SCAG Economic Conference Preparation Report
Riverside & San Bernardino Counties

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Prepared by

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SCAG Economic Conference Preparation Report
Inland Empire
John E. Husing, Ph.D.

For the Inland Empire, a review of the most recent economic data and the overall trend, since the turnaround began in 2011, provides some very good news. As indicated last year, the area easily reached and surpassed its previous record job level in 2015. This occurred because job growth reached 51,075 (*4.3%*) in 2013, 53,117 (*4.1%*) in 2014 and is on track to grow 48,645 (*3.7%*) in 2015 based upon 11-months of data. If 2015 holds r, the area will have created 188,411 jobs in the 2011-2015 period. This will surpass the 142,933 jobs lost from 2008-2010 by 45,478 positions or 31.8%. Looking to 2016, there is every reason to anticipate growth levels similar to those of the past four years given that the normally powerful but recently dormant new home market is beginning to show life.

Unemployment in the inland area has dropped significantly. It was 6.1% in November 2015 down from 7.5% in November 2014. That was well below November's record of 14.0% in 2009. It was the tied for the second highest among major U.S. metropolitan areas after next above Los Angeles (*5.7%*). Key measures of challenges faced by the Inland Empire include the fact that 46.9% of its adult population had a high school or less education in 2014. That compares to 38.8% for the rest of Southern California. Those with AA degrees or higher was 27.7%, well below the 45.0% for the rest of the Southland. This limits the kinds of firms able to do work in the region, even though the rates have changed from 50.3% and 23.1% respectively in 2000. Related to these education metrics is the fact that the area faces serious public health issues in that 18.8% of all people and 26.0% of children under 18 were living in poverty in 2014. That compares to 14.8% and 23.2% for the balance of Southern California.

Like all regional economies, the key for Inland Empire's growth is the expansion of the economic base sectors for which it has competitive advantages. This is the group of activities bringing money to it from the outside world. Fundamentally, there are now five key sectors:

- **Logistics** firms have located in the Inland Empire in response to its plentiful land and the need to handle both the huge flow of goods moving in and out of the U.S. via the ports of Los Angeles and Long Beach plus the importance of fulfillment centers in handling the explosive expansion of e-commerce. They were responsible for 22.1% of the area's direct job growth in the 2011-2015 recovery (*41,625*) including an estimated 21.4% of 2015 growth (*10,364*). At that year's growth rate of 8.2%, the sector is likely to create another 12,538 jobs in 2016 to reach 164,905.

- **Health Care** firms are expanding in the Inland Empire in part because the average worker in the sector is already serving 28% more people than California's average. Meanwhile, the Affordable Care Act has increased the share of local residents with health insurance from 19.4% in 2013 to 14.6% in 2014. Health care firms are also beginning to respond to the fact that 22.5% of the population was 55 years or older in 2014. The area's population growth was 187,881 people or 4.4% from 2010-2015. Based upon job growth of 3,275 in 2013 (*2.9%*), 4,008 in 2014 (*3.3%*) and an estimated 3,982 in 2015 (*3.6%*), it is forecasted that the sector will add 4,926 jobs or 3.9% in 2016 to reach 131,223.

- **Construction** has historically been the major driver of the Inland Empire's economy given its undeveloped land and Southern California's need for single family homes and industrial facilities. The mortgage crisis upset the first of these needs and was largely responsible for the local sector losing -67,654 jobs from 2006-2011 (*-54.3%*). From 2012-2015, it has gained back 22,124 jobs. Several positive factors are appearing. Total permit valuation rose 12.6% in 2014 and it is on track to grow another 23.0% in 2015. Industrial and infrastructure construction is booming and residential housing permits rose 14.4% to 7,444 in 2015, weak by historical standards but the strongest since 2007. The share of underwater homes was down to 11.4% from a peak of 54.9% in fourth quarter 2009. Based upon average job growth of 9.0% from 2013-2015 (*including a likely underestimate in 2015 at 5.2%*), it is estimated that the sector will add 7,277 jobs in 2016 to reach 88,276 positions. That would still be-30.3% below the 2006 peak.

- **Manufacturing** has been the economic base sector performing the worst in the Inland Empire. This stems from California's punishing regulatory environment plus energy policies that now have the state's industrial electrical costs 43.3% above Nevada, the second most expensive state west of the Mississippi. As a result, the state has created only 25,300 manufacturing jobs (*+2.0%*) since January 2010, and accounted for only 2.9% of the 858,000 jobs (*+7.5%*) created in the U.S. Job creation is mostly found in the need to replace aging baby boomer technicians. Based upon job growth of 3.2% in 2014 and 3.3% in 2015, it is estimated that the sector will add 3,121 jobs in the Inland Empire in 2016 to reach 96,374 positions. That would remain -22,159 jobs or -18.7% below the 2007 level of 118,533 before the Great Recession.

For the first time, a high paying sector is showing signs of starting to add significantly to the Inland Empire's economic base:

- **Professional, management & scientific** work has recently started expanding rapidly. This appears to be a reaction to three factors. First, it has seen a 76.2% gain in residents with bachelors or higher degrees from 2000-2014. Even though the inland area's population is less well educated than its coastal county competitors, in this period its overall percentage of college graduates grew from 16.3% to 19.9%. Its percent of those with AA degrees or higher went from to 23.1% to 27.7%. Second, the growth of the inland economy requires increasing levels of professional service providers given its 4.4 million people and 99,284 firms. Third, the re-emergence of the construction sector creates an need for engineers and other such specialists. Based upon job growth of 3.4% in 2013, 5.6% in 2014 and 7.3% in 2015, it is estimated that the sector will grow by 8.0% and add 4,248 jobs in 2016 to reach 57,343 positions.

Given the high levels of poverty in the Inland Empire (*18.8% of all people, 26.0% of those under 18*), it is important to find sectors that offer workers median incomes at middle class levels provided their families have a secondary wage earner in a lower paying sector. The data show that this is possible in several sectors due to their median pay levels over $40,000, their minimal educational requirement for large shares of the workers and their growth potential. Looking at the economic base sectors and one related to them, the following is the situation:

- **Construction** (*2015median pay: $51,051*) has 85.5% of workers in jobs requiring minimal levels of formal education, though apprenticeship is necessary for some types of work. The sector has struggled but is finally beginning to add employees though firms are having trouble finding them.
- **Logistics** (*2015 median pay: $45,667*) has 83.0% of its workers in jobs requiring high school or less schooling. The sector is the fastest growing in the Inland Empire.
- **Finance, Insurance & Real Estate** (*2015 median pay: $48,862*) will grow as the real estate market recovers. In this sector 73.8% of workers are in jobs requiring minimal entry level educations though many require specific state certifications. It is starting to grow along with home sales and construction activity.
- **Manufacturing** (*2015 median pay $49,567*) will offer some job growth. However, industry leaders indicate that a large share of existing technicians are starting to retire. Of workers in the sector 67.2% needed high school or less training.
- **Health Care** (*2015 median pay: $54,261*) has a smaller share of workers in jobs with minimal educational requirements (*40.8%*). The sector has provided significant upward mobility for those with AA degrees or post-secondary training (*41.1%*). It is expected to grow rapidly, and those getting technical certification to work within it will often find themselves interested in moving up within the sector.
- **Professional, management & scientific** (*2015 median pay $68,648*) has a relatively small share of workers in jobs for marginally educated workers (*34.5%*). However, another 9.2% can step up to better paying jobs with AA degrees or post-secondary training.

Finally, the need for change in the Inland Empire's economy is underscored by the fact that the median income adjusted for inflation has been nearly stationary (*-2.0%*) between 1999-2015 despite a 7.5% gain from 2011-2015. Per capita income has faired better in that it is up 4.9% from 1990-2014. However, this measure is pulled higher by the small share of people with high incomes. That fact is seen by the imbalance in the income distribution. Thus in 2014, the 9.0% of households earning over $150,000 captured 25.8% of all income. That group together with those earning $100,000-$149,999 (*23.8*%) of households captured 49.6% of the Inland Empire's income. The 46.2% of families earning below $50,000 had an 18.4% share of the area's income.

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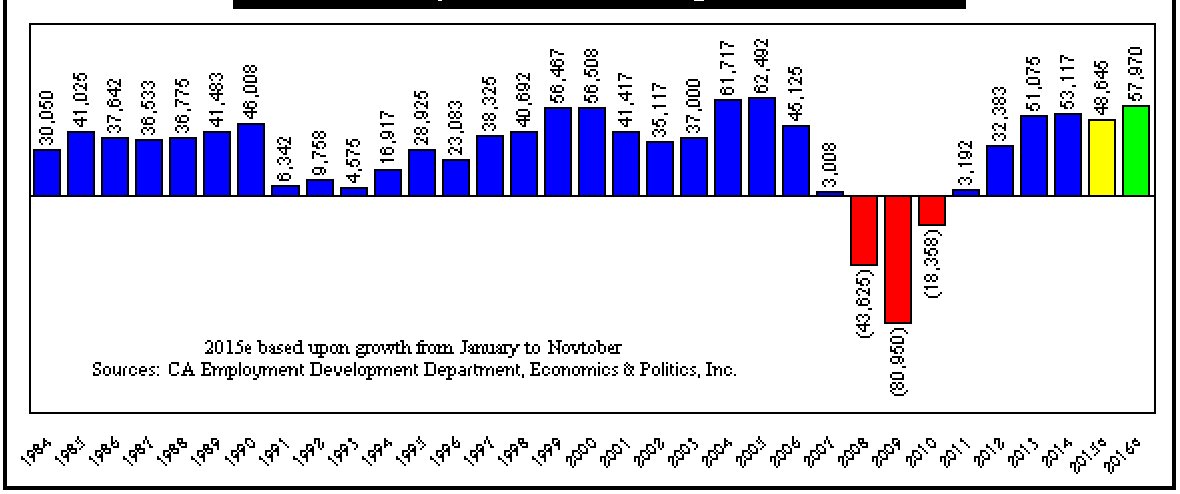
I. Economic Recovery

A. Forecast & Justification

In 2015, the Inland Empire as forecasted is surpassing its peak pre-recession employment levels. Based upon nine months data, it has added 46,537 more jobs than were lost to the Great Recession. At the current rate of growth estimated of 3.74%, the gain would be 48,645 jobs for 2014. That would take the recovery to 189,471 jobs from 2011-2015 by December, surpassing the 142,933 lost from 2008-2010 (*Exhibit 1*). In 2016, it is forecasted that growth will rise to 4.3% or 57,970 more jobs. The lack of issues in most sectors and the return of residential construction is anticipated to bring about this result.

Exhibit 1.-Wage & Salary Job Change
Inland Empire, Annual Average, 1984-2016e

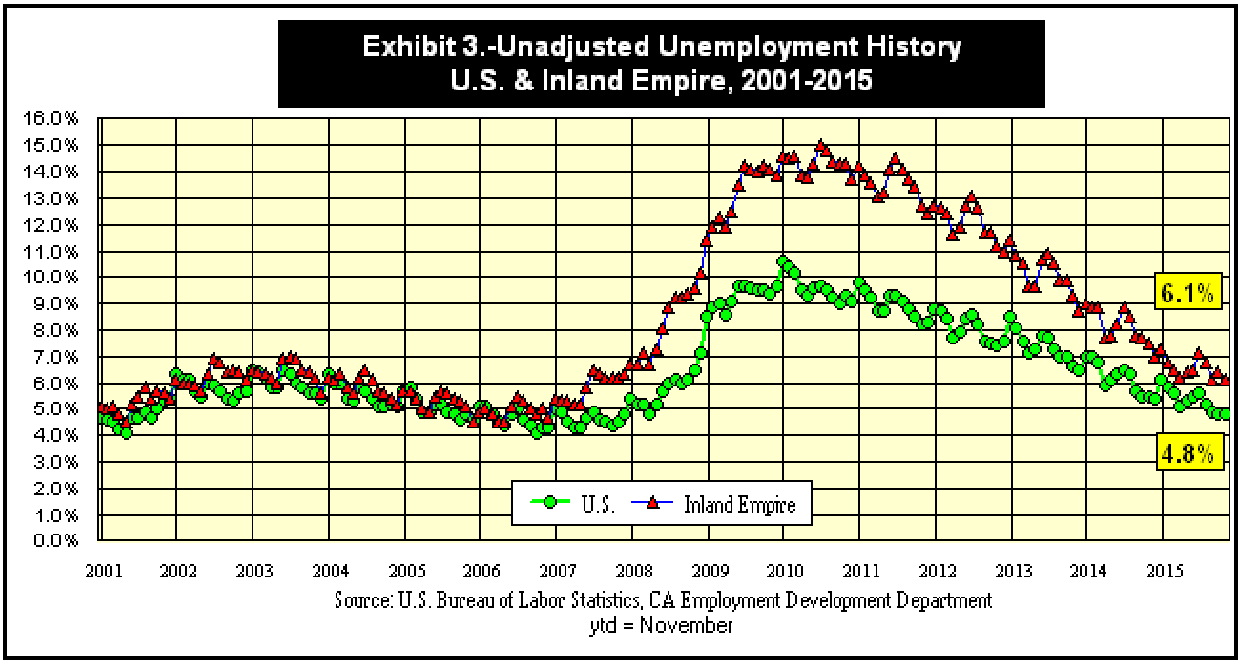


Each year the California Employment Development Department's (*EDD*) job estimates must be revised to the U.S. Bureau of Labor Statistics levels. From January-June 2014-2015, EDD had Inland Empire non-agricultural growth at 51,450 jobs (*4.03%*). BLS had it at 53,847 (*4.21%*) (*Exhibit 2*). This was a small understatement and tends to show EDD's estimates being more accurate, at least earlier this year.

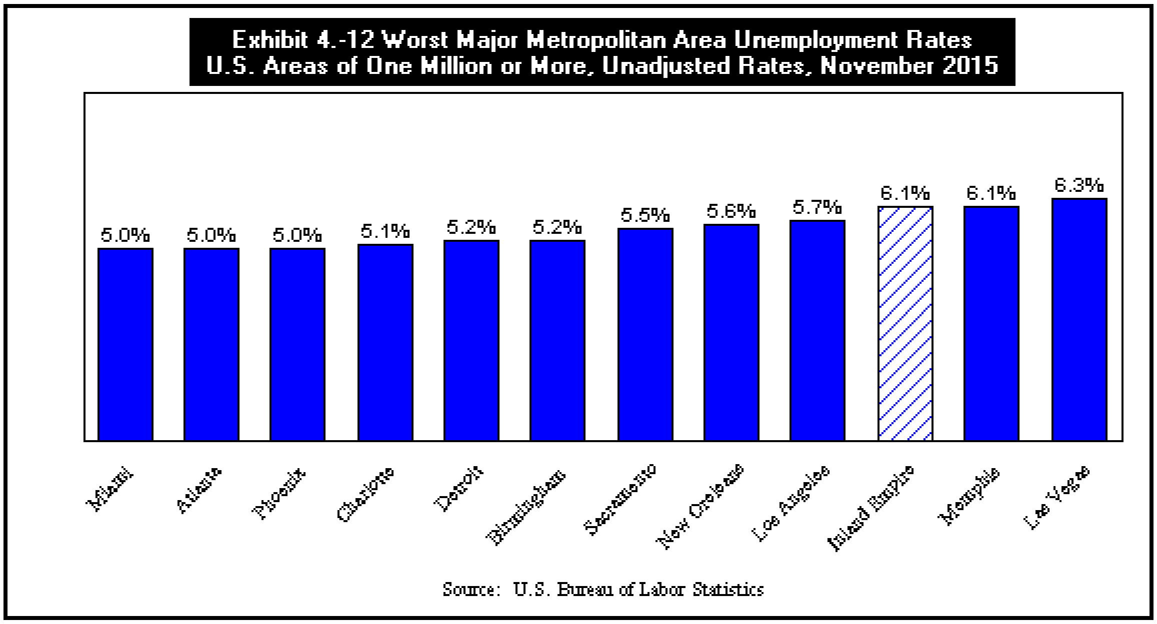
Exhibit 2.-Non-Agriculatural Job Gains, Inland Empire Counties, March 2014-2015

County	March 2014	March. 2015	Change	Percent
Riverside Co.	1,277,970	1,331,817	53,847	4.21%
San Bernardino Co.	1,275,800	1,327,250	51,450	4.03%
Inland Empire BLS	(2,170)	(4,567)	(2,397)	
Inland Empire-EDD	-0.2%	-0.3%	-4.7%	

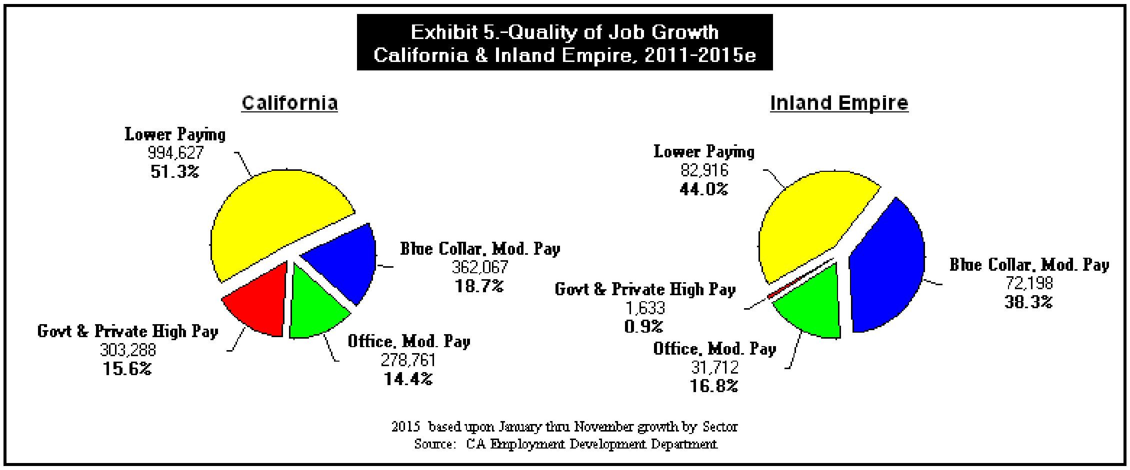
Source: Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics



Meanwhile, the Inland Empire's unemployment rate has been falling. The November 2015 figure of 6.1% was the lowest for that month since the 5.0% figure in November 2006. The Inland Empire's high for the month had been 14.0% in November 2009 (*Exhibit 3*). The November figure was above the unadjusted levels for California at 5.5% and the U.S. at 4.8%. Unfortunately, the 6.1% rate in November 2015 was tied for the second highest in the U.S. among metropolitan areas of one million or more people next above the 5.7% rate in Los Angeles (*Exhibit 4*).



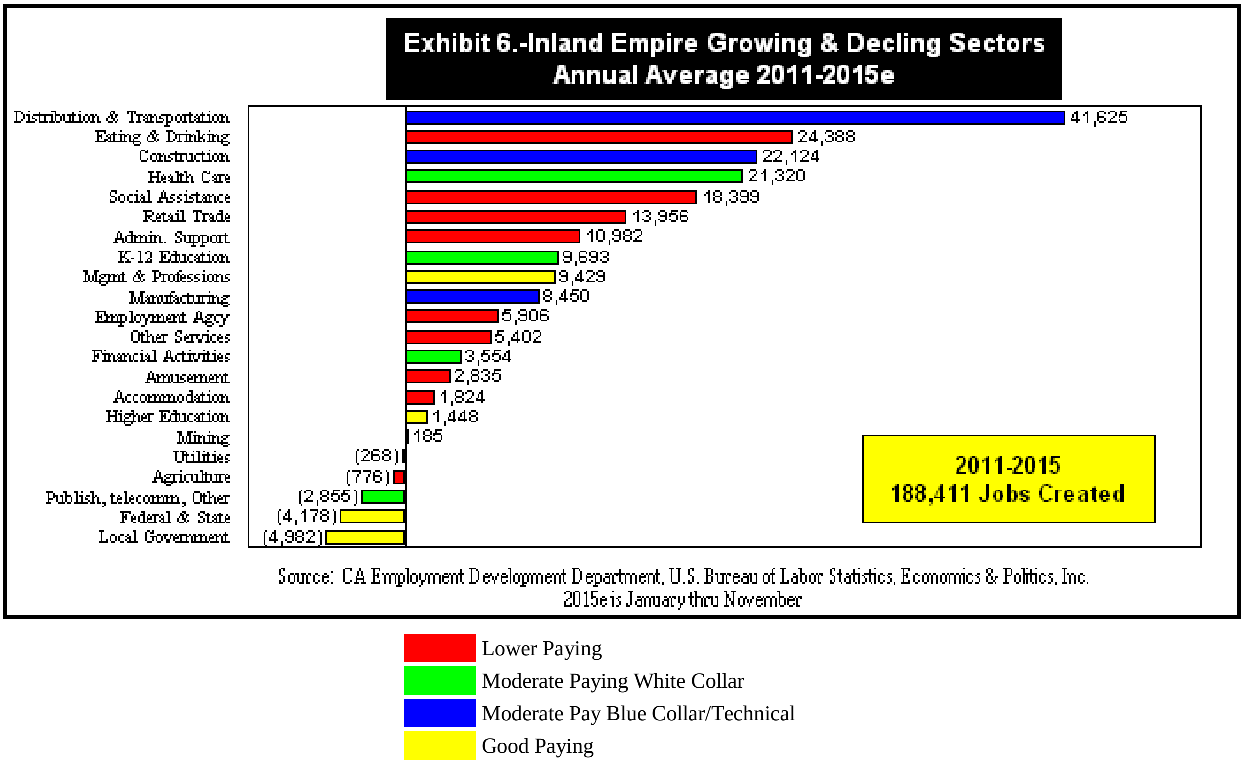
Job quality has been the subject of a great deal of discussion in the Inland Empire. A comparison of the area's job growth from 2011-2015 in sectors with varying pay levels versus California produces a surprising result. In the lowest paying sectors (*under $30,000*), the local area saw 44.0% of its job growth (*Exhibit 5*). That was much less than the 51.3% share in California. In the highest paying group, the local share was 0.9% versus the state's 24.0%. This low level was due to a -4.9% decline in the government share. The state's difficulty and the inland strength was in the blue collar/technical sectors paying $40,000-$50,000 with a 38.0% local share versus California's 18.7%. The share in similar paying office based sectors were relatively the same 5.4% v. 6.0%. These data highlight the state's problem in seeing its blue collar/technical sector routes to the middle class being cutoff. They also underline the need for more expansion in the Inland Empire's higher paying groups.



B. Economic Challenges To Continuing The Expansion

For the Inland Empire, the key to continued expansion will be growth of the clusters constituting its economic base. Here, the sectors that must grow include logistics, health care and construction. Manufacturing has weakly joined this group, but suffers due to the high energy costs and heavy regulatory burden faced by that sector in California and Southern California. The management, professional, engineering and scientific group should see its role improve as those types of companies seek lower space and labor costs and respond to the stronger educational foundation in specific inland sub-areas.

These sectors are crucial as each one brings money from the outside world into the local market that then recirculates allowing local population-serving sectors to also grow. The logistics and manufacturing sectors do so because their customers are largely located throughout the state, the country and the world. Health care brings in funds because the sector is largely funded through federal or state programs or by medical insurance companies. Construction does so because projects are funded either by governmental grants or private loanable funds flowing to local contractors and workers from the national mortgage market. The management, professional, engineering and scientific group is a mix because some firms are selling outside the region, others are supplying services to other economic base firms. However, some serve the local population.

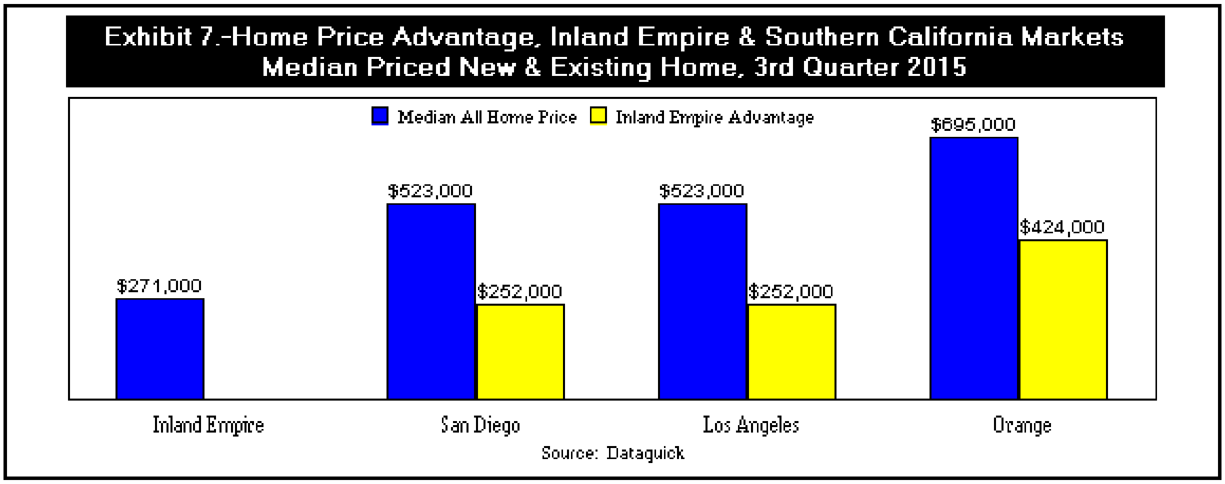


Each of these five sectors faces issues:

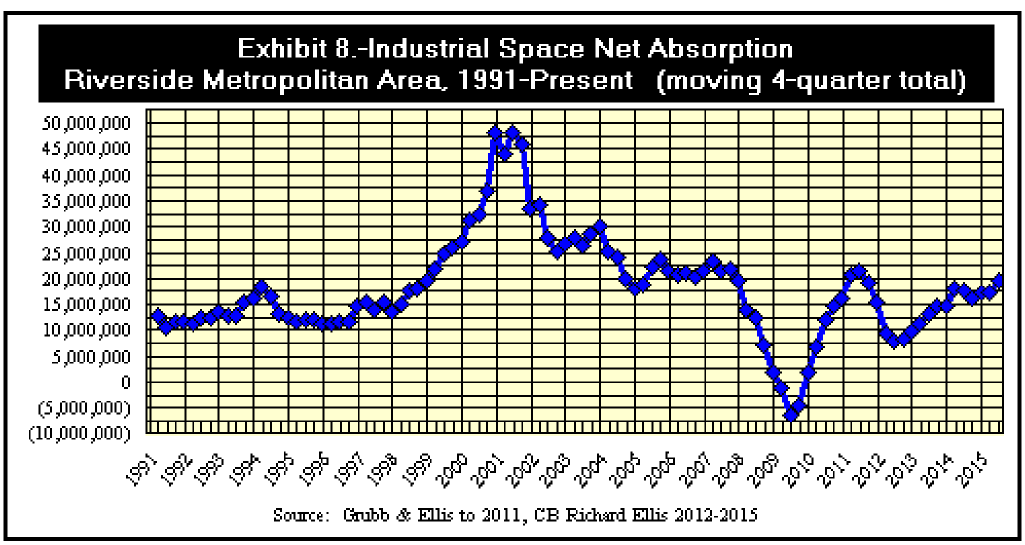
1. **Logistics** has been the Inland Empire's fastest growing sector and has strong basics. However, local activists want to stop its growth and the South Coast Air Quality Management District (*AQMD*) and CA Air Resources Board (*CARB*) believe it cannot meet its air quality requirements unless the truck traffic associated with the sector is reduced. A major fight is brewing that could conceivably halt the sector's continued expansion. From 2011-2015, the data indicate that it has been responsible for 22.1% of direct job growth (*41,625 jobs*) (*Exhibit 6*). That has held in 2015 *(10,364 jobs; 21.4%)*.

2. **Health Care** is the one inland sector that grew throughout the recession. There is a huge need for this to continue since each local health care worker already handles 28% more people than the state average. Also, the sector is seeing a major increase in demand as the share of people without health insurance fell from 19.4% in 2013 to 14.6% in 2014. Still, there are 640,154 people without health insurance. From 2011-2015, the data indicate that it has been responsible for 11.3% of direct job growth (*21,664*). That has fallen somewhat in 2015 (*3,982 jobs; 8.2% share*). The key for the health care system's job growth will likely be the ability of educational institutions to gear up to handle the volume of training that its growth will require in both professional and technical occupations. Also, management is continuing to trying to figure out how to deal with the sector's new dynamics under the Affordable Care Act.

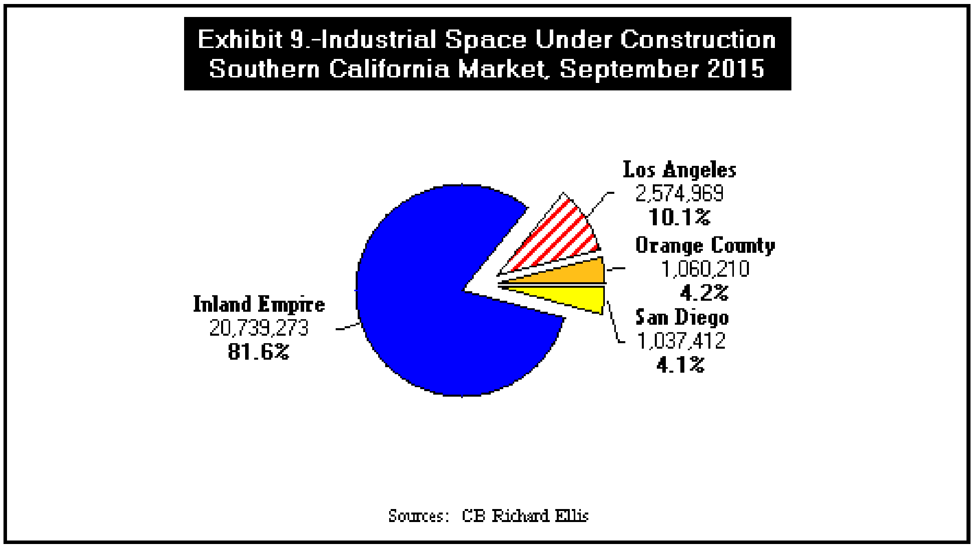
3. **<u>Construction</u>** is the sector that must return to something near to normal for the Inland Empire's economy to move to a faster pace of growth. That is the case since the sector lost -67,654 jobs from 2006-2011 (*-54.3%*). From 2012-2015, it has gained back 22,174. In fact, EDD's estimate of growth of just 4,864 jobs in 2015 is very likely a severe underestimate. In any case, the sector has a long way to go.



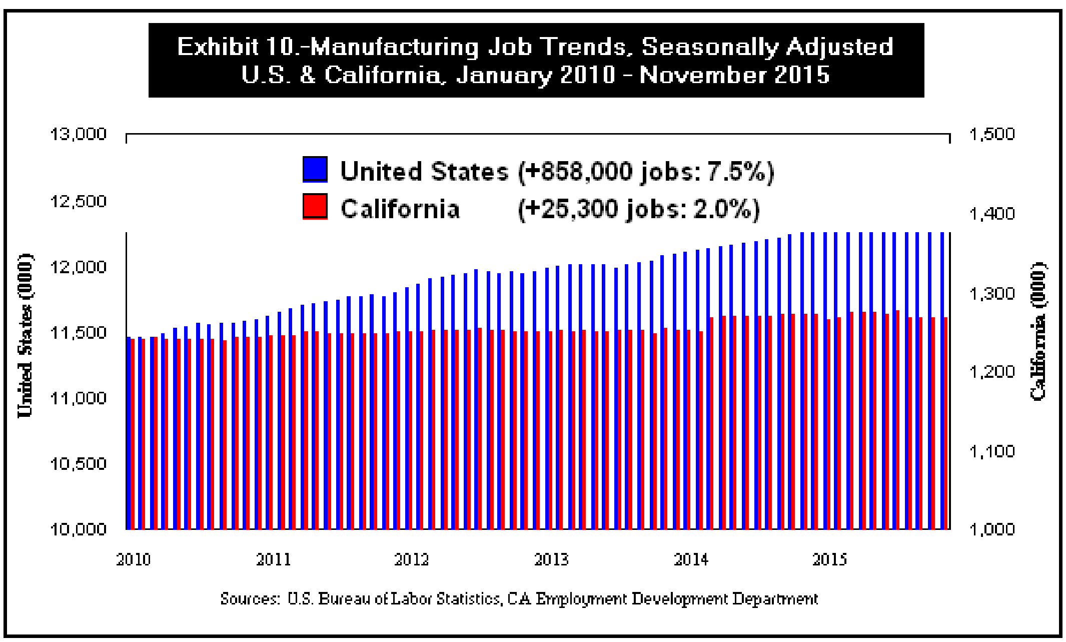
Construction should gain strength in the near term. First is the lack of housing affordability in the coastal counties (*Los Angeles: 30%; San Diego: 25%; Orange: 21%*) that is already pricing thousands of families out of those markets. The Inland Empire's $271,000 median priced home is $252,000 to $424,000 less expensive than those in the coastal counties (*Exhibit 7*). As in the past, this will ultimately drive people with all types of incomes and educations to migrate inland for homes they can afford. However, the speed at which this will occur has so far been blunted by consumer fears of making large purchases given their experiences in the Great Recession. Some have speculated that millennials will not form families and migrate to the exurbs. However, recent research found that 66% ultimately want to do so. It appears to be a case of over forecasting the results of the recession.



Second is the strength of the Inland Empire's industrial market where logistics firms occupied a net of 19.6 million square feet of space in the year ended November 2015 (*Exhibit 8*), while 20.7 million square feet is being built. That means the market is simply matching its net absorption. Both those figures are the strongest in the U.S., and the inland area is handling 81.6% of Southern California's construction due to its available land (*Exhibit 9*). Meanwhile, extensive infrastructure construction is on-going largely thanks to local transportation sales tax measures.

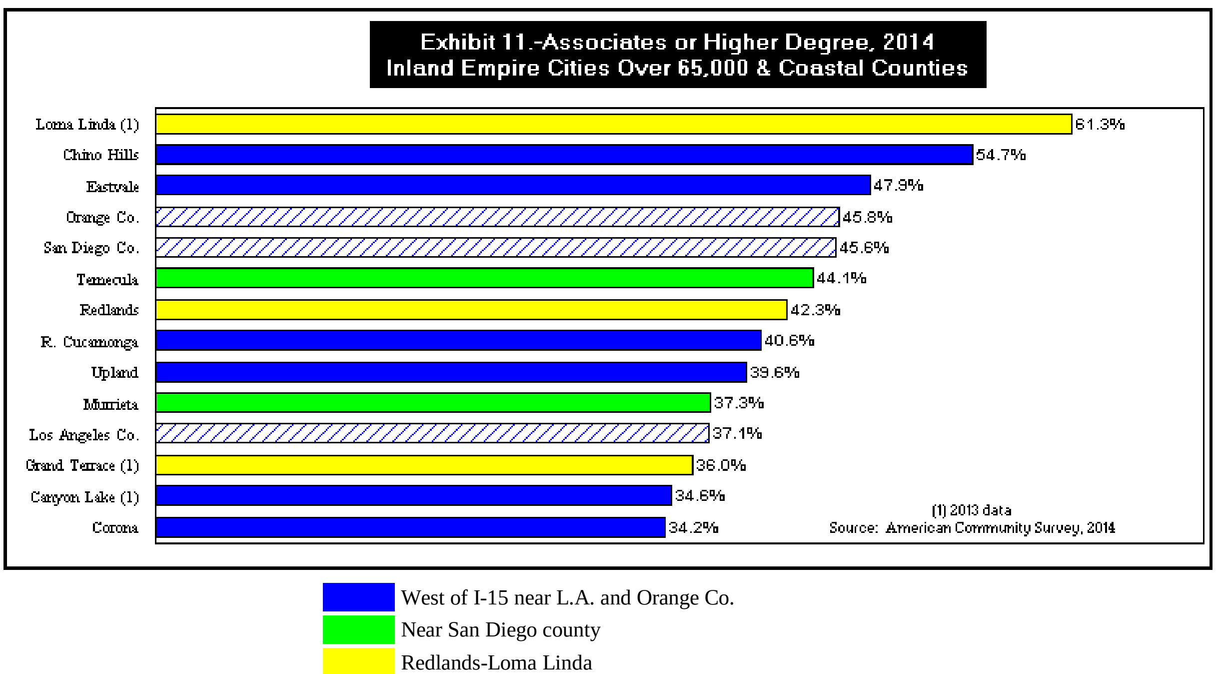


4. **Manufacturing** should be a major growing sector in the Inland Empire as both space and labor costs are below other Southern California areas. This is particularly true given the recent resurgence in manufacturing employment nationally. However, local firms are tending to increase efficiency rather than hire workers



because California's regulatory policies have pushed energy levels far beyond what competitors pay in other states. That fact, plus regulatory costs and delays means firms must save on labor to maintain their profitability. Here, a key finding is that on a seasonally adjusted basis, California only created 25,300 jobs from January 2010 to November 2015 (*2.0% growth*) while the U.S. added 858,000 (*7.5% growth*). The state saw just 2.9% of new U.S. manufacturing jobs. Still, the Inland Empire has added 8,450 jobs in the sector from 2011-2015. That includes the fact is on track to add 3,373 positions (*7.0%*) in 2015 (*Exhibit 10*).

5. **Professional, engineering, management & scientific** sectors have been the missing link in the Inland Empire's job growth. However, they are beginning to show some life. From 2011-2015, the group added 9,429 jobs. This includes 3,391 or 7.0% growth through November 2015. Several phenomena offer potential for this group. First is the migration of better educated people to three parts of the area: cities west of the I-15 near Los Angeles and Orange counties (*blue*); cities near San Diego County; and the Redlands-Loma Linda area (*yellow*). In these areas, the inland cities are competitive with the coastal counties (*stripped*) (*Exhibit 11*).



Second is the sheer size of the Inland Empire market with 4.4 million people (*larger than 24 states*) and 99,284 companies that require professional services. Third is the existence of some strategic and successful high-end companies including Bourns (*product engineering*), SigmaNet (*management software*), Abbot Cardiovascular Systems (*bio-med*), Watson Pharmaceutical (*generic drugs*), ESRI (*geographic information systems*) and Kelly Space & Technology (*aerospace*).

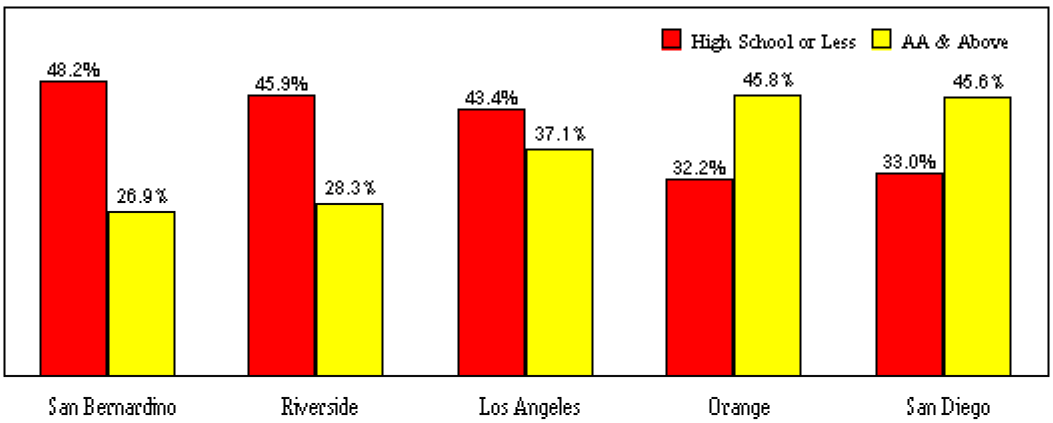
Today, the main challenges for this group have been the overall low level of educated workers in the inland area and the lack of growth of residential construction.

C. Public Health Challenges To Inland Empire's Prosperity

Two other key public health issues impact the ability for the Inland Empire to attain prosperity. These are the degree to which the region's population is marginally educated and the level of poverty affecting its residents.

According to the Census Bureau in 2014, 48.2% of San Bernardino County's population had stopped their educations with high school or less schooling. The share was 45.9% in Riverside County (*Exhibit 12*). The situation has improved in that both counties were on either side of 50% of the population in 2000 (*50.8%; 49.7%*). However, these data mean that the kinds of firms interested in locating in the Inland Empire tend to be those not needing well educated workers.

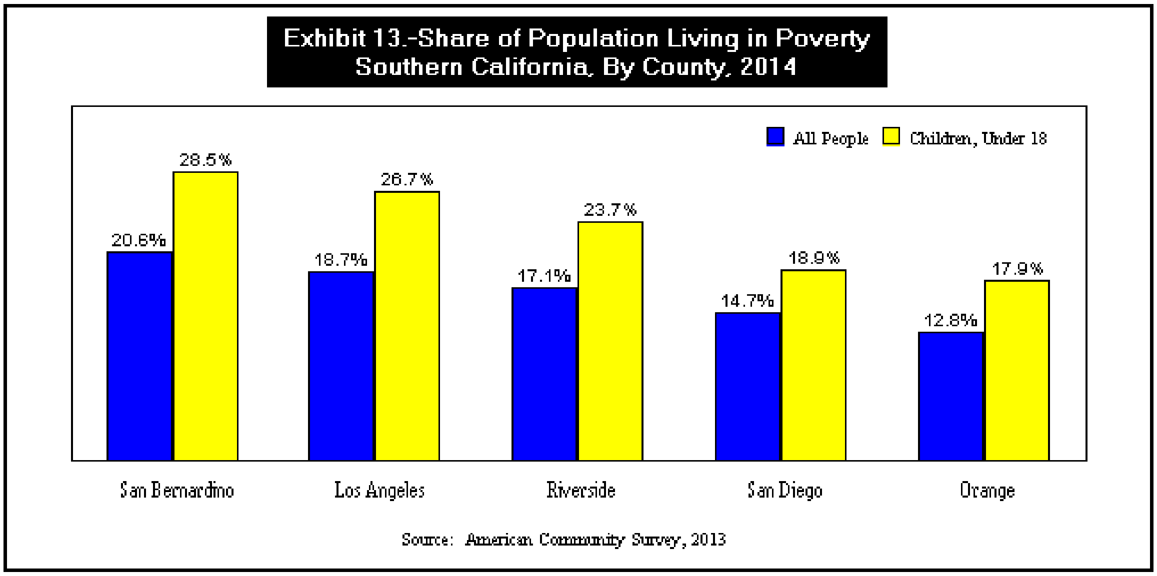
Exhibit 12.-Educational Attainment, High School or Less, AA & Above
Adults, 25 & Over, by County, 2014



Source: American Community Survey, 2013, 2000 Census

For the Inland Empire, the degree to which it is uncompetitive for firms requiring educated workers is seen in that just 26.9% of adults in San Bernardino County had associates degrees or higher. It was 28.3% in Riverside County. These 2014 figures contrast with 37.1% to 46.8% of adults in Southern California's coastal counties.

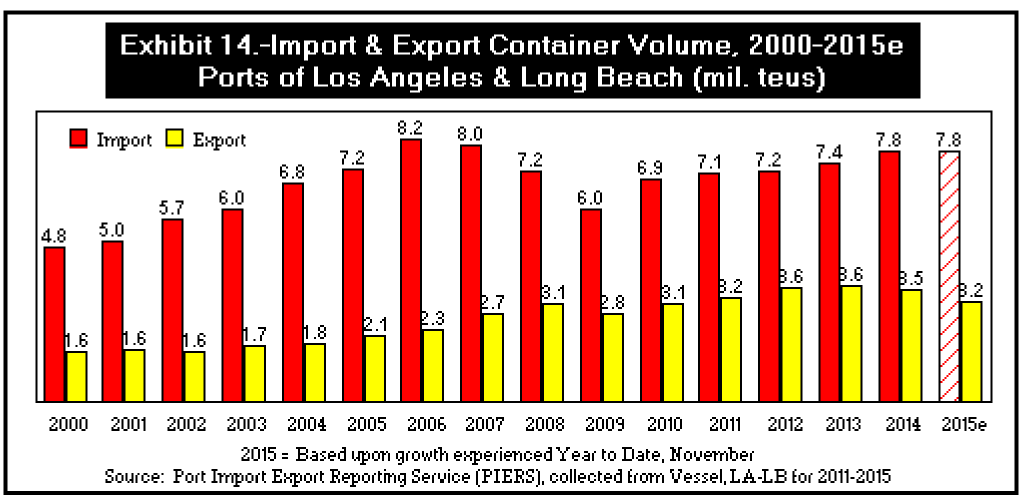
- Unfortunately, a marginally educated population tends to correlate with high levels of poverty given the direction that technology is taking for good paying jobs in the 21st Century. Thus in 2014, 20.6% of San Bernardino County's population was below the poverty threshold. It was 17.1% in Riverside County. Worst, over one in four young people under 18 were poor with levels at 28.5% and 23.7% respectively in the two counties (*Exhibit 13*). Poverty also has an ethnic dimension. By group (*not shown*), those living in poverty were African American (*25.8%*), Hispanic (*23.1%*), White (*12.2%*), Asian (*11.2%*). These facts create enormous difficulties for the Inland Empire's quality of life. In particular, given the importance of children to the region's future labor force, the levels of childhood poverty represent a major barrier to the region's long term success.



II. Key Growth Industries More Thoroughly Discussed

A. Key Existing Industries

- **<u>Logistics</u>.** The Inland Empire's logistics industry is driven by two major forces:
  - **International Trade.** The volume of international trade moving through the ports of Los Angeles and Long Beach has been the sector's traditional driver (*Exhibit 14*). On the import side, loaded containers entering the U.S. soared to 8.2 million twenty foot container units (*teus*) in 2006. The volume declined roughly 25% to 6.0 million teus in 2009 due to the Great Recession. It has subsequently recovered and is on track as of November 2015 to reach 7.8 million teus for the year. That would be tied with 2014 for the third highest volume ever.

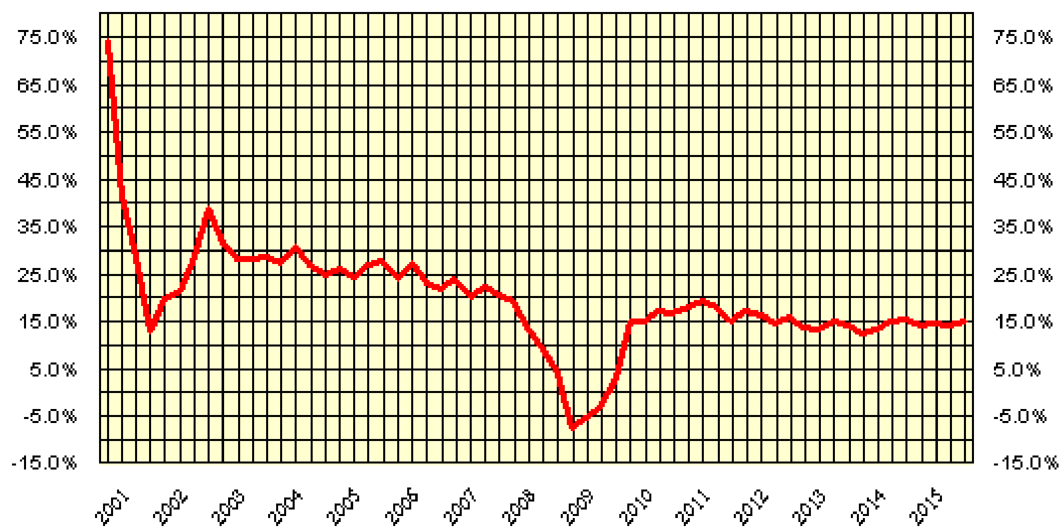


Exported load containers are less of a driver for the Inland Empire. However, they reached a record 3.6 million teus in 2012-2013 but have fallen to 3.2 million in 2015 with the high value of the dollar making U.S. exports more expensive to the rest of the world. Exports are an activity that will likely have an important future role for the inland area as immigrant manufacturers choose to locate near the ports and because of the importance of exports to the Coachella Valley's farmers.

The facilities for handling this type of activity for international supply chain work are getting larger and larger due to the technology. The number of square feet per job is thus running between 3,000 and 3,500 square feet.

- **Fulfillment Centers.** The newest phenomenon impacting the Inland Empire's logistics sector is the entry into California of fulfillment centers. These facilities are being developed for retailers so they can respond to the increasing use of the e-commerce by consumers. The goal is 24-hour delivery. They are generally 750,000 to over 1,000,000 square feet in size and use from 750 to 1,250 square feet per job since the work is labor intensive. That is roughly the land use ratios found with manufacturing. This is a long term growth factor for the region given that e-commerce is growing roughly 15% compounded a year (*Exhibit 15*).

Exhbiit 15.-U.S. E-Commerce Growth Rates
Quarter over Same Quarter Prior Year, 2001-2015



Source: Bureau of the Census

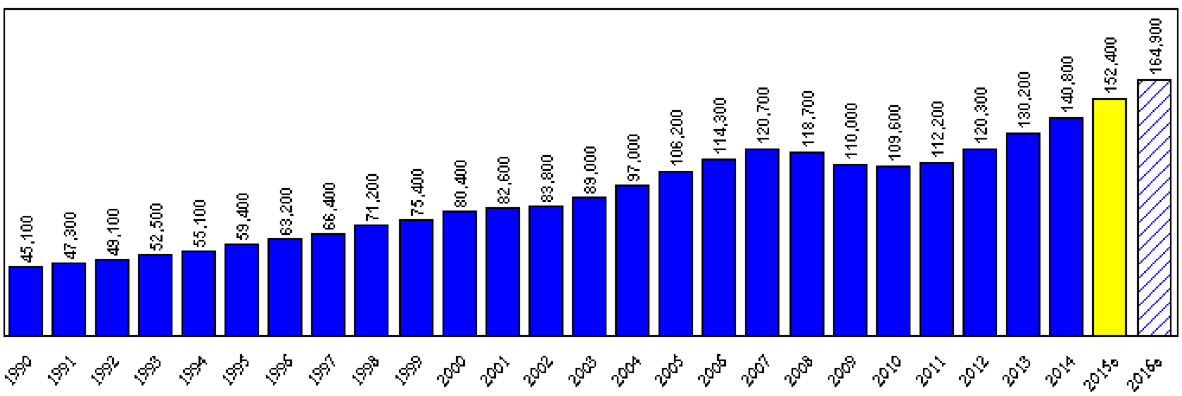
Another aspect of fulfillment centers is their retail sales tax potential for the cities where they locate. A one million square foot facility on 52 acres of land, conservatively assuming 50% of sales are to non-Californians, will generate as much as $5 million a year to a municipal government. That assumes the center's sales per square foot are 75% of the Amazon.com average.

- **Forecast.** At the 8.2% growth rate through November 2015 (*11,584 jobs*) the Inland Empire's logistics sector is likely to create another 12,538 jobs in 2016 to reach 164,905. The sector could exceed that level given that the U.S. dollar is 23%

stronger in 2015 than 2014, reducing the cost of imported goods. To date, there appears to be no economic reason for its growth to be seriously imperiled for the foreseeable future. That is particularly true given that most of Southern California's available industrially zoned land is located in the Inland Empire (*Exhibit 16*).

- **Caution.** That said, both CARB and AQMD are attempting to create an "indirect source rule" whereby new logistics facilities would be charged fees based upon the truck traffic they "lure" to the Inland Empire. If successful, their attempt to become part of local planning decisions could slow the sector's inland growth. Another potential difficulty is the pending opening of the Panama Canal which will have an indeterminate impact on goods arriving at the ports of Los Angeles and Long Beach. That is being offset to an extent by the huge size of new ships of 14,000 teus and above, that cannot go through the new canal. However, their size is straining the ability of the ports to unload them. In addition, to date cargo has not been loaded on them in a logical way in Asia to permit easy unloading and movement away from the ports, straining their throughput capacity.

Exhibit 16.-Logistics Sector Job Growth
Inland Empire, 1990-2016e



Source: CA Employment Development Department, Economics & Politics, Inc. Forecast

- **<u>Health Care</u>.** Four factors will drive the demand for health care in the Inland Empire and the sector's resulting employment level:
  - **Population Growth.** For the past few years, the recession has restrained residential development and therefore population growth in the inland area (*Exhibit 17*). From 2000 through 2006, the inland counties added over 100,000 people a year with domestic in-migration responsible for over 60,000 new residents. First soaring home prices and then the Great Recession changed this picture dramatically with annual growth falling to an average of around 40,000 people a year and domestic net migration essentially reaching just below zero.

This is poised to change with the acceleration in the recovery of Southern California's economy. Also as stated, the share of families in Orange (*21%*), San

Diego (*25%*) and Los Angeles (*30%*) counties who can afford a local home has fallen far more than the 47% in the Inland Empire. As more aggressive population in the Inland Empire resumes, the demand for health professionals will rise. Contributing to this phenomenon is the fact that the California legislature has so far been unwilling to amend the CA Environmental Quality Act (*CEQA*) which is being used by NIMBYs in the coastal counties to nearly stopped the construction of homes that the workforce population can afford.

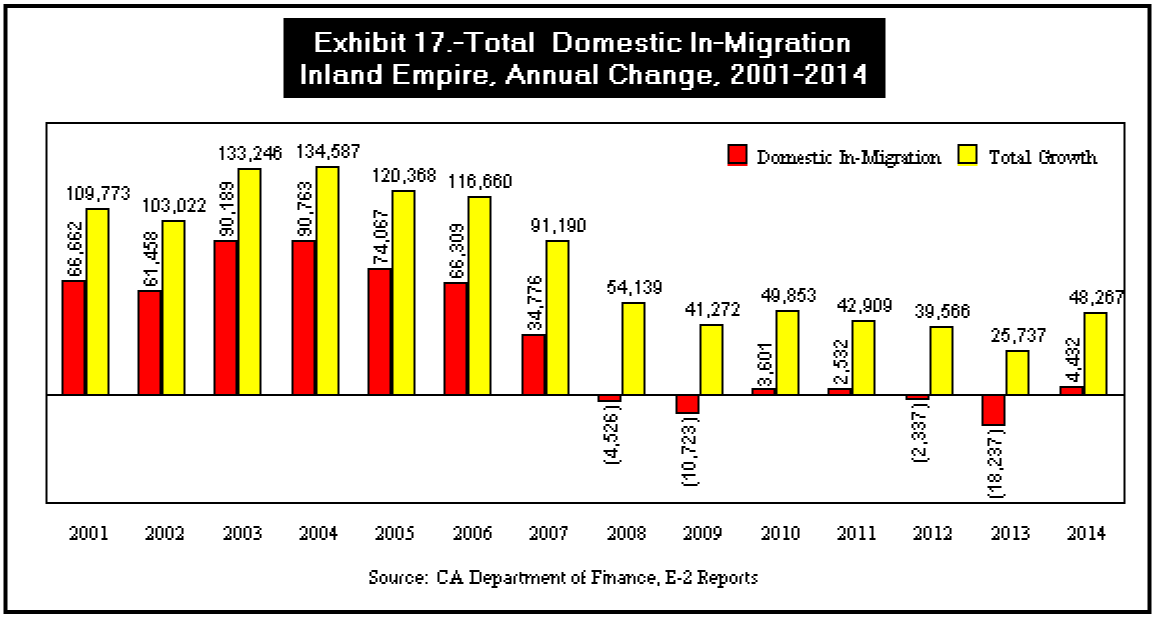
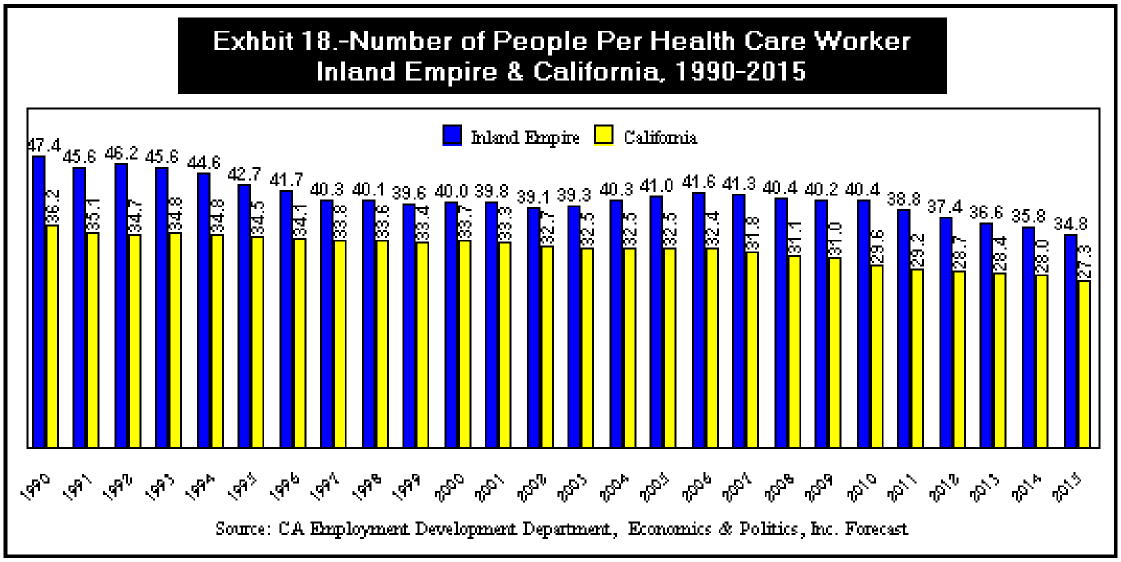


Exhibit 17.-Total Domestic In-Migration
Inland Empire, Annual Change, 2001-2014

- **Affordable Care Act.** In 2013, the American Community Survey found that 19.4% or 836,689 of the Inland Empire's residents had no health insurance. In 2014, those figures were down to 14.6% and 640,154. That was a reduction of -196,535 people or -23.5%. This represents a substantial increase in demand for health care services. The sector's employment has not adjusted as rapidly in part because local out-patient and in-patient care facilities are still working through the process of how to gear up for the increase in demand.

- **Health Care Workers Per Capita.** While demand for health care and the number of workers is rising in the inland counties, the region remains underserved. In 2015, there were 27.3 people for each health care worker in California (*Exhibit 18*). In the Inland Empire, it was 34.8. The region thus had 27.5% more people for each health care worker. The good news is that in 2010, there were 36.3% more people per worker than the state, so the situation is improving. In terms of physicians, the Inland Empire had the lowest ratio of primary (*43*) and specialty doctors (*77*) per 100,000 people of any California region in 2011. The state averages were respectively 64 and 130.



Exhbit 18.-Number of People Per Health Care Worker
Inland Empire & California, 1990-2015

- **Aging Population.** In 2014, there were 962,260 people aged 55 and over in the Inland Empire. They constituted 22.0% of its population. In 2015, this was up to 1,001,074 and 22.5%. Many in this group are already in ages that disproportionately use medical care including assisted living facilities. The number is set to grow as the rest of these baby boomers move beyond 65.

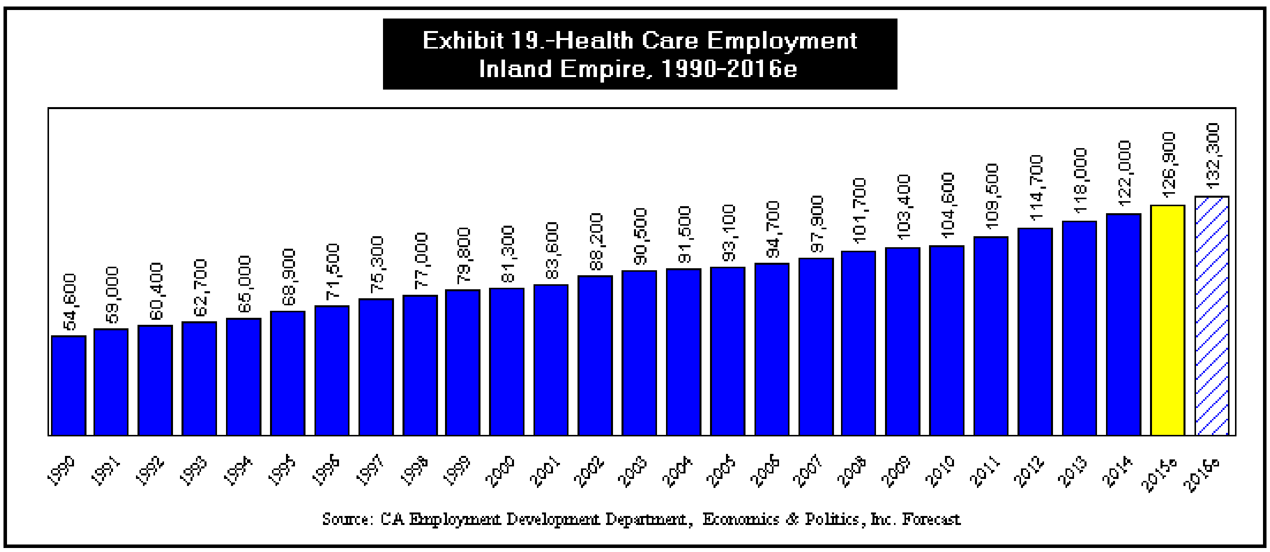
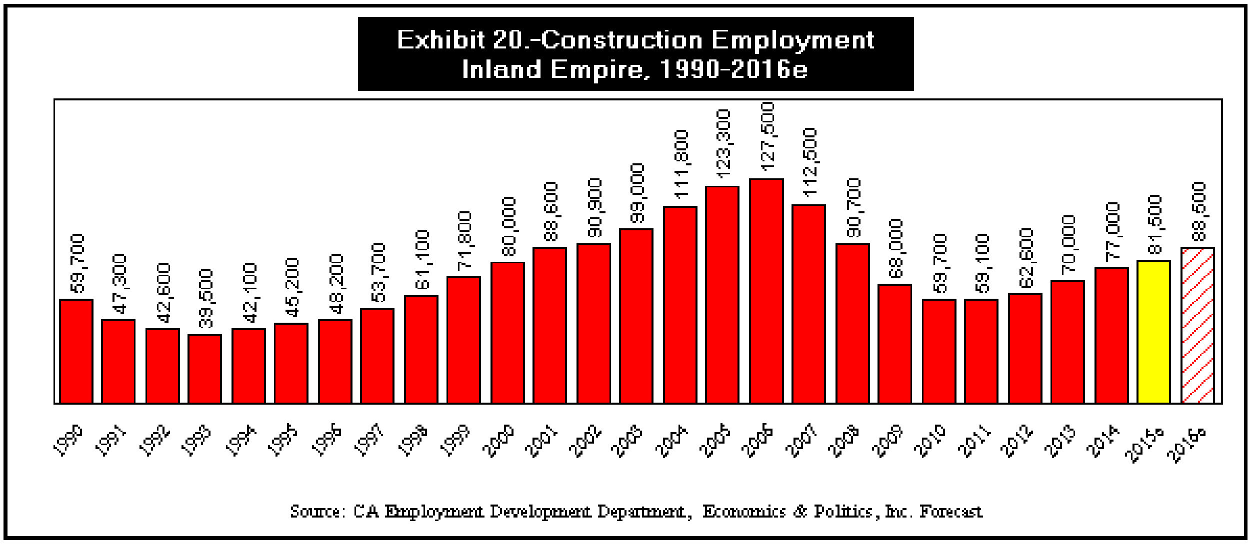


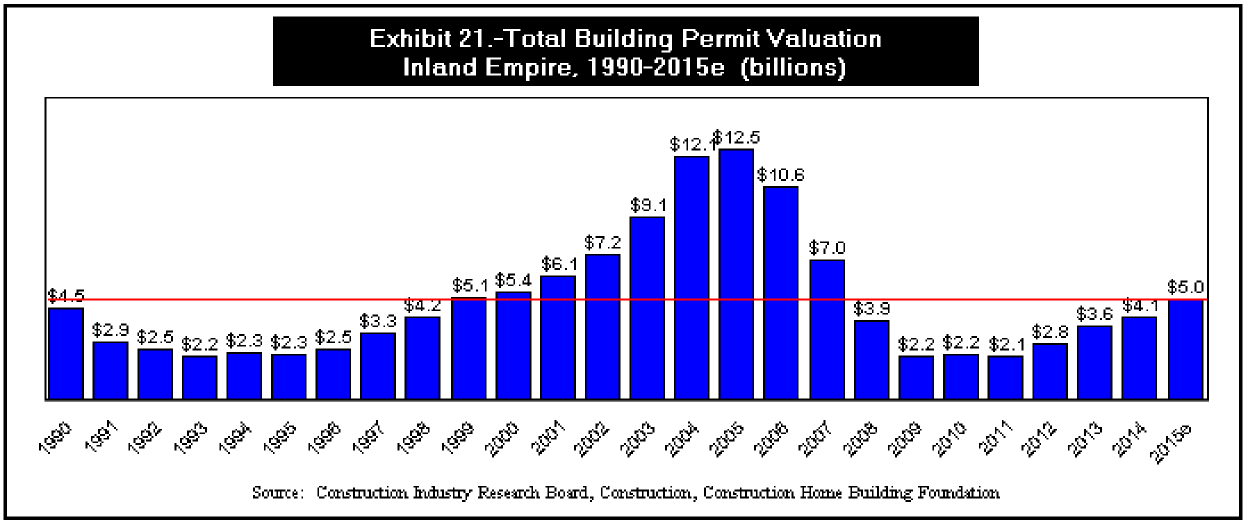
Exhibit 19.-Health Care Employment
Inland Empire, 1990-2016e

- **Forecast.** The Inland Empire's health care sector was unique in growing straight through the Great Recession. In 2014, the sector maintained that record adding 4,000 jobs (*3.4%*) to reach 122,000. For 2015, the area is on track to add another 4,300 positions (*3.5%*) to total 126,900. The forecast is for growth of 3.9% and a total of 4,900 new jobs to reach 132,300 (*Exhibit 19*).
- **Caution.** The key worry for health care providers is the lack of a training pipeline to give them the staffing they will need to keep up with the potential for rapidly expanding demand. Fortunately, the Inland Empire has three medical schools

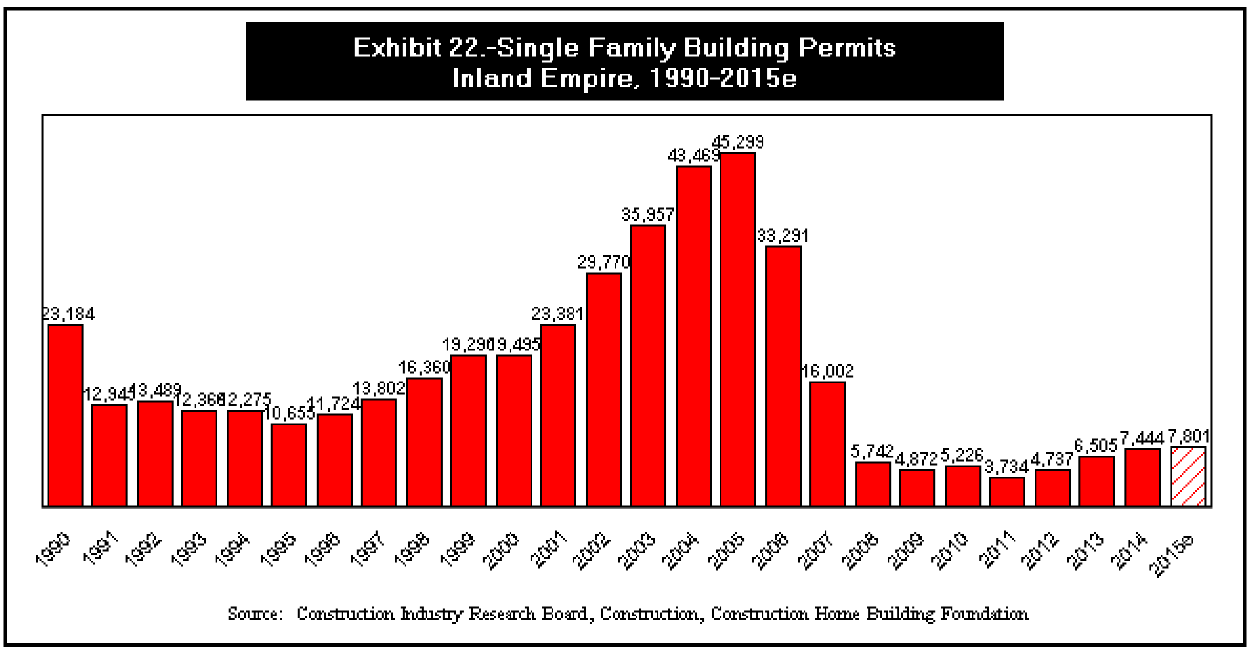
starting to deal with this imbalance: Loma Linda University Medical Center (*non-profit*), University of California Riverside Medical Center (*public*) and Western University of Health Sciences (*private*). A fourth, California University of Science and Medicine will be located next to Arrowhead Medical Center in San Bernardino County. It is being organized and awaiting accreditation. However, to a large extent, the backbone of the system is found among nurses and a very wide variety of technicians. Here, the difficulty will be the inability of public educational institutions including the community colleges and regional occupational programs to handle the required volume as such training is inordinately expensive for them.



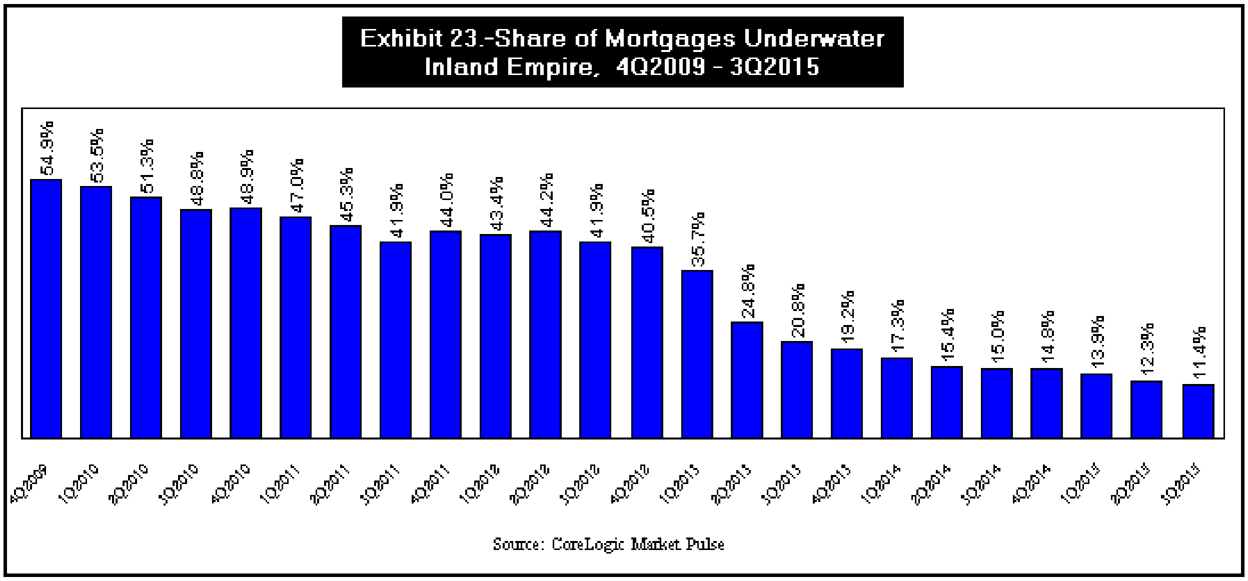
- **<u>Construction</u>.** For the Inland Empire, the missing link in the recovery to date has been residential construction. After peaking at 127,500 workers in 2006, the mortgage crisis sent employment in the overall construction sector down to 59,100 jobs in 2011 (*Exhibit 20*). It has since been growing.
  - **Forecast.** In 2013, construction firms added 7,400 jobs (*11.4%*). Another 6,900 workers were hired in 2014 (*9.9%*). That brought employment to 77,000. EDD has the group's growth slowing to 4,000 in 2015 (*5.2%*) to reach 81,500 jobs. That appears to be an inordinately low estimate. Allowing for it and averaging the three years growth (*9.0%*), it is estimated that 7,300 jobs will be added in 2016 bringing the total to 88,200. The metrics driving the sector include:
    - **Permits.** Importantly, the total value of construction permits has begun to increase. For a low of $2.1 billion in 2011, the level reached $4.1 billion in 2014 and is on track to reach 5.0 billion in 2015 (*Exhibit 21*). While low by the standards of the last decade, the direction is clearly a positive one as some residential projects, together with numerous industrial and some retail projects are being started. This does not include the public sector financed infrastructure projects under construction, thanks to local tax measures plus federal and state transportation funding.



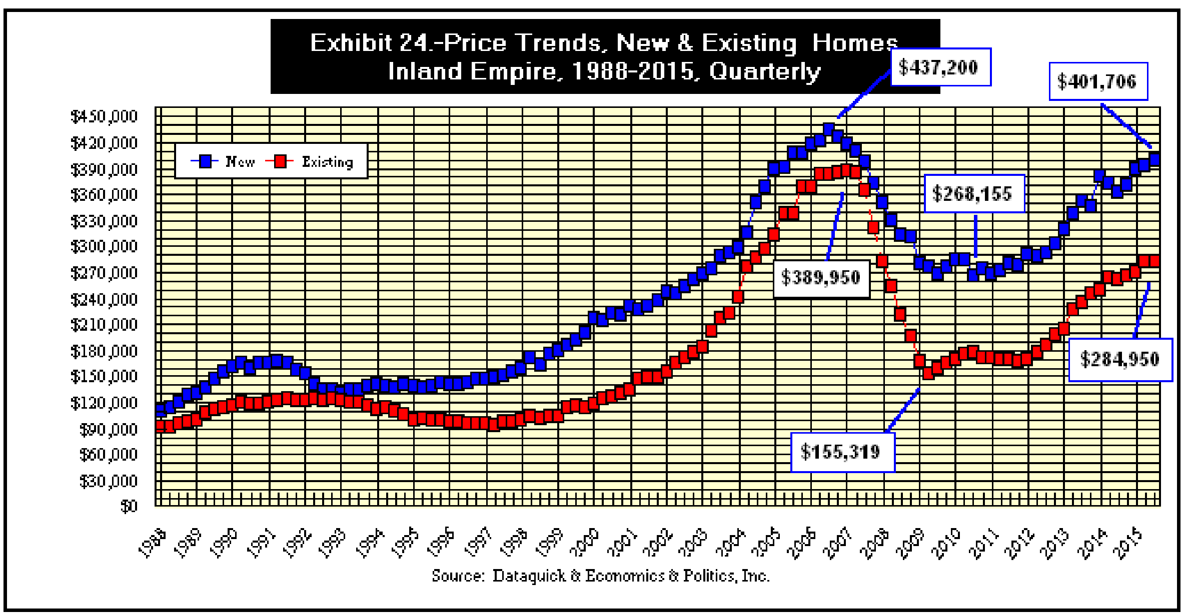
- **Housing.** The major problem for the construction sector has been the very slow recovery in residential activity. The number of single family permits fell from 45,299 in 2005 to 3,734 in 2011. Subsequently, the market has grown to an estimated 7,801 single family detached permits based upon activity in the first eight months of 2015 (*Exhibit 22*). That is the highest level since the Great Recession.



Another encouraging signs include the fact that the share of Inland Empire homeowners underwater on their mortgages has fallen to 11.4%, down from a high of 54.9% in fourth quarter 2009 (*Exhibit 23*). In addition, the number of Notices of Default that start the foreclosure process was down to 835 in November 2015 (*not shown*). The high was 12,672 in March 2009. The level was just 24.7% of the 3,383 that occurred in January 2007 when the mortgage meltdown first began to appear.



Very importantly, residential prices in the Inland Empire have seen a significant recovery since the mortgage meltdown. In the existing home market, the third quarter 2015 median price was $284,950, up 83.5% from the low of $155,319 in second quarter 2009. The median new home price was at $401,706, up 49.8% from the low of $268,155 (*Exhibit 22*). Neither price needs to reach their all time highs for most inland homeowners to be out of trouble since many of those who bought at the price peaks have long since lost their houses.



An additional fact that will ultimately encourage the Inland Empire's detached single family housing market is found in surveys conducted over a five year period by the Western Riverside Council of Governments. They twice interviewed commuters driving from that county to Los Angeles, Orange and San Diego about their housing preferences. The responses to two questions were quite revealing:

1. As a homeowner, would you prefer to move closer to work if it involved a townhouse or condo? **Answer: 87.5% said NO.**
2. As a renter would you prefer to move closer to work if it involved a townhouse or condo? **Answer: 72.3% said NO.**

Further, a 2015 survey by the Demand Institute found that:

3. 84% of millennials either already own a home or that is their desire.

There thus appears to be a stronger preference than expected for the kind of single family detached homes for which only the Inland Empire in Southern California has the undeveloped property to accommodate.

- **Non-Residential Construction.** Non-residential activity (*including multitenant*) has fewer problems than single family housing. Here, the situation is seen in the metrics for several types of activity:

1. Industrial vacancy was 3.8% in third quarter 2015 and is approaching the historic low of 2.7% in fourth quarter 2005. In November 2015, this segment's 20.7 million square feet was the highest construction level for any U.S. industrial market. As stated earlier, in the most recent four quarters, logistics firms occupied a net of 19.6 million square feet.
2. Office vacancy was 15.0%, down from a recent high of 24.2%. However, it is still far above the low of 7.0% in 2003 when construction activity last restarted. Currently, no projects are being built.
3. Retail vacancy was 10.0% in third quarter 2015 v. 8.8% in 2009. The sector is beginning to wake up. It had 588,641 square feet of net absorption in the first nine months of 2015 with 233,710 square feet under construction in November. Still, that represented only a 0.2% expansion of the 110,156,489 square feet already in existence.
4. Apartment vacancy was 5.1% in June 2015 with tenants paying a record $1,287 per month, up 8.9% from $1,182 a year earlier. This segment is building again in part due to the lack of supply detached homes for sale as well as the inability or unwillingness of many families to obtain home loans.

- **Caution.** There continues to be a host of issues facing the rejuvenation of the Inland Empire's construction sector. In the residential market, people remain hesitant to commit to new purchases in the inland counties. That will likely change as the very high costs of coastal county homes bars them from investing there. The multitenant market is strong given the increased demand from the large number of families that cannot obtain financing for single family homes.

Industrial construction will remain a force given the demand for facilities because of rising international trade with the strong dollar and the explosive growth of e-commerce. Public construction should remain strong because both inland counties have passed local sales tax measures for street and road construction.

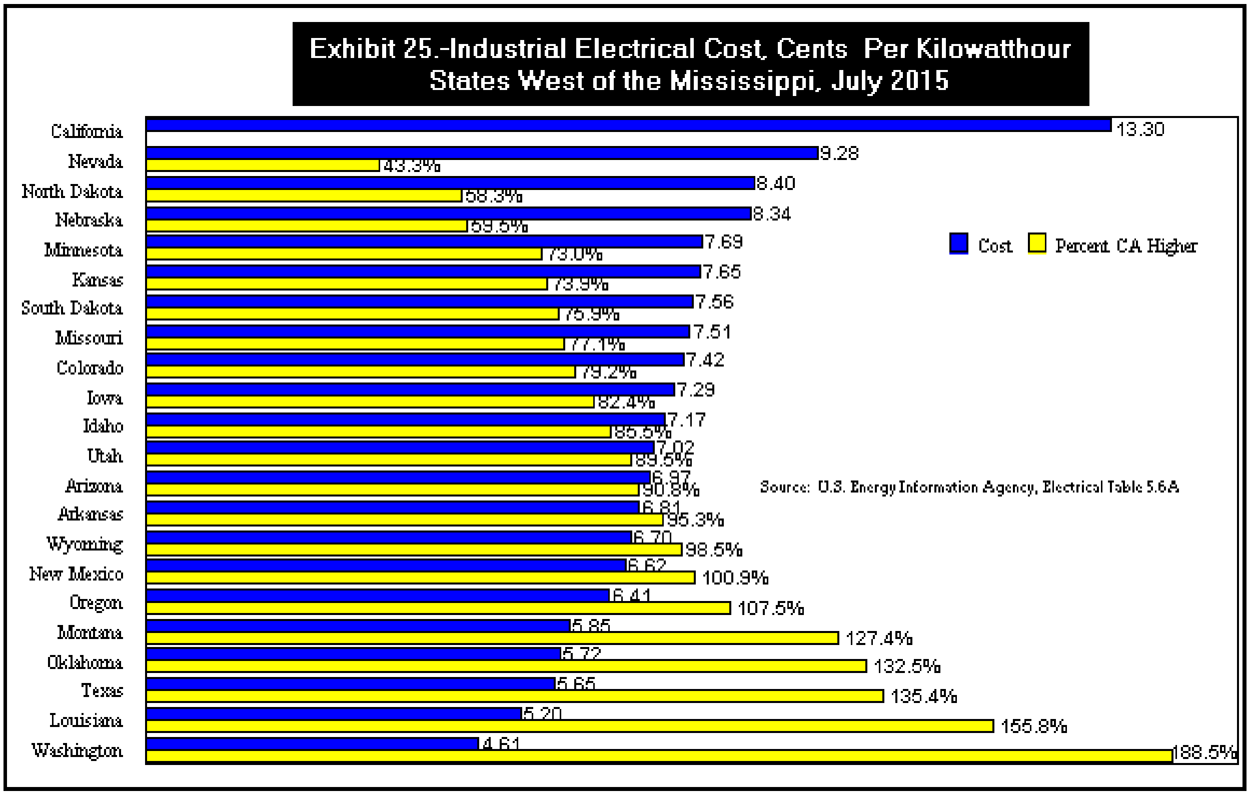
Office construction will lag until a resurgence in demand occurs. That will require office based operations that retrenched in the Great Recession to return to the inland area. A little retail construction is now underway given that the Inland Empire's 2015 taxable retail sales are on course to reach $69.0 billion and exceed the 2006 record $61.1 by 12.8%. That said, inflation has been 16.0% between 2006-2015 meaning that the volume of goods being sold are not yet back to its inflation adjusted maximum.

- **Manufacturing.** For the Inland Empire, the manufacturing sector continues to represent a missed opportunity. There are three reasons for this:

  - **National v. State Manufacturing Growth.** In recent decades, international competition and lower costs in countries like China and India have hurt U.S. manufacturing employment. In addition, a good deal of research indicates that a major reason for the loss of jobs was the domestic adoption of technology that replaced workers by U.S. firms. However since 2010, a resurgence is underway in this country. This is occurring as some firms have been hurt because the off-shoring of production hurt their quality controls. Also, foreign labor costs have risen, particularly in China, reducing the incentive for U.S. firms to maintain production offshore. Meanwhile, American firms have become much more productive, giving them a competitive edge for goods they sell in this country.

    This is why U.S. seasonally adjusted manufacturing employment has risen by 858,00 jobs from January 2010 to November 2015, up 7.5%. The sad fact is that California has added just 25,300 jobs in this period, a 2.0% growth rate and just 2.9% of national growth (*Exhibit 10 above*). When asked about these data, the state's economic development group (*Go-Biz*) responded that despite the lack of job growth, the state's manufacturing output grew rapidly. However, this begs the question of why it is good to see output rise with minimal benefit to the state's workers.

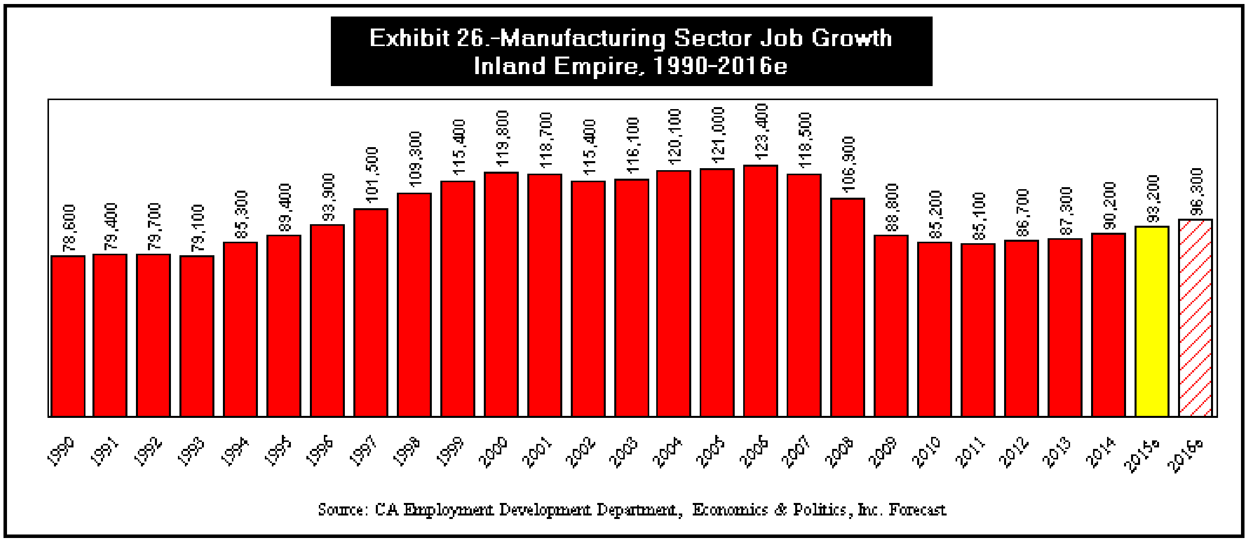
  - **Energy Costs.** California has put in place strong policies aimed at increasing the state's use of renewable energy. However for manufacturers and their workers, this has caused electrical costs to soar, making them uncompetitive versus nearby states (*Exhibit 25*). Thus, California's average industrial electricity rate was 13.30¢ per kilowatt hour in July 2015. That was 43.3% higher than Nevada (*9.28¢*), the second most expensive western state. The passage of SB 350 with its mandate of 50% renewables by 2030 will undoubtedly exacerbate this cost disadvantage.



- **Regulatory Climate.** Meanwhile, Southern California's regulatory climate has negatively impacted its manufacturing sector in several ways. First, because the South Coast Air Quality Management District (*AQMD*) rule making is a non-stop affair, it is very difficult for companies in places like the Inland Empire to forecast their cost structures for any realistic time horizon. As firms typically invest with looking at least five years ahead, this inhibits local expansions. Second, firms find they are often layered with regulatory costs because they must install new pollution control technologies as soon as the agency requires them to do so. Sometimes, this is before they have paid for the last round of required technology.

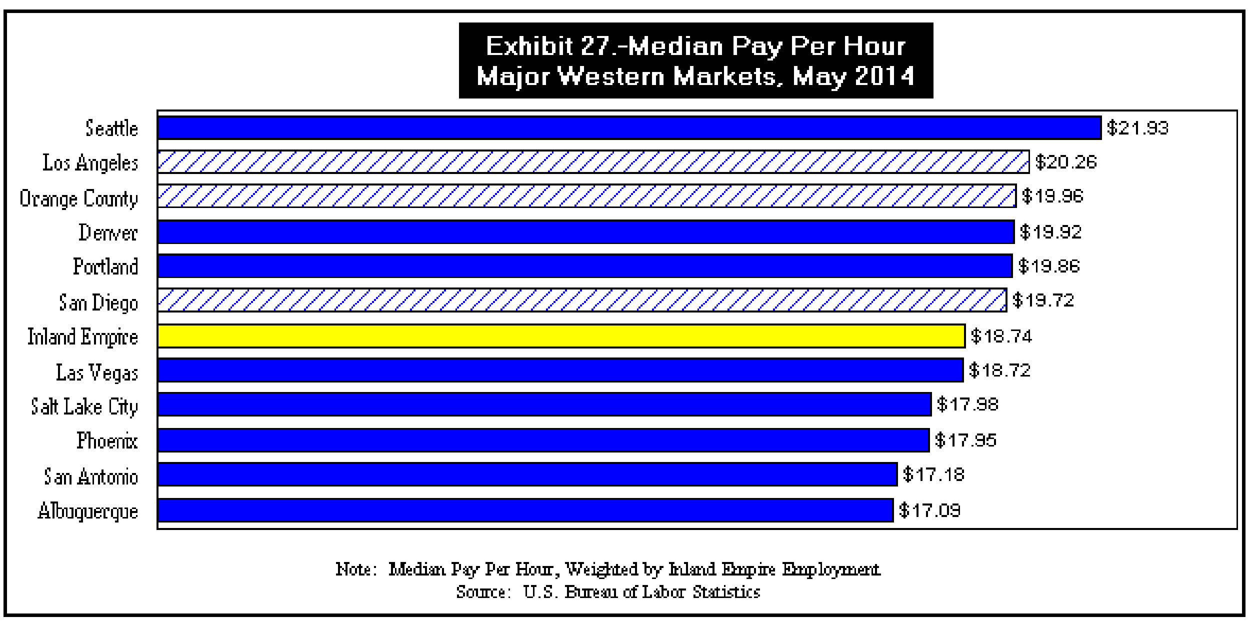
  An example of the uncertainty that AQMD injects into the manufacturing process is seen in the agency's declared statement that it must "electrify" the basin to meet its air quality mandates. To manufacturers, this means having to consider having to use electricity even when natural gas, for which Southern California has a far better competitive situation, is available.

- **Forecast.** Given these facts, the prognosis for manufacturing job growth in the Inland Empire is unfortunately weak. From 2007-2011, the sector had a net loss of -38,300 jobs. With the Great Recession over, the sector has slowly grown, adding 8,100 jobs during 2012-2015 taking it to 93,200 jobs. Looking ahead, the manufacturing employment grew 3.2% and 3.3% the past two years. It is forecasted to add another 3.3% in 2016 taking it to 96,300 jobs (*Exhibit 26*).



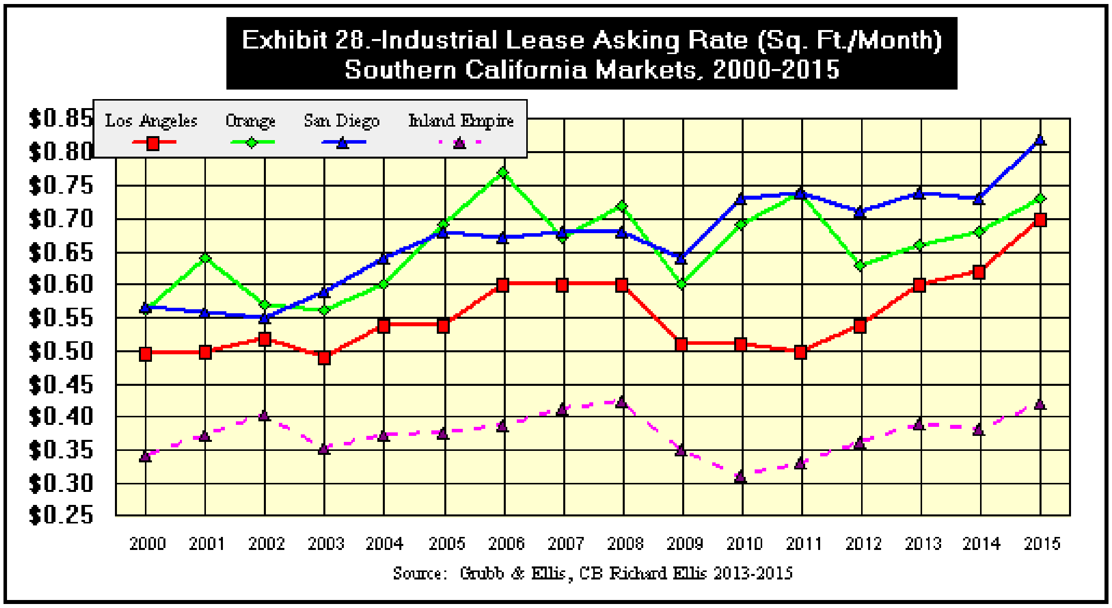
In talks with executives, it is difficult to find a scenario that will improve what should be a strong Inland Empire sector, given its competitive space and labor costs. Here, a typical response came from a major local aerospace manufacturer. Their processes require precision work by small machine shops that should be located nearby. Instead, they remain scatter throughout Southern California. Owners are unwilling to move for fear it would invoke dealing with AQMD.

Caution. There is a remote scenario under which the manufacturing sector could expand faster. This is because of the competitive advantages the sector does have vis-à-vis the balance of Southern California. Two factors illustrate this:



1. **Lower Median Pay.** In May 2014, the median pay for all Inland Empire occupations was $18.74 an hour. Compared to the coastal counties that was a bargain: Los Angeles (*$20.26; 8.1% higher*),Orange (*$19.96; 6.5% higher*),

San Diego (*$19.72; 5.2% higher*). For consistency, the pay for each occupational group in each area was weighted by the number of jobs in that group in the Inland Empire (*Exhibit 27*). The differentials are logical given that 20.5% of the workforce commuted to the coastal counties in 2013 and will tend to work for a little less to avoiding having to do so.



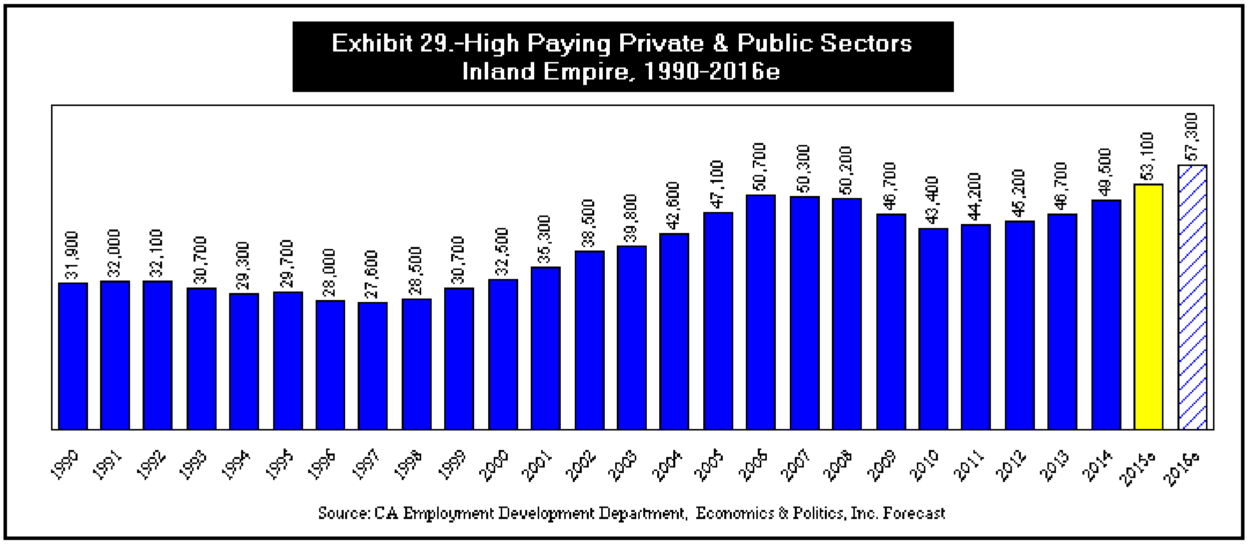
2. **Low Space Cost.** In third quarter 2015, industrial space in the Inland Empire leased for $0.42 per square foot. Space in the coastal counties has always cost significantly more. Most recently: Los Angeles (*$0.70; 66.7% higher*), Orange (*$0.73; 73.8% higher*), San Diego (*$0.82; 95.2% higher*) (*Exhibit 28*).

These competitive advantages may still allow some manufacturing growth in the Inland Empire. In any case, it will be subdued. This is particularly true given the lower worker pay scales in most nearby metropolitan areas in other states.

6. **Professional, Management & Scientific Work.** Recently, another potential sector could start driving the Inland Empire's economic base. This is the combination of high-end professional, scientific, technical and management companies (*Exhibit 29*). From 2011 through 2015, they are on pace to add 9,700 jobs. This has included growth of 6.0% in 2013 (*2,800*) and 7.3% in 2014 (*3,600*). Based upon that expansion, it is estimated that growth in 2016 will add another 8.0% to the high paying group, bringing it to 57,300 jobs. That exceeds the pre-recession high of 50,700 by 13.0%

   This growth potential has been aided by the fact that there has been a serious migration of well educated workers into the western edge of the Inland Empire near Los Angeles and Orange counties. There have been similar movements out of San Diego County in to the Temecula-Murrieta area. The Redlands-Loma Linda area has also attracted such activity to the location of ESRI, the University of Redlands and Loma Linda University Medical Center (*Exhibit 11, above*).

Traditionally, the edge areas of Southern California have seen the migration of first workers followed later by their employers as housing prices and the availability of land have dictated the pattern of worker migration. The Inland Empire has reached a point in its development that this should be occurring due to the absence of affordable upscale housing elsewhere in Southern California. Also, these sectors should be growing as the recession has ended and professionals need to migrate inland to support the housing sector and to serve the 4.4 million people and 99,284 firms in the region. Given Southern California's traffic condition, it will become increasingly difficult to do so from coastal county offices.



7. **Other Sectors.** It is difficult to see any other sectors driving the Inland Empire's economic base in a major way because of the educational level of the great mass of the area's labor force. There will ultimately be significant growth in population-serving sectors like retailing and eating and drinking, but that will be a reaction to the funds flowing inland because of the expansion of the sectors discussed above. Also, there will be growth in sectors related to construction once that sector reemerges. That is the case because its growth will impact finance, insurance and real estate activity. But again, these are not fundamentally the part of the region's economy bringing fresh dollars into it.

III. Occupational & Industry Pay

A. Occupations

1. From 2012-2022 EDD forecasts that 526 Inland Empire occupations will each add 1,000 or more jobs (*Exhibit 32*). To summarize EDD's forecasts of them:
   - Together, these occupations will grow by 314,080 positions or 22.6%.
   - These occupations will represent 64.2% of the forecasted total employment gain of 489,551 in the Inland Empire from 2012-2022.

- Assuming full time work at 2080 hours a year, the largest share of the 52 occupations will pay from $20,000 to $29,999 (*34.6%*). The weighted average pay would be $18.76 or $39,021 a year:

Exhibit 30.-Income Levels, 2012-2022 Sectors of 2,500 Job Growth or More		
Income Level	**Occupations**	**Share**
Under $20,000	7	13.5%
$20000-29,999	18	34.6%
$30,000-$39,999	9	17.3%
$40,000-$49,999	6	11.5%
$50,000-$79,999	8	15.4%
$80,000 & Up	4	7.7%
Totals	**52**	**100.0%**

- 52.7% of these occupations will require a high school education/QED (*59.6%*) or less than high school completion (*23.1%*).
- 39 of the 52 occupations (*75%*) currently required no experience or short term on-the-job training.
- Of the 314,080 gains in the 52 occupations adding 2,500 or more jobs predicted by EDD, the breakdown was as follows:

Exhibit 31.-Sectors & Job Growth, 2012-2022 Sectors of 2,500 Job Growth or More				
Sectors	**Job Growth**	**Share**	**Occupations**	**Share**
Business Services	35,980	11.5%	10	19.2%
General Administration	38,920	12.4%	9	17.3%
Logistics	59,650	19.0%	9	17.3%
Food & Drink	51,100	16.3%	8	15.4%
Health Care	22,440	7.1%	5	9.6%
Retail	31,380	10.0%	4	7.7%
Construction	34,500	11.0%	3	5.8%
Personal Services	36,090	11.5%	3	5.8%
Education	4,020	1.3%	1	1.9%
Totals	**314,080**	**100.0%**	**52**	**100.0%**

Exhibit 32.-Occupations with2,500 or More Job Growth, Inland Empire, 2012-2022									
SOC Code	**Occupational Title**	**2012**	**2022**	**Growth**	**Median Annual**	**Entry Level Education**	**Work Experience**	**On-the-Job Training**	**Main Sector**
472000	Construction Trades Workers	49,660	73,870	24,210	$33.06	High School	>5 years	>5 years	Construction
399000	Other Personal Care and Service Workers	43,610	61,060	17,450	$11.36	High School	None	None	Personal Services
353000	Food and Beverage Serving Workers	61,380	77,980	16,600	$9.19	Less Than HS	None	None	Food & Drink
399021	Personal Care Aides	27,620	43,630	16,010	$9.41	Less Than HS	None	None	Personal Services
412000	Retail Sales Workers	91,060	106,430	15,370	$26.27	High School	>5 years	>5 years	Retail
537000	Material Moving Workers	60,220	75,410	15,190	$12.53	High School	None	None	Logistics
537062	Laborers and Freight, Stock, and Material Movers, Hand	35,070	45,270	10,200	$11.89	Less Than HS	None	None	Logistics
353021	Combined Food Preparation and Serving Workers, Including Fast Food	29,130	38,760	9,630	$9.10	Less Than HS	None	None	Food & Drink
533000	Motor Vehicle Operators	42,800	52,050	9,250	$0.00	Associates	None	None	Logistics
412031	Retail Salespersons	47,570	55,890	8,320	$10.24	Less Than HS	None	None	Retail
131000	Business Operations Specialists	29,690	37,550	7,860	$30.17	High School	1-5 years	1-5 years	General
352000	Cooks and Food Preparation Workers	33,720	41,440	7,720	$13.16	High School	1-5 years	1-5 years	Food & Drink
291000	Health Diagnosing and Treating Practitioners	42,630	49,370	6,740	$36.28	High School	None	None	Health Care
434000	Information and Record Clerks	40,410	46,560	6,150	$19.00	High School	None	None	Business Services
533032	Heavy and Tractor-Trailer Truck Drivers	24,660	30,670	6,010	$20.39	High School	1-5 years	1-5 years	Logistics
499000	Other Installation, Maintenance, and Repair Occupations	23,310	29,230	5,920	$12.70	High School	None	None	Logistics
472061	Construction Laborers	12,310	18,180	5,870	$18.70	Less Than HS	None	None	Construction
372000	Building Cleaning and Pest Control Workers	30,680	36,250	5,570	$18.92	High School	1-5 years	1-5 years	Business Serices
436000	Secretaries and Administrative Assistants	27,500	32,900	5,400	$12.69	High School	None	None	General
292000	Health Technologists and Technicians	22,960	28,250	5,290	$38.03	Masters	None	None	Health Care
412011	Cashiers	35,080	40,110	5,030	$9.47	Less Than HS	None	None	Retail
353031	Waiters and Waitresses	19,070	23,600	4,530	$8.97	Less Than HS	None	None	Food & Drink
111000	Top Executives	21,110	25,600	4,490	$44.81	Bachelors	>5 years	>5 years	General
472031	Carpenters	9,610	14,030	4,420	$25.24	High School	None	None	Construction
433000	Financial Clerks	26,190	30,520	4,330	$20.43	High School	None	None	Business Services
111021	General and Operations Managers	18,570	22,770	4,200	$43.75	Associates	1-5 years	1-5 years	General
252000	Preschool, Primary, Secondary, and Special Education School Teachers	39,180	43,200	4,020	$0.00	Masters	None	None	Education
291141	Registered Nurses	23,430	27,190	3,760	$42.39	Associates	None	None	Health Care
119000	Other Management Occupations	27,230	30,980	3,750	$45.70	Bachelors	1-5 years	1-5 years	General
435000	Material Recording, Scheduling, Dispatching, and Distributing Workers	43,210	46,880	3,670	$18.83	High School	None	None	Logistics
493000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	17,110	20,700	3,590	$23.62	High School	None	None	Logistics
439061	Office Clerks, General	27,140	30,690	3,550	$13.37	High School	None	None	General
352014	Cooks, Restaurant	10,130	13,670	3,540	$10.70	Less Than HS	<1 year	<1 year	Food & Drink
319000	Other Healthcare Support Occupations	17,980	21,510	3,530	$13.17	High School	None	None	Health Care
359000	Other Food Preparation and Serving Related Workers	14,670	18,200	3,530	$9.44	Less Than HS	None	None	Food & Drink

436014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	16,210	19,700	3,490	$17.13	High School	None	None	General
439000	Other Office and Administrative Support Workers	38,500	41,960	3,460	$17.13	High School	None	None	General
373000	Grounds Maintenance Workers	17,260	20,490	3,230	$13.72	High School	None	None	Business Serices
414000	Sales Representatives, Wholesale and Manufacturing	12,810	16,000	3,190	$21.79	High School	None	None	Logistics
311000	Nursing, Psychiatric, and Home Health Aides	13,080	16,200	3,120	$13.63	Bachelors	None	None	Health Care
373011	Landscaping and Groundskeeping Workers	16,620	19,710	3,090	$10.81	Less Than HS	None	None	Business Serices
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	17,750	20,810	3,060	$12.21	Less Than HS	None	None	Business Serices
351000	Supervisors of Food Preparation and Serving Workers	10,360	13,300	2,940	$9.22	High School	None	None	Food & Drink
434051	Customer Service Representatives	13,400	16,270	2,870	$16.43	High School	None	None	Business Services
132000	Financial Specialists	14,460	17,180	2,720	$31.50	High School	<1 year	<1 year	General
411000	Supervisors of Sales Workers	19,350	22,010	2,660	$11.81	High School	None	None	Retail
211000	Counselors, Social Workers, and Other Community and Social Service Specialists	16,410	19,040	2,630	$22.03	Associates	None	None	Social Service
414012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	10,570	13,200	2,630	$25.65	High School	None	None	Logistics
351012	First-Line Supervisors of Food Preparation and Serving Workers	8,620	11,230	2,610	$13.16	High School	1-5 years	1-5 years	Food & Drink
431011	First-Line Supervisors of Office and Administrative Support Workers	13,090	15,680	2,590	$23.49	High School	1-5 years	1-5 years	Business Services
431000	Supervisors of Office and Administrative Support Workers	13,090	15,680	2,590	$15.71	High School	None	None	Business Services
433031	Bookkeeping, Accounting, and Auditing Clerks	12,390	14,890	2,500	$18.06	High School	None	None	Business Services
	Totals	1,389,670	1,703,750	314,080	$18.27				

Source: Standard Occupational Code descriptions and forecasts, CA Employment Development Department

B. Median Pay by Sector

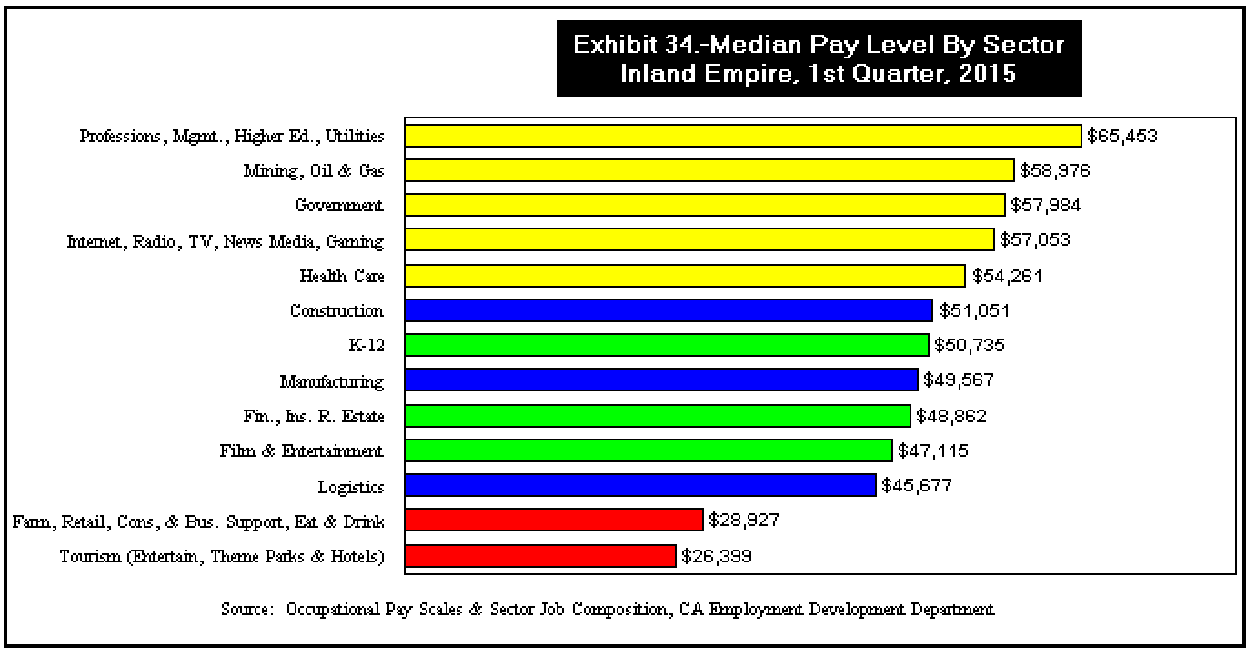
1. A key Inland Empire need is for sectors that offer primary wage earners access to middle class earnings. Three steps are needed to determine median pay by sector:

   - Median pay by standard occupational code for the Inland Empire in first quarter 2014 was downloaded from EDD.
   - The group of occupational codes in each sector for California was downloaded from EDD together with employment in each occupation for each sector. These data were not publically available for sectors within the state's various jurisdictions.
   - The occupational array and the Inland Empire's median pay levels were combined to show the weighted array of jobs and their median pay by sector in first quarter 2015 in the inland area (*Exhibit 34*).

2. The results from this array are as follows (*Exhibit 34*):

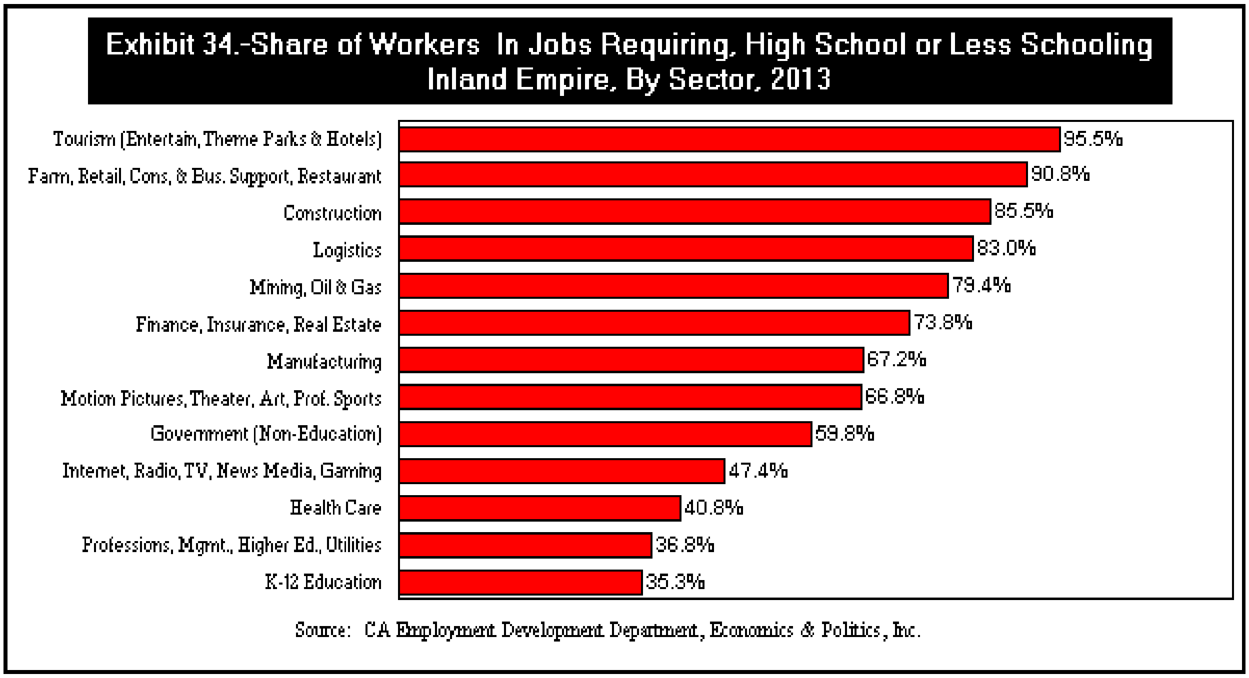
   - **High Paying Sectors (*yellow*).** The five highest paying categories had median pay levels from $54,261 to $65,463 in 2015. These included four private sector groups as well as higher education and all levels of government. They were responsible for 23,391 new jobs in the 2011-2015 recovery or 12.3% of the growth. Some jobs in these sectors offer opportunities for the marginally educated.

- **Median Paying Sectors (*blue & green*).** Six mid-range sectors had median pay levels from $45,677 to $51,051 in 2015. They included the three essentially blue collar or technical sectors responsible for 72,161 or 38.0% of new jobs from 2011-2015. There were also two office based groups (*finance, insurance & real estate; film & entertainment*) plus K-12 education that were responsible for 10,228 new jobs or 5.4% of the total. Marginally educated workers can succeed in these sectors.
- **Lower Paying Sectors (*red*).** Lower paying sectors had median pay levels ranging from $26,399 to $28,927. These population-serving and business servicing sectors saw 83,913 new jobs from 2011-2015 or 44.2% of the area's total growth. These sectors can help a secondary wage earners move a family into the middle class.



C. **Status of Sectors Requiring Lower Levels of Education.** A second Inland Empire need is for sectors that offer workers with high school or less educations the ability to start work. In 2013, substantial work was done using EDD's data to show that numerous sectors allow people to do so (*Exhibit 34*). Two are low paying but would help a family's secondary wage earner:

1. **Tourism** (*median income: $26,399*) allows 95.4% of workers to have marginal educations. While growth will be rapid, there are not many good paying jobs.
2. **Broad Group of Low Income Sectors** (*median income: $28,475*) allows 90.8% of workers to enter with high school or less schooling. These sectors will also grow rapidly but offer relatively few good paying jobs.



Of the other sectors, several offer significant opportunities for workers to start their careers and ultimately move up with reach of median pay levels:

3. **Construction** (*median pay: $51,051*) has 85.5% of workers in jobs requiring minimal levels of formal education, though apprenticeship is necessary for many types of work. The sector is finally beginning to add employees but is having trouble finding them.

4. **Logistics** (*median pay: $45,677*) has 83.0% of its workers in jobs requiring high school or less schooling. The sector has been the fastest growing in the Inland Empire. This should continue.

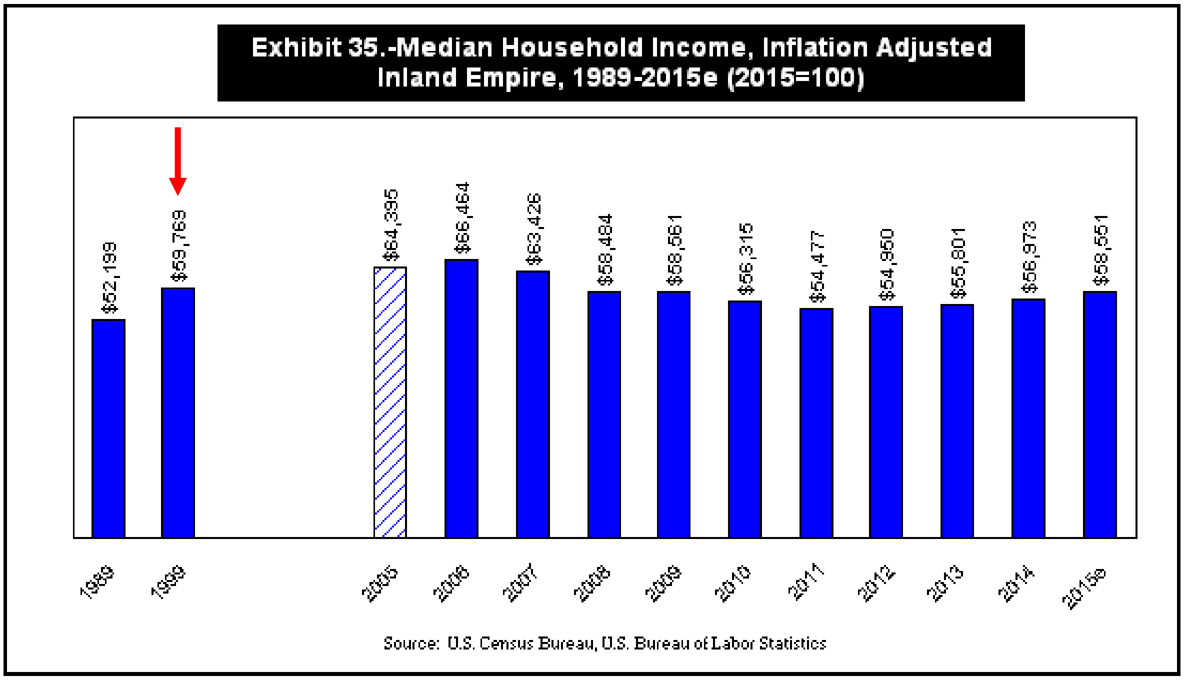
5. **Finance, Insurance & Real Estate** (*median pay: $48,862*) will grow as the real estate market recovers. In this sector 73.8% of workers are in jobs requiring minimal entry level educations though many require specific state certifications.

6. **Manufacturing** (*median pay $49,5678*) will offer only a little job growth. However, industry leaders indicate that a large share of their existing technicians are starting to retire. Of workers in the sector, 67.2% needed high school or less schooling. However, technical skills training is a necessity.

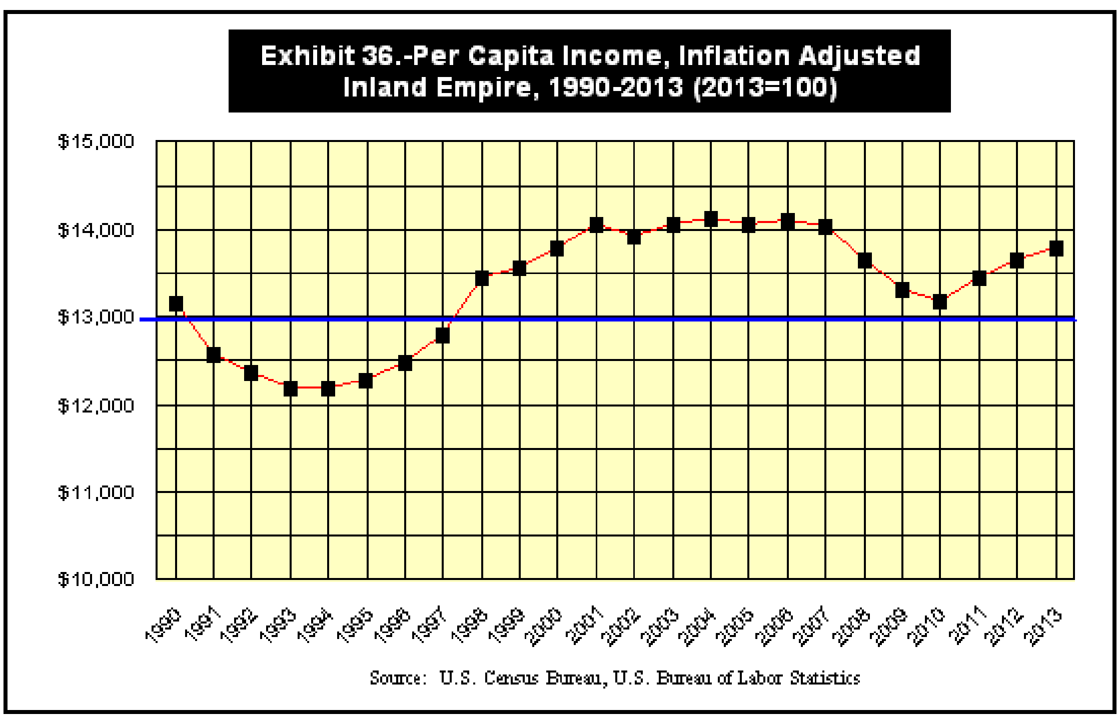
7. **Health Care** (*median pay: $55,308*) has a smaller share of workers in jobs with minimal educational requirements (*40.8%*). However, the sector is expected to grow rapidly, and those getting certification to work within it will often find themselves interested in moving up within the sector.

IV. Income Trends

Households in the Inland Empire have generally not been seeing increased prosperity:



A. Median Income. Median household income has ended essentially flat since 1999. Using median incomes inflation adjusted to 2015 price levels, the 1999 level was $59,769. In the early 2000s, the trend for the Inland Empire's household purchasing power was up reaching a peak during the mortgage boom at $66,464 in 2006. That was 11.2% over the 1999 level. However, the Great Recession and its aftermath saw household purchasing power fall by 2011 to $54,477 or -8.9% below the 1999 level. Since then, there has been a slow recovery taking the level to $58,551 in 2014, still -2.0% below the 1999 level.



B. Per Capita Income. The trend for the Inland Empire's per capita income adjusted to 2013 prices showed that the purchasing power of average individuals declined significantly from $13,166 in 1990 to $12,194 in 1993 (*-7.4%*) with the aerospace/defense recession (*Exhibit 36*). From there, per capita income rose to a $14,134 peak in 2004, up 15.9% from 1993. With the Great Recession, the purchasing power of an average person fell to $13,195 by 2010, off -6.5% from the 2004 peak. More recently, a gain to $13,806 by 2015 left per capita income 4.9% above its 1990 level. Unfortunately, per capita income as opposed to median income has the disadvantage of being biased to the high side by people with very high incomes.

C. Income Distribution. Finally, the Inland Empire has not been immune to the imbalance in income distribution that has plagued the nation. The share of its 1,312,128 households earning under $25,000 in 2014 was 23.0% with an income share of just 6.1% (*Exhibit 37*). Another 23.2% earned $25,000-$49,999 with only a 12.3% income share. Roughly middle class households included 18.6% earning $50,000-$74,999 with 16.4% of income, and 12.7% making $75,000-$99,999 with 15.7% of income. The well-off were the 13.5% making $100,000-$149,999 with a 23.8% income share and the 9.0% earning over $150,000 with 25.8% of income.