6	+736	+10.7	+5.1	1.3
Local Hospitality Establishments	705	17.0	+2,848	+20.1	+23.1	1.2
Local Personal Services (Non-Medical)	195	2.8	+325	+13.4	+19.2	1.0
Local Entertainment and Media	62	1.8	-109	-5.6	-10.0	1.0
Local Logistical Services	70	2.7	-64	-2.3	+16.7	1.0
Local Commercial Services	314	10.4	-3,347	-24.4	+22.2	1.0
Local Education and Training	178	8.9	-697	-7.3	-0.0	1.0
Business Services	199	10.1	+2,079	+25.8	+23.0	1.0
Local Motor Vehicle Products and Services	210	4.1	+329	+8.7	+14.9	1.0
Local Food and Beverage Processing and Distribution	156	4.5	+297	+7.1	+9.4	1.0
Hospitality and Tourism	79	4.1	+340	+9.1	+9.7	1.0
Local Financial Services	112	2.0	-170	-8.0	+0.2	0.9
Local Real Estate, Construction, and Development	199	4.5	+35	+0.8	+9.9	0.8
Local Retailing of Clothing and General Merchandise	110	3.4	+507	+17.7	+10.1	0.7
Distribution and Electronic Commerce	167	4.3	-368	-7.9	+17.5	0.6

Source: California Employment Development Department.

*Measures the concentration of a cluster in the City of Long Beach relative to the concentration of the cluster in California.

To be clear, there is rarely a sharp distinction between local and traded industries.¹ In looking at key sectors of the Long Beach economy, such as Logistics and Leisure and Hospitality, some individual industries are classified as local and others are traded. However, there are often stark differences between local and traded industries when it comes to job counts and average wages. To paint the picture in broad strokes, traded industries tend to have fewer but better paying jobs in comparison to local industries, where job counts are considerably larger but where average paychecks are smaller. Therefore, the primary outcome of direct efforts to grow traded industries will be likely increases in smaller numbers of well-paying jobs, but the secondary (or ripple) effect will be growth in the larger local industries.

With all this in mind, if the goal of economic development is simply to create large numbers of jobs, one could easily adopt strategies that promote local industries. However, the resulting jobs will offer relatively lower pay and that ripple effects throughout the economy will be somewhat muted. On the other hand, a strategy that promotes traded industries will result in fewer jobs created directly, but potentially larger

¹In the sections below, the term *traded cluster* refers to the entire set of traded industries within a sector. Subsets of industries within a traded cluster are referred to as *traded subclusters*. Similar terminology is used in reference to *local clusters* and *local subclusters*.

ripple effects to the extent that traded industries draw inputs from local suppliers and that the better-paying jobs will be created.

Long Beach Cluster Wage Characteristics, 2015

Cluster	Avg. Annual Wage (\$000s)	Growth Since 2009		Wage Differential (%)
		Long Beach (%)	CA (%)	
Transportation and Logistics	96.3	+34.7	+27.1	+49.9
Aerospace Vehicles and Defense	122.5	+27.7	+12.1	+13.4
Local Health Services	57.4	+7.4	+16.4	-9.6
Local Community and Civic Organizations	18.9	-2.1	-5.8	-14.5
Education and Knowledge Creation	52.6	+0.5	+44.3	-41.3
Local Hospitality Establishments	18.8	+10.5	+16.1	-6.7
Local Personal Services (Non-Medical)	23.8	+5.9	+13.0	-21.1
Local Entertainment and Media	21.9	+4.2	+27.8	-58.7
Local Logistical Services	49.1	+20.3	+11.1	+5.6
Local Commercial Services	49.5	+23.2	+9.9	-3.8
Local Education and Training	54.1	+8.2	+9.1	+11.4
Business Services	79.0	+28.6	+32.8	-26.8
Local Motor Vehicle Products and Services	46.3	+23.1	+17.7	+6.8
Local Food and Beverage Processing and Distribution	29.2	+10.2	+12.9	-18.2
Hospitality and Tourism	33.7	+30.8	+21.1	-16.0
Local Financial Services	62.6	+18.3	+27.5	-20.4
Local Real Estate, Construction, and Development	64.7	+27.6	+18.0	+5.5
Local Retailing of Clothing and General Merchandise	19.7	+5.4	+8.5	-19.6
Distribution and Electronic Commerce	79.1	+18.0	+18.9	+5.1

Source: California Employment Development Department.

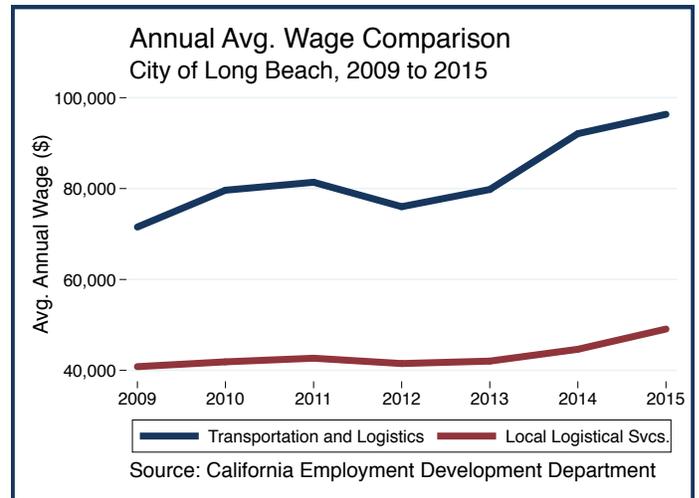
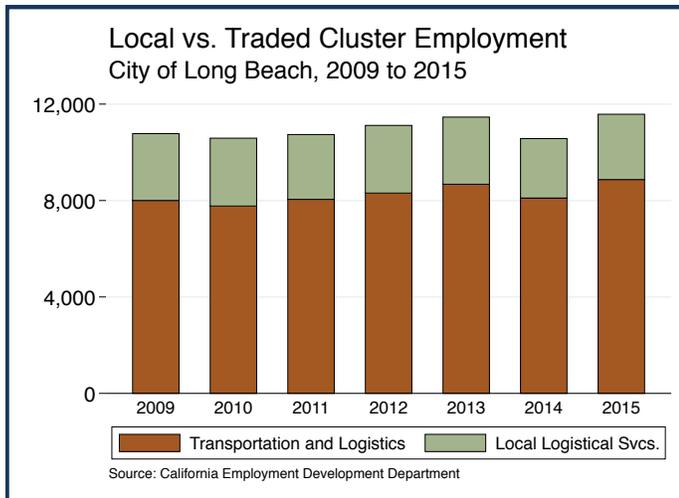
*Measures the wage differential of a cluster in the City of Long Beach relative to California.

CLUSTERS IN FOCUS

Logistics

Without a doubt, Logistics is one of Long Beach's signature sectors. The twin San Pedro ports of Long Beach and Los Angeles make up the largest container complex in the Western Hemisphere. Given the prominent position of the Port of Long Beach in the local economy, it would appear that all things Logistics point back to the Port in one way or another. However, Logistics includes both a traded cluster and a local cluster.

As a rule, when a given sector contains both a traded and a local cluster component, the local cluster is typically the larger of the two. This is not the case with Logistics in Long Beach. Rather, employment in the traded cluster of the Logistics sector (Transportation and Logistics) is considerably larger than in the local cluster (Local Logistics Services) with three-fourths of the nearly 12,000 jobs found in the traded cluster in 2015.



The traded Transportation and Logistics cluster had total payroll employment of 8,900 in 2015, with an average annual wage that was considerably higher than the citywide average of \$54,200 and nearly double the average for Local Logistics Services (\$49,100). About two-thirds of the jobs were in Marine Transportation Services, where average pay exceeded \$100,000. Ground Transportation Support Services were a distant second in terms of both job counts and average pay. Employment in this cluster grew faster in Long Beach between 2009 and 2015 than in California overall (10.8% vs. 6.8%).

As expected, most of the traded Transportation and Logistics cluster is located in the vicinity of the Port of Long Beach and the Downtown area. However, the area around the Long Beach Airport is also home to a smaller cluster of activity.

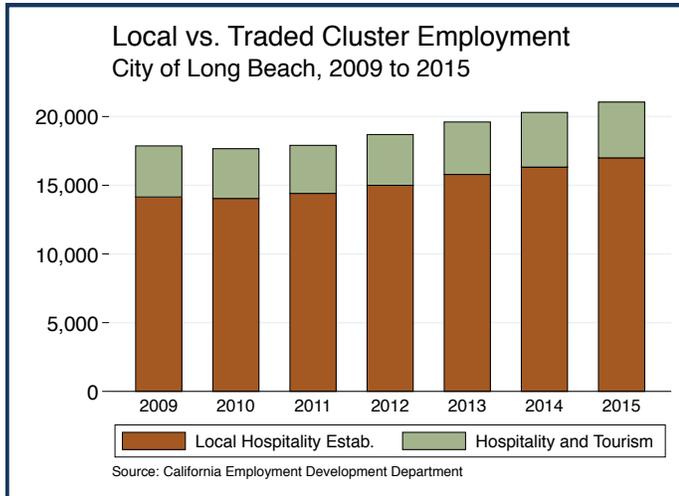
Transportation and Logistics Subcluster Employment Characteristics, 2015

Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Marine Transportation Services	28	6.4	+7	+0.1	-5.8	105.4
Ground Transportation Support Activities	43	1.1	+200	+22.6	+34.8	81.3
Water Passenger Transportation	4	0.3	+120	+74.6	+13.7	36.3
Trucking	8	0.1	+25	+27.5	+6.0	46.0
Cluster Total	100	8.9	+868	+10.8	+6.8	96.3

Source: California Employment Development Department.

Leisure and Hospitality

Given the prominence of the Long Beach Convention Center in the downtown area and the fact that the facility hosts numerous events large and small, one would expect that the traded cluster, Hospitality and Tourism, would be particularly significant in the broader sector, Leisure and Hospitality. However, most establishments in Leisure and Hospitality are hospitality establishments, otherwise known as eating and drinking places. While hospitality establishments serve both visitors and residents, most of the activity is with local residents.



The traded Hospitality and Tourism cluster had total payroll employment of 4,100 in 2015, accounting for one-fifth of all jobs within Leisure and Hospitality. With a location quotient of 0.9, the concentration of Hospitality and Tourism jobs in Long Beach was slightly lower than the statewide average. However, average pay in the traded cluster was \$34,000 in 2015, considerably higher than that of the local cluster (Local Hospitality Establishments) at \$18,800, but lower than the citywide average of \$54,200. This differential is largely due to the fact that many workers in the local cluster are employed part-time.

Local Hospitality Subcluster Employment Characteristics, 2015

Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Hospitality Establishments	656	15.9	+2,611	+19.7	+24.7	18.7
Recreational Facilities and Instruction	36	0.9	+110	+13.8	+12.1	19.9
Gifts and Souvenirs Retailing	13	0.2	+127	+125.2	+0.7	21.7
Cluster Total	705	17.0	+2,848	+20.1	+23.1	18.8

Source: California Employment Development Department.

Overall, employment in the traded Hospitality and Tourism Cluster grew by 9.1% between 2009 and 2015, compared to a growth rate of 9.7% for the state as a whole. The local cluster experienced a 20.1% increase in employment over the same period, which was somewhat lower than the state as a whole at 23.1%. In fact, with a location quotient of 1.2, the concentration of Local Hospitality Establishments in Long Beach is 1.2 times that of California overall.

Geographically, the traded cluster, Hospitality and Tourism, is concentrated in Downtown Long Beach, with many major hotels in close proximity to the Long Beach Convention Center. By comparison, there are two geographic concentrations of the local cluster –Downtown and the Belmont Shore-Second Street business district –although many establishments within the local cluster are also distributed along major commercial corridors throughout the City.

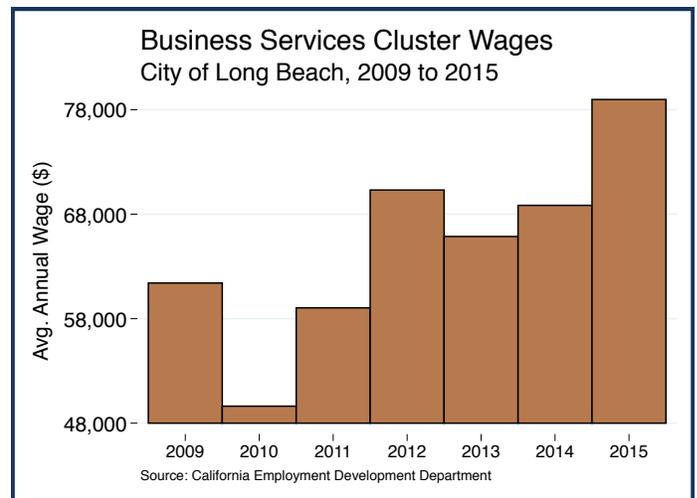
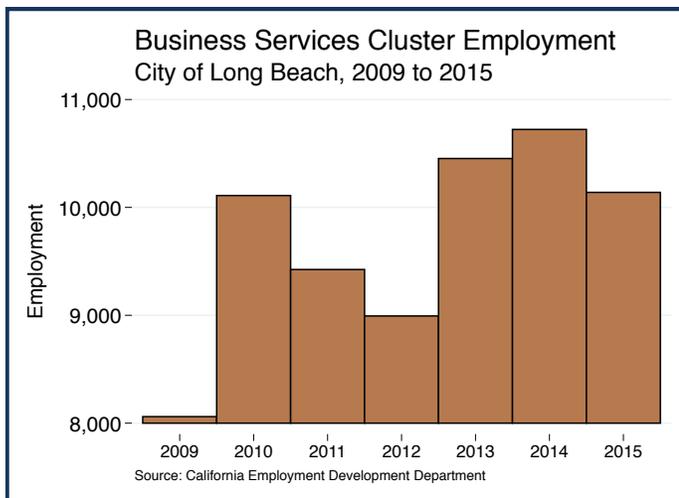
Hospitality and Tourism Subcluster Employment Characteristics, 2015

Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Accommodations and Related Services	42	2.8	+480	+21.1	+12.4	33.3
Tourism Related Services	16	0.6	-196	-24.2	+6.1	37.3
Cultural and Educational Entertainment	7	0.5	+65	+14.3	+13.5	33.8
Other Tourism Attractions	9	0.1	-12	-10.3	+10.5	19.1
Cluster Total	79	4.1	+340	+9.1	+9.7	33.7

Source: California Employment Development Department.

Business Services

Business Services employment has been a lynchpin of the economic recovery in the City of Long Beach since the depths of the Great Recession, providing a plethora of jobs spread across the wage scale and skill spectrum. These jobs, which are distributed across clusters as varied as Corporate Headquarters and Architectural and Drafting Services, bolstered local payrolls during a period of economic tumult, the benefits of which have spilled over into other segments of the local economy. The market for office real estate in the City of Long Beach, for instance, has been strengthened by the growing volume of office-based business jobs in the City, driving rent increases and declining vacancy rates. Growing business employment has also had a positive impact on local household incomes, which have improved behind this upswing of above average wage office jobs.



The Business Services traded industry cluster was the third fastest-growing industry cluster in the City of Long Beach between 2009 and 2015, though the industry cluster trend has not made for a smooth ride. Industry cluster employment grew by more than 25% to 10,100 jobs during this time period, though this reflects a sizable decrease from the post-recession peak reached in 2014. This choppiness can be attributed almost entirely to the Business Support Services subcluster, which is composed of temporary employment services that are known to have volatile headcounts from one period to the next. Despite this volatility, industry cluster payrolls remain on an overall positive trajectory.

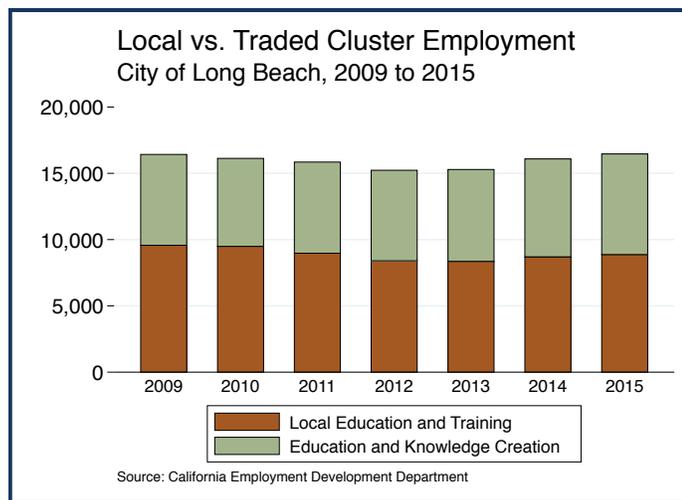
Business Services Subcluster Employment Characteristics, 2015

Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Corporate Headquarters	24	5.0	+2,312	+87.3	+16.1	85.2
Engineering Services	35	1.7	+332	+24.8	+3.5	97.8
Consulting Services	56	1.4	+759	+122.2	+22.1	63.5
Business Support Services	25	0.9	-549	-37.5	+5.4	39.2
Computer Services	34	0.6	+27	+4.6	+48.7	88.1
Architectural and Drafting Services	17	0.4	+54	+15.6	+9.9	73.4
Cluster Total	199	10.1	+2,079	+25.8	+23.0	79.0

Source: California Employment Development Department.

Roughly half of the Business Services jobs in the City of Long Beach fall into the Corporate Headquarters subcluster which is heavily concentrated in the Downtown region. These Downtown office jobs are supported by a broader cluster of consultants and other support services, where most of the new Business Services jobs that have been created in the City since 2009. However, the City of Long Beach is also home to a smaller, more geographically disperse grouping of Engineering and Architectural Services that provide services both inside and out of the City.

Education and Knowledge Creation



The Education industry is a foundational component of any local economy. The establishments engaged in the broader industry are a vital source of jobs, given the intense use of labor relative to other resources, regardless of the type of education. Moreover, the industry is integral to cultivating and developing human capital, which is essential in ensuring that the local economy is supplied with a highly educated and skilled labor force. In a locale such as the City of Long Beach, home to a major California State University campus that attracts a large volume of students from outside of the region every year, it is important to split out the industry into its traded and local industry clusters, separating establishments like local ele-

mentary schools and training programs from those like universities and research organizations that draw in resources from outside the region.

In the City of Long Beach, employment is split fairly evenly between the traded Education and Knowledge Creation cluster and the Local Education and Training cluster, with around 7,600 jobs in the former and 8,900 jobs in the latter. Overall, the Education and Knowledge Creation clusters —Colleges, Universities, and Professional Schools; Training Programs; Research Organizations; Educational Support Services —have added 736 jobs in Long Beach since 2009, with the industry cluster growing twice as quickly as it is in California overall. At the same time, however, the pace of wage growth for workers engaged in the traded education cluster has been lackluster, having grown only 0.5% between 2009 and 2015. At least some portion of this subpar wage growth can be attributed to the mix of new jobs added in 2013 and 2014, the addition of which served to drag down top-level wages in the industry cluster.

Education and Knowledge Creation Subcluster Employment Characteristics, 2015

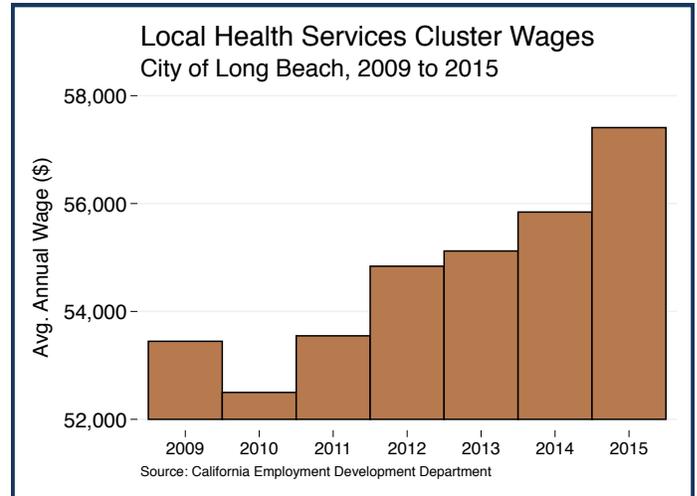
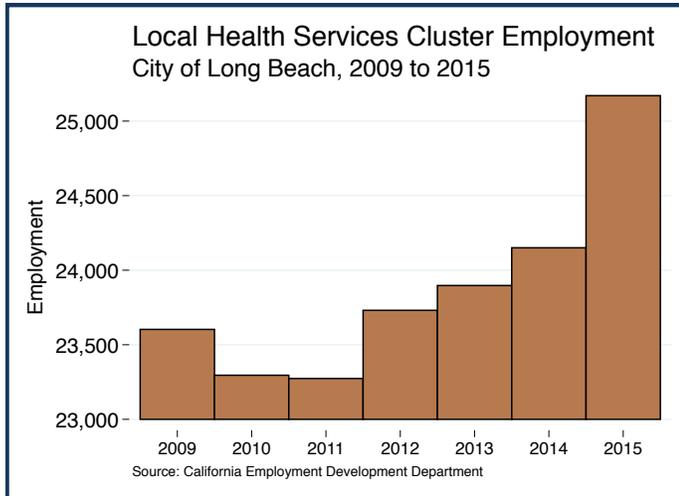
Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Colleges, Universities, and Professional Schools	164	7.1	+608	+9.4	-1.2	53.0
Training Programs	16	0.3	+35	+15.1	+16.5	46.9
Research Organizations	7	0.1	+29	+32.6	+21.9	45.0
Educational Support Services	8	0.1	+33	+45.1	+20.0	46.4
Cluster Total	198	7.6	+736	+10.7	+5.1	52.6

Source: California Employment Development Department.

An outsized share of Education and Knowledge Creation employment is represented by the Colleges, Universities, and Professional Schools subcluster, which accounted for roughly 7,100 jobs in 2015. Though a large portion of this employment activity can be traced to the California State University system, the 164 establishments engaged in this cluster indicate that employment in this traded cluster goes well beyond the local university. Even more, other related subclusters such as Training Programs, Research Organizations, and Educational Support Services have served to round out the Education and Knowledge Creation cluster in the City of Long Beach, providing a depth to the cluster that can be used to garner efficiencies and scale operations to spur further growth and development in the field.

Local Health Services

The Health Care industry is a long-standing stalwart of the Los Angeles County economy and has been vital in providing a relatively thick supply of jobs in the local economy, as the variety of jobs associated with this industry run the gamut of skill levels. Moreover, establishments engaged in this industry across the nation continue to expand their presence due to factors that can ultimately be traced back to the early stage of the Affordable Care Act's implementation. In this regard, Health Care establishments in the City of Long Beach have been no different, with the number of establishments and workers employed in the local-serving Health Services industry proliferating throughout the City and reaching record employment levels in 2015.



Local Health Services is by far the largest industry cluster in the City of Long Beach, accounting for over 25,000 jobs as of 2015, having added over 1,500 new jobs since 2009. Even more, the pace of employment growth in Local Health Services cluster picked up substantially between 2014 and 2015, adding over 1,000 jobs during that time period alone. The wages paid to workers in the cluster have also improved substantially, growing 7.4% to \$57,400 between 2009 and 2015, with the biggest increase coinciding with surging employment in 2015. Taken together, this indicates that many of the new jobs added during this time period offered above-average wages.

Local Health Services Subcluster Employment Characteristics, 2015

Subcluster	Estab. Count*	Total Employment (000s)	Growth Since 2009			Avg. Annual Wage(\$000s)
			Long Beach (000s)	Long Beach (%)	CA (%)	
Hospitals	4	10.1	-211	-2.0	+13.0	73.2
Healthcare Provider Offices	437	7.2	+831	+13.0	+31.6	64.2
Home and Residential Care	108	6.4	+915	+16.5	+20.1	26.7
Drug Stores	57	0.9	+5	+0.6	-7.3	45.4
Medical Laboratories	17	0.3	+15	+5.6	+21.6	74.6
Cluster Total	634	25.2	+1,568	+6.6	+20.0	57.4

Source: California Employment Development Department.

The local-serving health clusters largely focus on providing direct care to local residents either at hospitals or smaller provider offices. In particular, the Hospitals subcluster represents 10,100 of Local Health Service cluster employment, while Healthcare Provider Offices account for another 7,200 jobs. Indeed, the Healthcare Provider Offices subcluster, which is heavily concentrated along Atlantic and Long Beach Boulevard (also known as Bixby Knolls), added over 831 jobs between 2009 and 2015. Overall, the 437 Healthcare Provider Offices, while far smaller in overall job counts than the local hospitals, are an essential component of the local healthcare infrastructure dispersed throughout the City of Long Beach. The Local Health Services cluster is rounded out by another 6,400 jobs in the Home and Residential Care subcluster, which has added the most jobs among health-related subclusters since 2009. However, these jobs are among the lowest paying in the City and are frequently part-time.

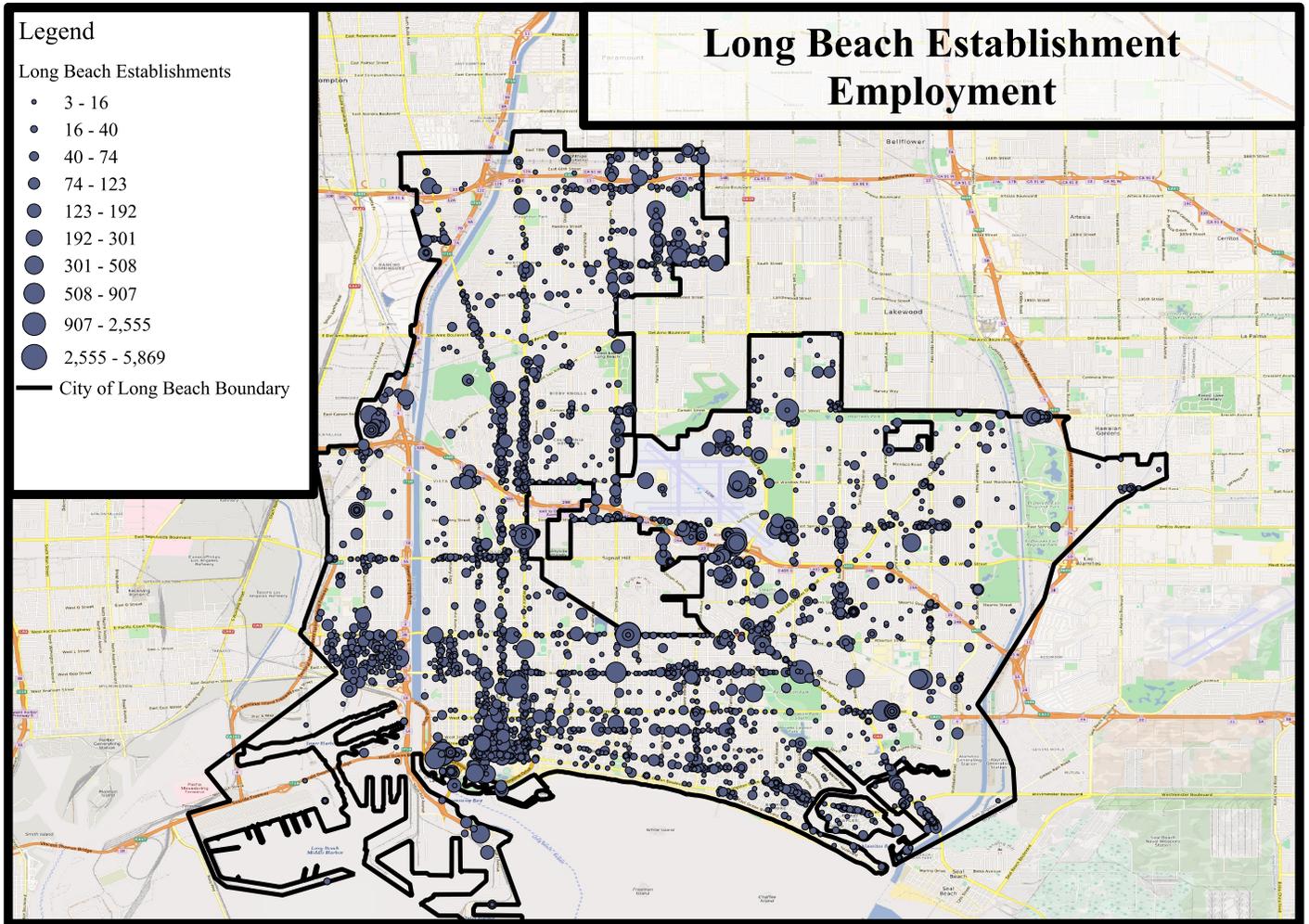
CONCLUDING REMARKS

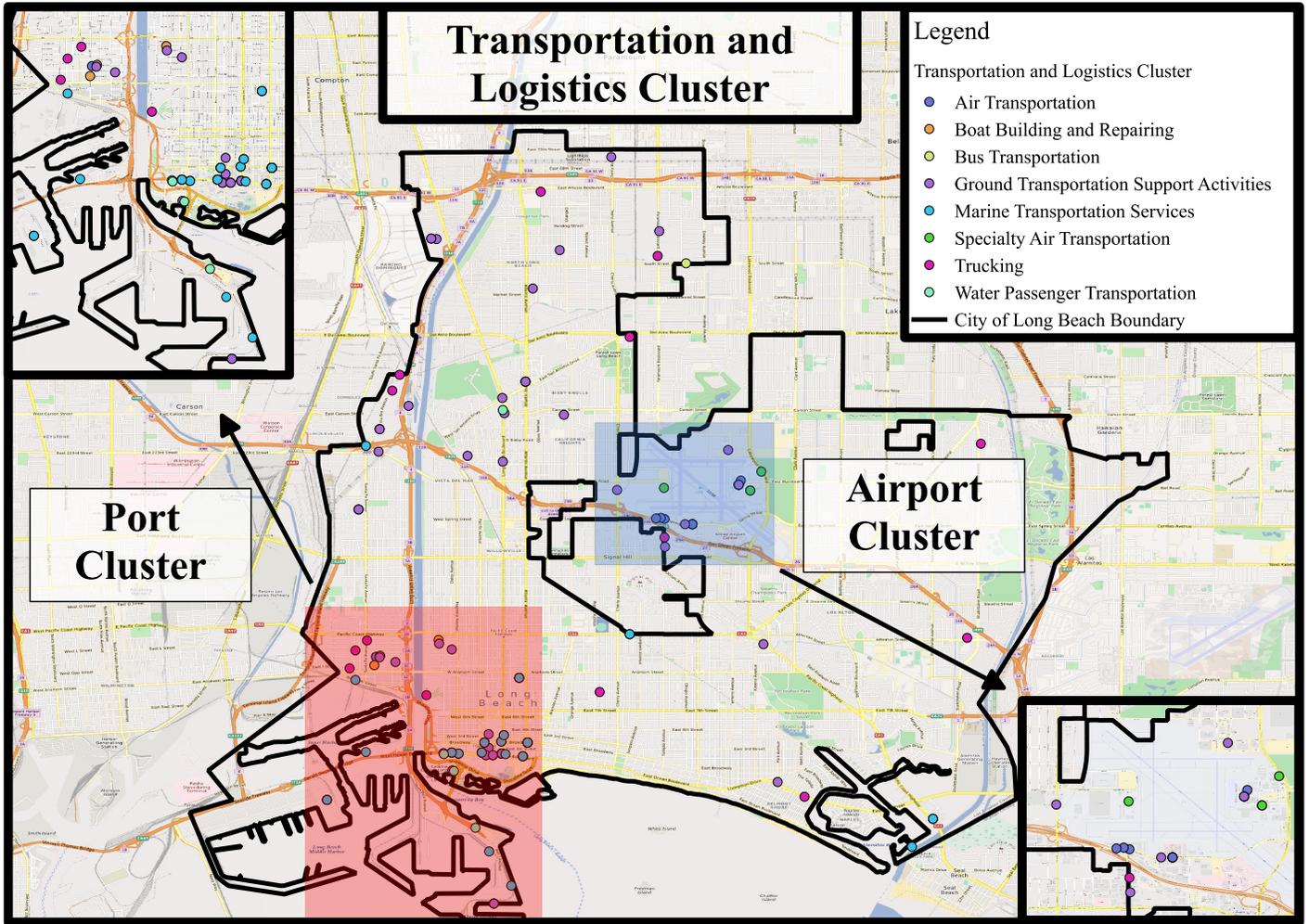
Traded clusters may be important sources of growth for the Long Beach economy, but that should not diminish the contributions local clusters make to the City economy. For one, they are major sources of employment, as reflected in the fact that the City's largest single employment cluster is Health Care.

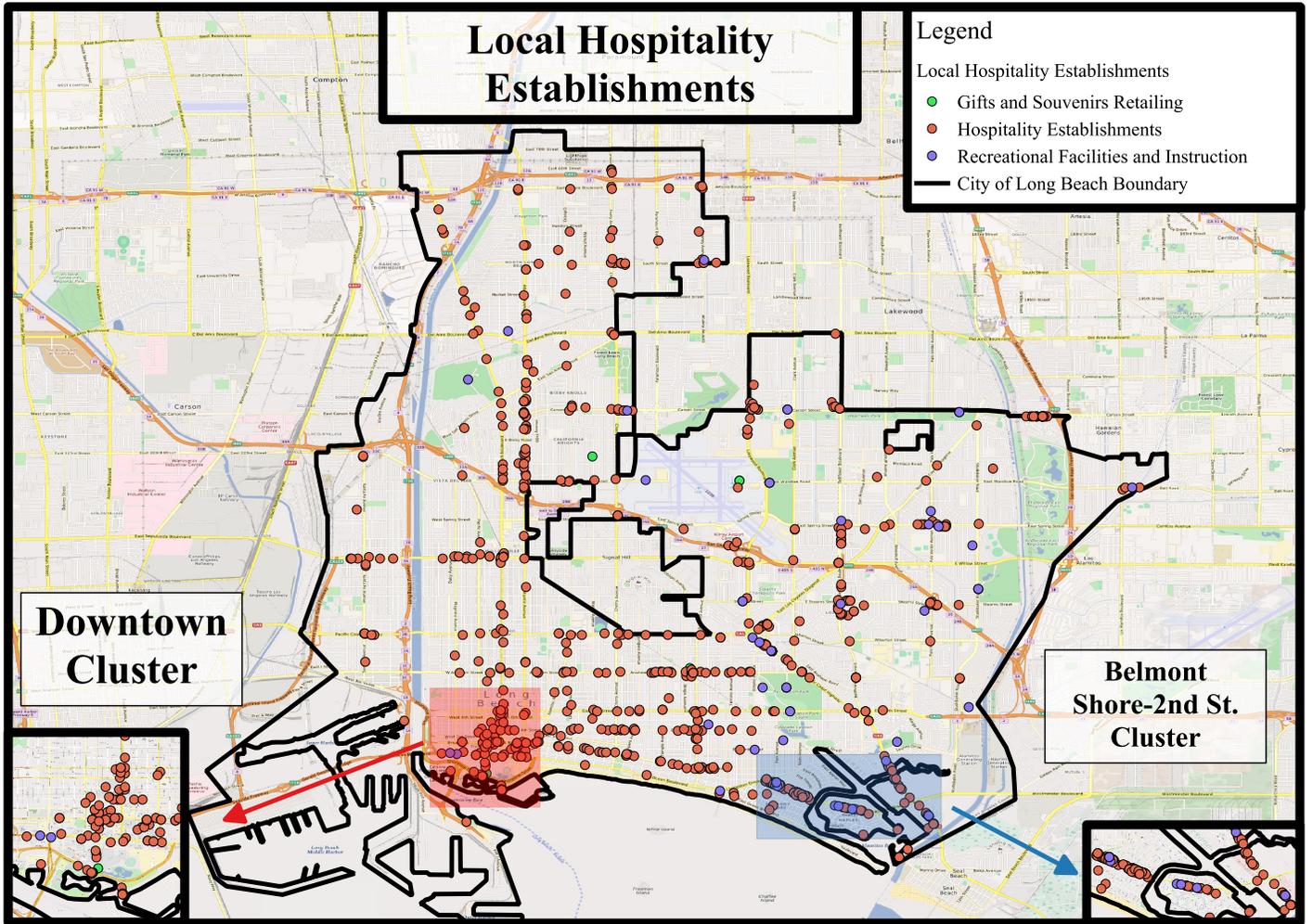
Beyond that, there are often significant synergies between the traded and local industries. For example, part of what makes a location attractive to tourists and business groups is the presence of good restaurants and other establishments that are a part of the Local Hospitality Establishments cluster. In the same vein, Arts and Entertainment may be a lure for tourists and convention goers but it is also an attractive amenity for residents of the city. Symbiotic relationships also exist in Education, as exemplified by the Long Beach College Promise and its linkages from the Long Beach Unified School District to Long Beach City College and California State University, Long Beach; and in Health Care, where local major health care facilities and practitioners have ties to local medical schools at UC Irvine, USC, and UCLA.

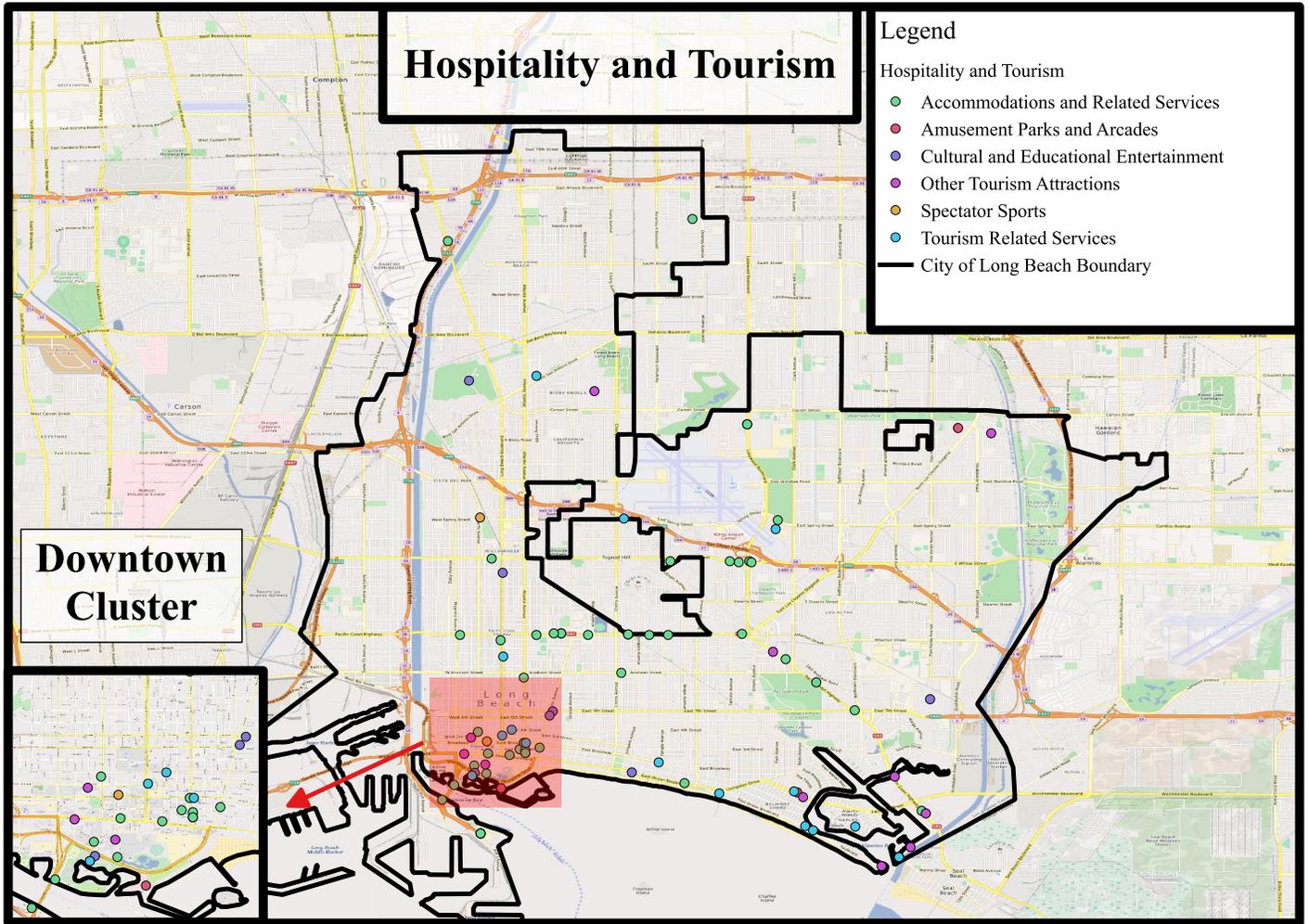
In the end, a successful economic development plan will enable the City's traded industries to grow and trigger spillovers into the broader economy, but will also take into consideration the linkages and synergies that exist across all the industries of the local economy.

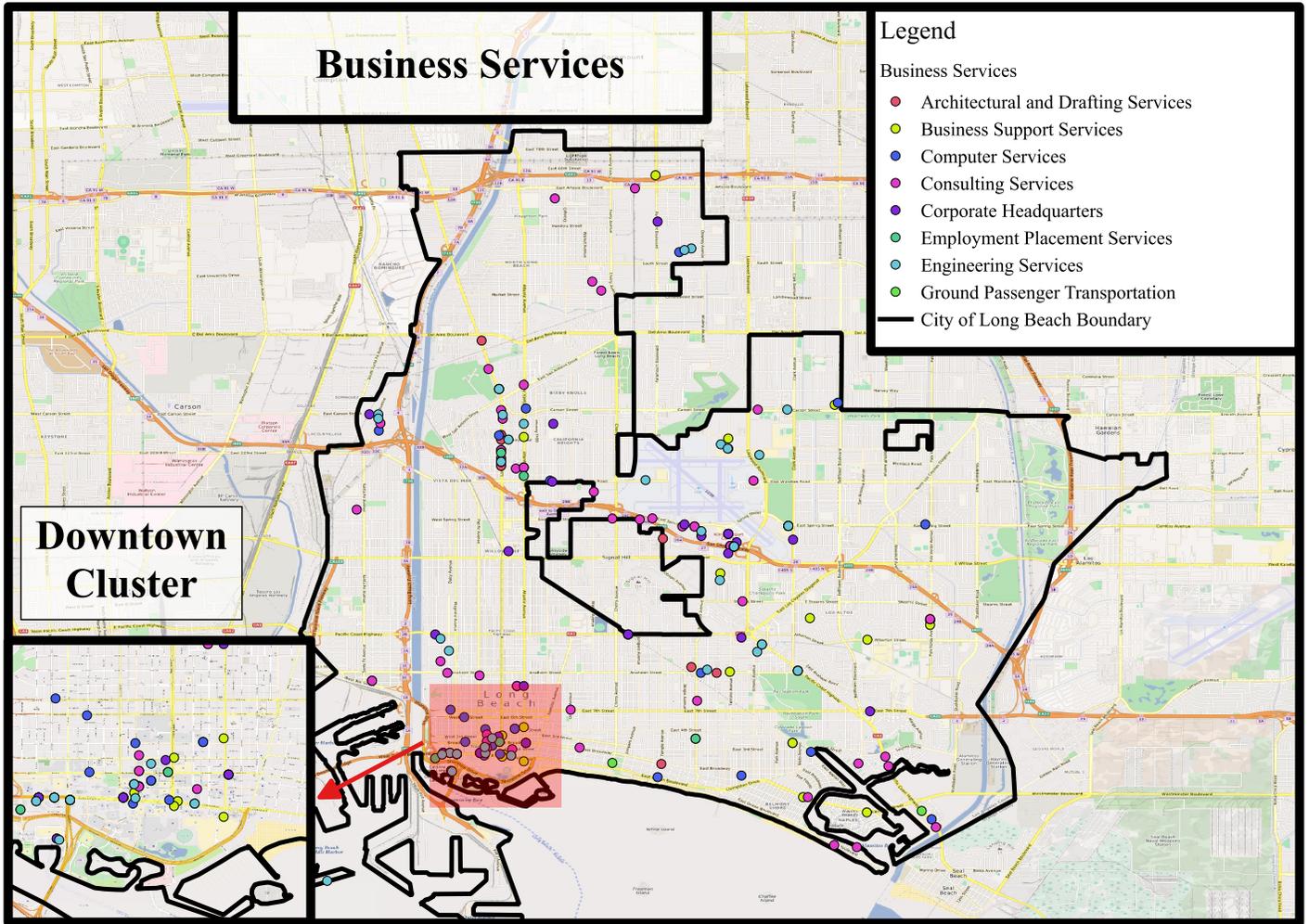
APPENDIX - AUXILIARY MAPS

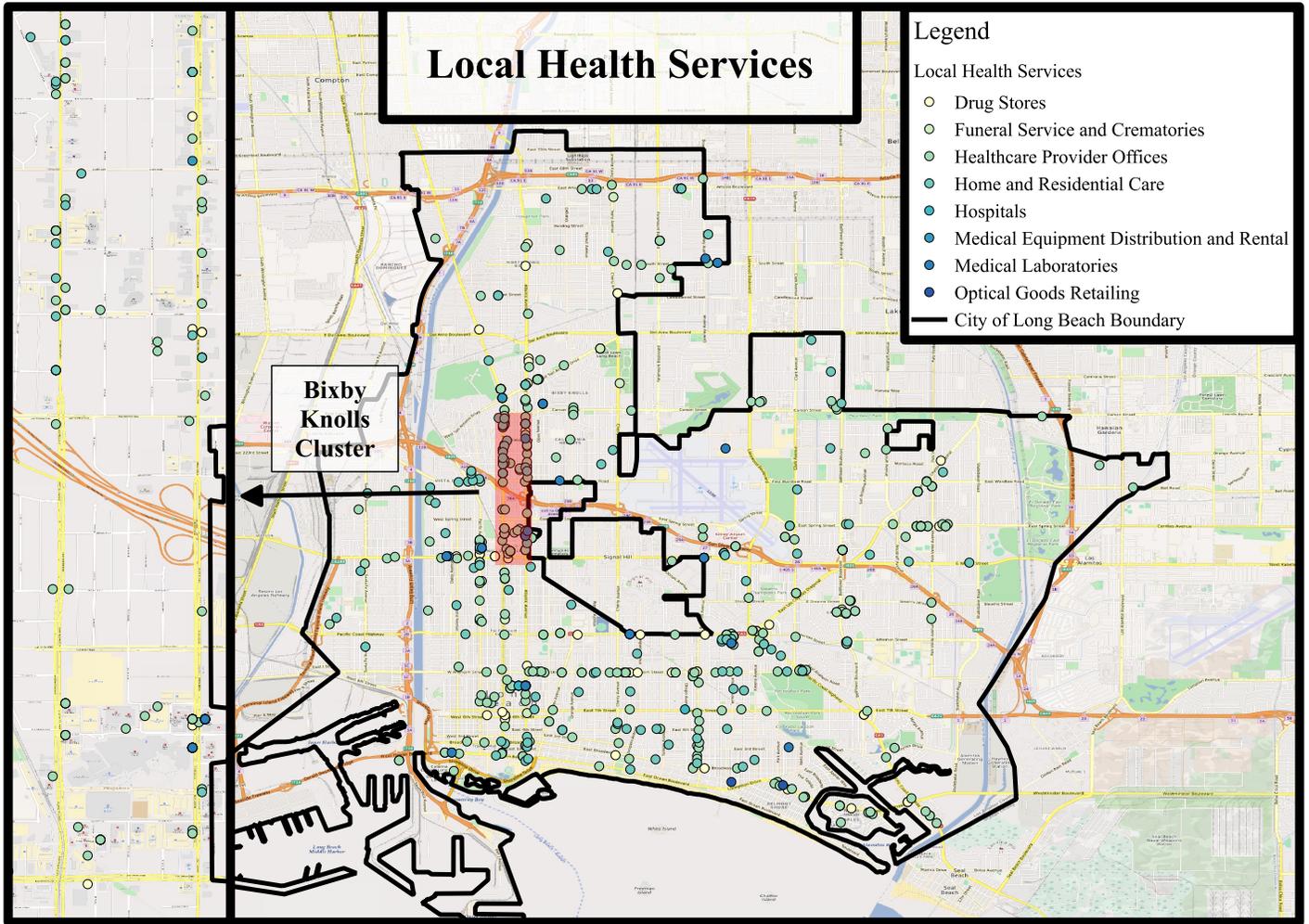












ABOUT BEACON ECONOMICS

Beacon Economics, LLC is a leading provider of economic research, forecasting, industry analysis, and data services. By delivering independent, rigorous analysis we give our clients the knowledge they need to make the right strategic decisions about investment, growth, revenue, and policy. Learn more at www.BeaconEcon.com.

SERVICES

- Economic, revenue and occupational forecasting
- Economic impact analysis
- Regional economic analysis
- Economic policy analysis
- Real estate market analysis
- Industry and market analysis
- EB-5 Economic analysis
- Public Speaking
- Expert Testimony

CONTACTS

- **Sherif Hanna**
Managing Partner
(424) 646-4656
Sherif@BeaconEcon.com
- **Victoria Pike Bond**
Director of Communications
(415) 457-6030
Victoria@BeaconEcon.com
- **Rick Smith**
Director of Business Development (858) 997-1834
Rick@BeaconEcon.com