SCAG Economic Conference Preparation Report
<u>Inland Empire</u>

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Prepared by

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For the Inland Empire, a review of the most recent economic data finally provides some good news. Instead of the area returning to its pre-recession levels of employment in 2016-2017, it will easily reach surpass that level in 2015. This has occurred because job growth has accelerated to a gain of 46,833 in 2013 and a forecasted 48,000 in 2014 based upon U.S. Bureau of Labor Statistics estimates of its early performance this year. The latter showed that the 34,309 gain calculated by the CA Employment Development Department for 2014 was significantly underestimated.

Unemployment remains an issue for the area, with its 8.2% level in September 2014 still the highest among U.S. metropolitan areas with one million or more people. Still, that is down from a September high of 14.4% in 2010. Key measures of challenges faced by the Inland Empire include the fact that 46.3% of its adult population has a high school or less education. This limits the kinds of firms able to do work in the region, even though the rate is down from 50.1% in 2010. Also, the area faces very serious public health issues in that 18.2% of all people and 25.4% of children under 18 are living in poverty.

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 four 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 to handle the explosion of e-commerce. They were responsible for 18.5% of the area's direct job growth in 2013 (*8,817*) and are on track to have 15.5% in 2014. Based upon job growth of 48,000 in 2014 and a slowdown to 40,000 in 2015, it is estimated that the sector will add 6,940 jobs this year and 5,783 in 2015 to reach 141,640 positions.
- **Health Care** firms are expanding in the Inland Empire in part because the average worker is already serving 28% more people than the California average. Meanwhile, the Affordable Care Act has seen over 400,000 people get health insurance, roughly cutting the number of uninsured in half. Also, they are beginning to respond to the fact that 22.0% of the population is 55 years or older. Meanwhile, they recognize that the area's population growth was 34.1% from 2000-2014 despite the recent slowdown due to the mortgage crisis. Based upon job growth of 48,000 in 2014 and a 40,000 in 2015, it is estimated that the sector will add 2,585 jobs this year and 3,231 in 2015 to reach 123,449 positions.
- **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 still being down -58,158 jobs despite some growth in 2012-2013. Several positive factors are now appearing. Total permit valuation is slowly rising. Industrial and infrastructure construction is booming and even housing is doing better. Foreclosures are less than one-third the number in 2007 when the mortgage crisis first began appearing. The share of families underwater on their mortgages has dropped from 54.9% in 2009 to 15.4%. Housing permits are slowly increasing and prices have gone up by 70.1% since their low in 2009. Based upon job growth of 48,000 in 2014 and a 40,000 in 2015, it is estimated that the sector will add 4,245 jobs this year and 4,422 in 2015 to reach 77,492 positions. Important to this forecast is a 2014 survey showing that even Millennials (*84%*) continue to show a long-term preference for single family homes.

- **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 electrical costs 43.4% above Colorado, the second most expensive western state. As a result the state has created only 6,900 manufacturing jobs (*0.6%*) since January 2010 while the nation is up 706,000 (*6.2%*). Job creation is mostly found in the need to replace aging baby boomer technicians. Based upon job growth of 48,000 in 2014 and a 40,000 in 2015, it is estimated that the sector will add 376 jobs in the Inland Empire this year and 313 in 2015 to reach 85,689 positions.

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

- **Professional, management & scientific** work has recently started growing rapidly. This appears to be a reaction to the three facts. First, it has seen a 73.9% gain in residents with bachelors or higher degrees from 2000-2013. Even though the inland area's population is less well educated than its coastal county competitors, in this period its overall share grew from 16.3% to 21.0%. Second, the growth of the inland economy requires increasing levels of professional service providers. Third, the re-emergence of the construction sector creates a need for engineers and other such specialists. Based upon job growth of 48,000 in 2014 and a 40,000 in 2015, it is estimated that the sector will add 2,428 jobs in the Inland Empire this year and 2,023 in 2015 to reach 50,885 positions.

Given the high levels of poverty in the Inland Empire, 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 the median pay levels, educational requirement for large shares of the workers and their growth potential:

  - **Construction** (*median pay: $52,892*) has 85.4% 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.

- **Logistics** (*median pay: $44,591*) has 83.0% of its workers in jobs requiring high school or less schooling. The sector has been one of the fastest growing in the Inland Empire.
- **Finance, Insurance & Real Estate** (*median pay: $48,992*) will grow as the real estate market recovers. In this sector, 73.7% 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** (*median pay $49,138*) will offer little 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** (*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.

Finally, the need for change in the Inland Empire's economy is underscored by the fact that median income adjusted for inflation has actually declined 9.1% between 1990-2013 despite a 1.8% gain in 2012- 2013. Per capita income has faired better in that it is up 3.7% from 1990-2012. 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, the 8.6% of households earning over $150,000 captured 24.8% of all income. That group together with those earning $100,000-$149,999 represented 24.3% of households and captured 49.1% of the Inland Empire's income.

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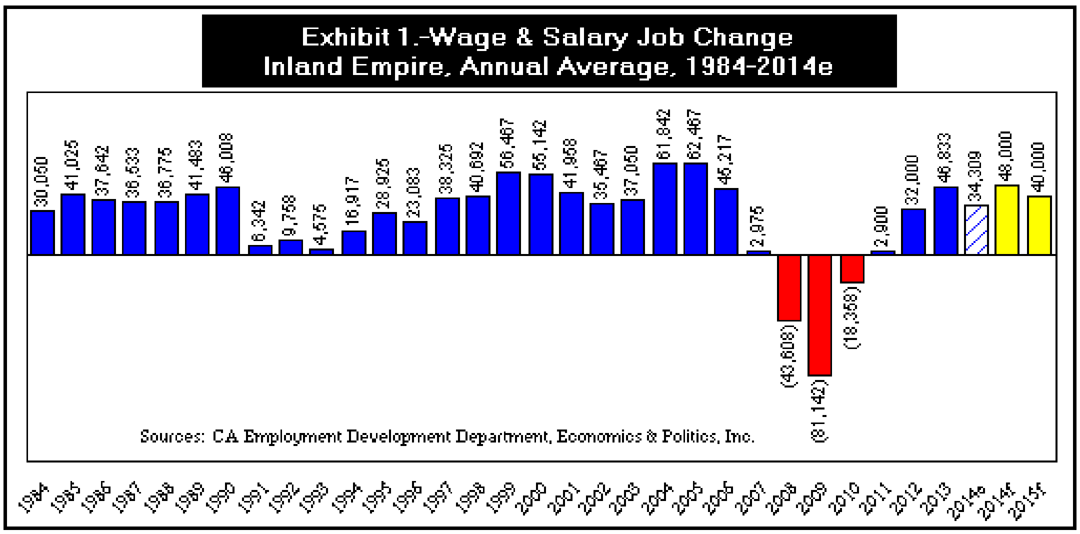
I. Economic Recovery

A. Forecast & Justification

It is highly likely that the Inland Empire will surpass peak pre-recession employment levels in 2015, a year earlier than previously estimated. During the Great Recession from 2008-2010, the inland area lost a revised 143,108 jobs. From 2011-2013, the economy gained back 81,753. At the current rate of growth estimated of 2.8% through nine months, the gain would be 34,309 for 2014. That would take the recovery to 116,042 jobs by the end of this year meaning 81.1% of the job loss will have been recovered. This would leave only 27,066 jobs to be added in 2015 (*Exhibit 1*).



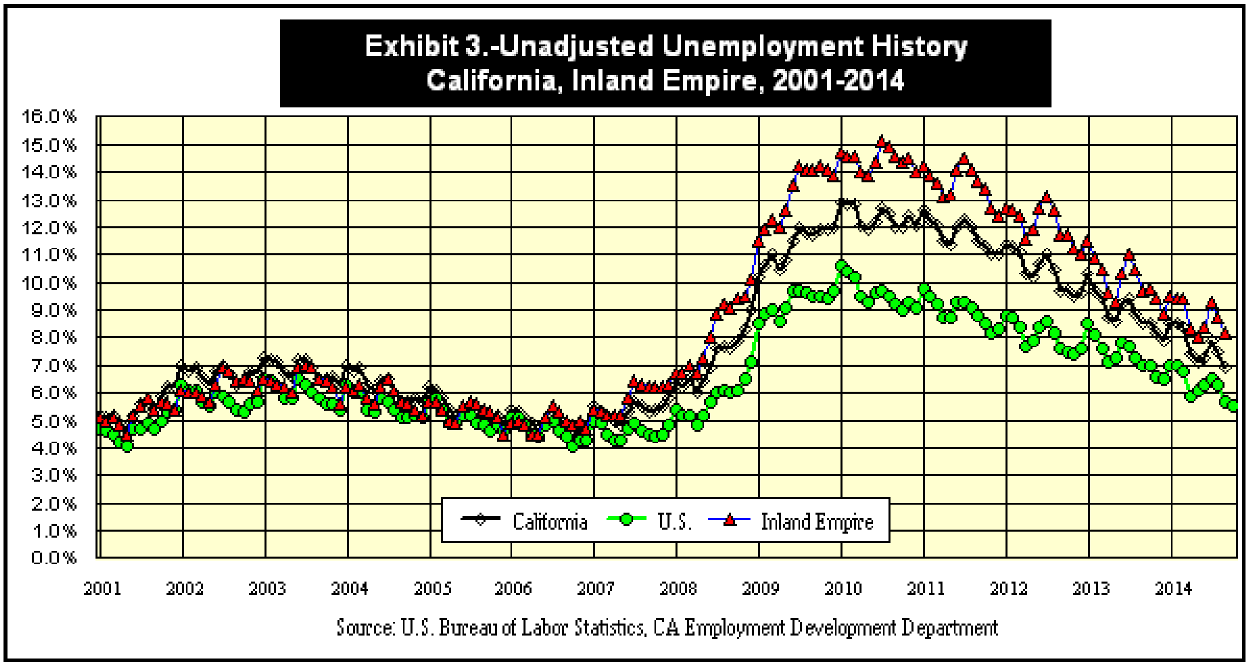
However, the 2014 growth is very likely a serious understatement. Each year the California Employment Development Department's (*EDD*) job estimates must be revised to the U.S. Bureau of Labor Statistics levels. From March 2013-2014, EDD had Inland Empire non-agricultural growth at 32,900 jobs (*2.71%*). BLS had it at 52,326 (*4.31%*) (*Exhibit 2*). Reducing that estimate somewhat, it is assumed that 2014 growth will be 48,000 followed by 40,000 in 2015.

Exhibit 2.-Non-Agriculatural Job Gains, Inland Empire Counties, March 2013-2014

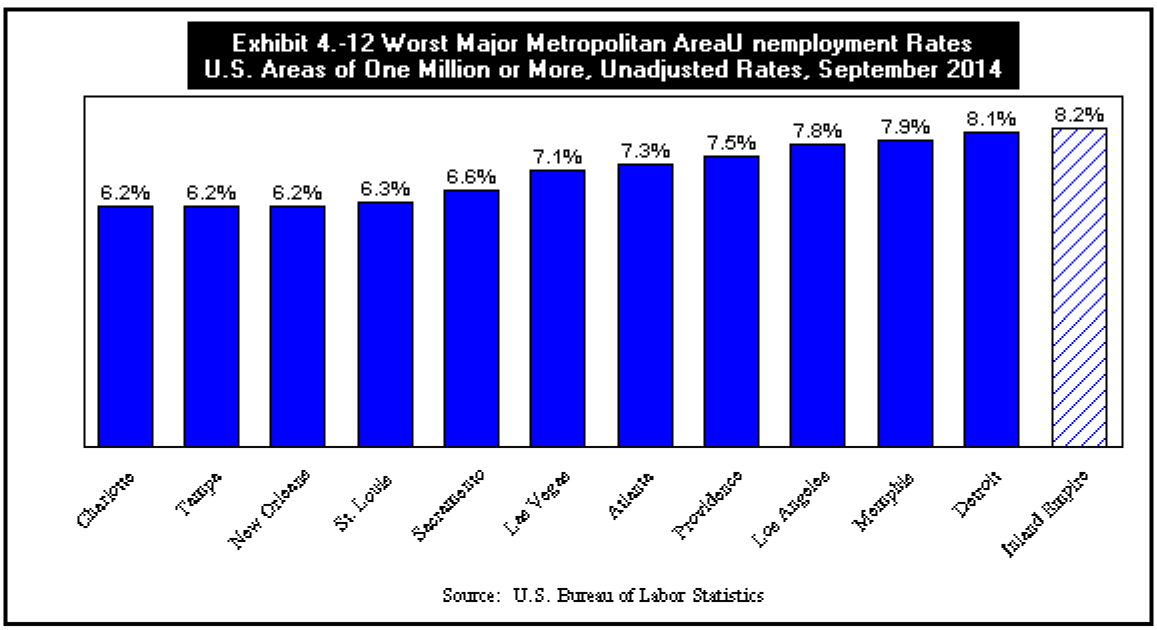
County	1st Qtr. 2013	1st Qtr. 2014	Change	Percent
Riverside Co.	591,375	619,460	28,085	4.75%
San Bernardino Co.	621,784	646,025	24,241	3.90%
Inland Empire BLS	**1,213,159**	**1,265,485**	**52,326**	**4.31%**
Inland Empire-EDD	**1,214,600**	**1,247,500**	**32,900**	**2.71%**

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

If these BLS related estimates hold for the year, the Inland Empire need less than 15,000 new jobs during 2015 to achieve job parity.



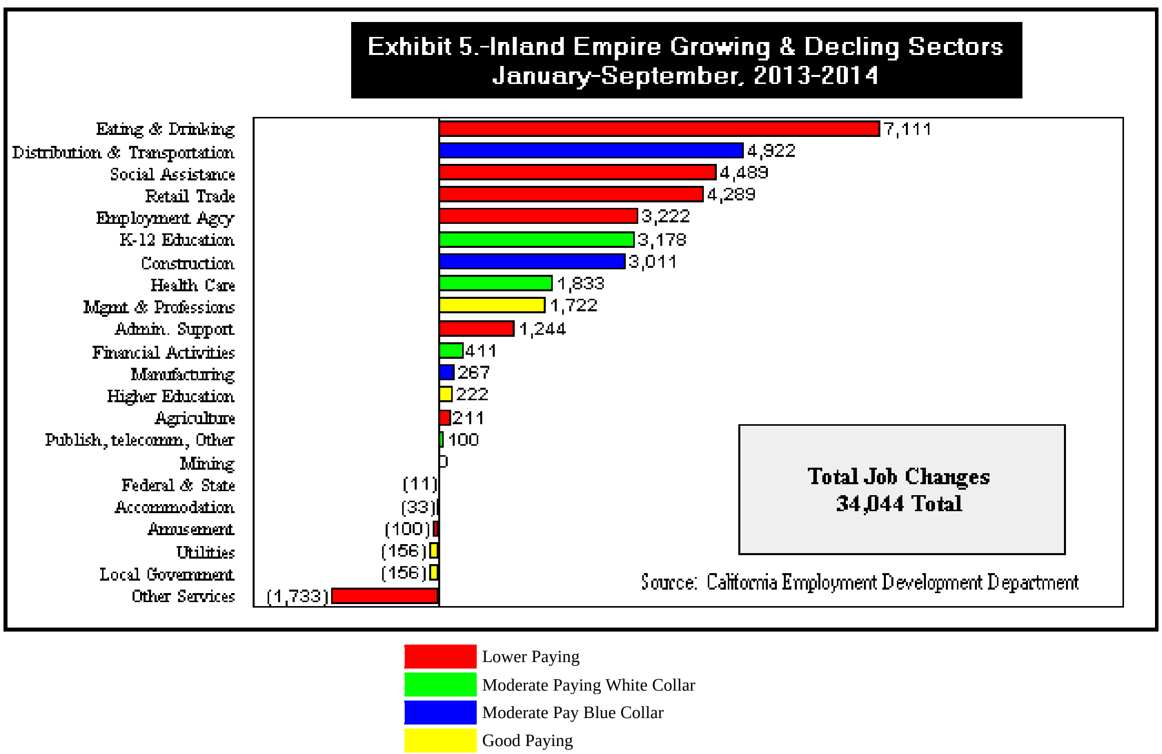
Meanwhile, the Inland Empire's unemployment rate has been falling. The September 2014 figure of 8.2% was the lowest for that month since the 6.2% figure in September 2007. The Inland Empire's high for the month had been 14.4% in September 2010 (*Exhibit 3*). Still, the September figure was well above the unadjusted levels for California at 6.9% and the U.S. at 5.7%. Unfortunately, the rate also remains the highest in the U.S. among metropolitan areas of one million or more people (*Exhibit 4*).



B. Economic Challenges To Full Recovery

For the Inland Empire, the key to a recovery will be the continued expansion of its traditional economic base. Here, the sectors that must grow include logistics, health care and construction. It would be helpful if manufacturing could join this group, but that is less likely due the high energy costs and heavy regulatory burden faced by that sector in California and Southern California.

These sectors are crucial as each one brings money from the outside world into the local market 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.



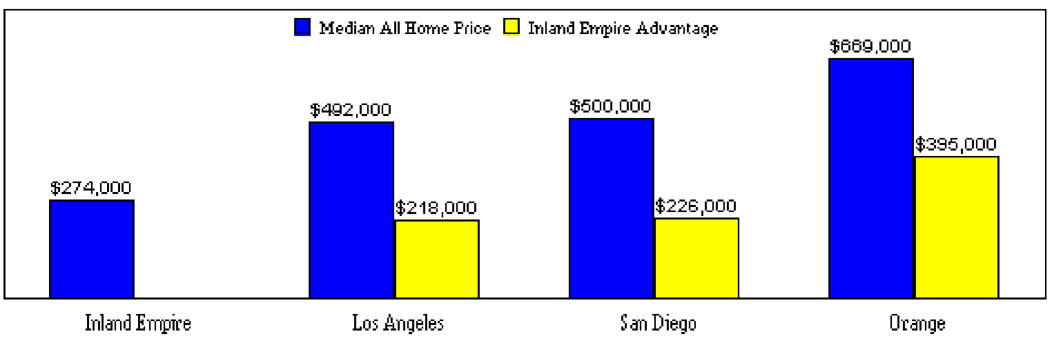
Each of these four sectors faces issues:

1. **<u>Logistics</u>** 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 believes it cannot meet its air quality requirements unless it reduces the truck traffic associated with the sector. A major fight is therefore brewing that could halt the sector's continued expansion. Nine months data indicates that it has been responsible for 15.5% of direct job growth (*4,922 jobs*) in 2014 (*Exhibit 5*). It was 18.8% of the area's growth in 2013 *(8,817 jobs*).

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 should see a major increase in demand for workers given the 19.4% or 836,689 people without health insurance in the Inland Empire before the Affordable Care Act (*ACA*). So far, 420,000 people have received assistance through the first round of ACA sign-ups. Through September 2014, the sector is on pace to add 1,833 jobs. It was up 2,975 during 2013. 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.

3. **Construction** is the sector that must return to something near to normal for the Inland Empire's economy to fully regain its past vigor. That is the case since the sector lost -68,433 jobs from 2007-2011. To date, the EDD's 2014 shows the sector headed for a gain of 3,011 jobs. That would bring the sector to only having 13,286 positions created from 2012-2014. Construction thus has a long way to go.

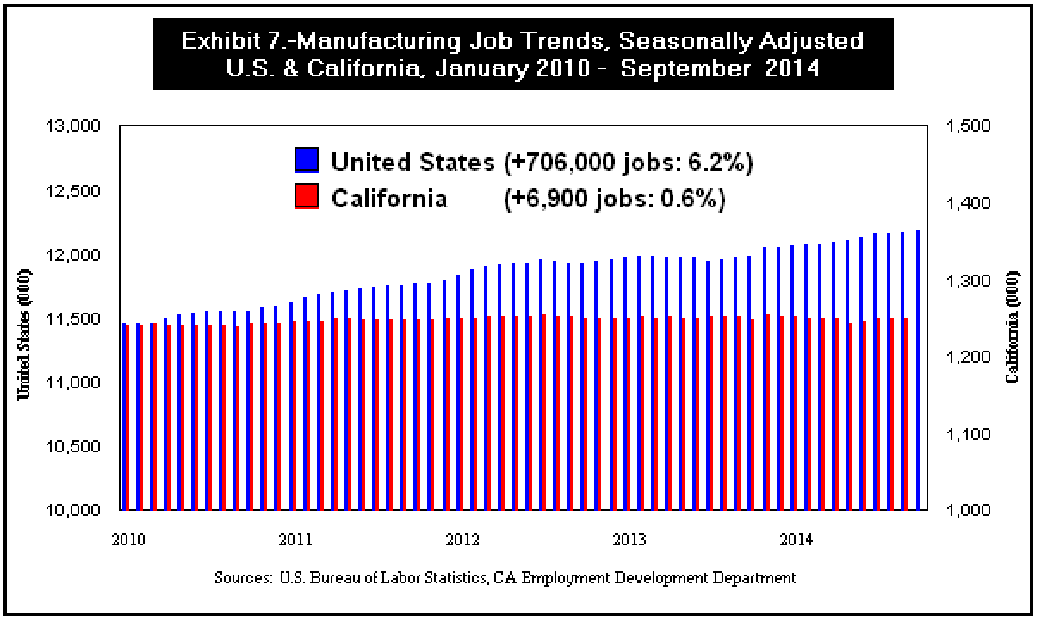
Exhibit 6.-Home Price Advantage, Inland Empire & Southern California Markets
Median Priced New & Existing Home, 3rd Quarter 2014



Source: Dataquick

There are reasons why construction should gain some strength in the near term. First is the lack of housing affordability in the coastal counties (*Los Angeles: 30%; Orange: 20%*) that is already pricing thousands of families out of those markets. The Inland Empire's $274,000 median priced home is from $218,000 to $395,000 less expensive than those in the coastal counties. As in the past, this will ultimately drive people inland to find homes they can afford. However, the speed at which this will occur has so far been blunted by high FICO score requirements for mortgage loans, low appraisal levels and consumer fears of making large purchases given their experiences during the Great Recession.

Second is the strength of the Inland Empire's industrial market where logistics firms occupied a net of 17.7 million square feet of space in the four quarters ended in September 2014. Currently, 12.4 million is under construction. Both those figures are the strongest in the U.S. 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 in the market 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 to 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 6,900 jobs from January 2010 to September 2014 (*0.6% growth*). In that period, the U.S. has created 706,000 (*6.2% growth*). The state has thus seen just 0.98% of new U.S. manufacturing jobs. It is thus not surprising that the Inland Empire is on track to only create 125 jobs in the sector in 2014. It added just 142 in 2013.

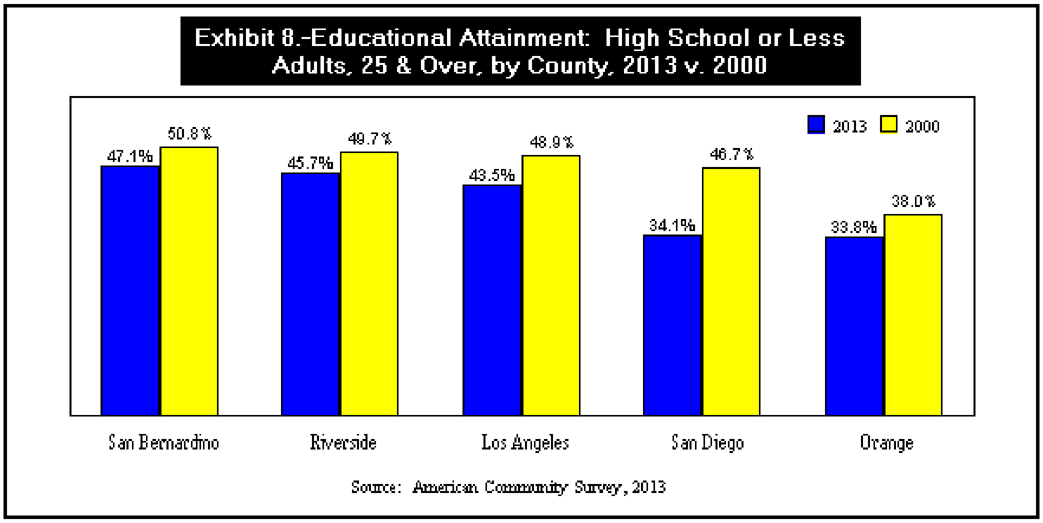
These challenges will make a return to normal more difficult than it otherwise should be. However, this economist believes enough of them will be overcome to allow the region to regain all of the jobs lost to the recession by early 2015, far faster than previously estimated.

C. Public Health Challenges To Inland Empire's Prosperity

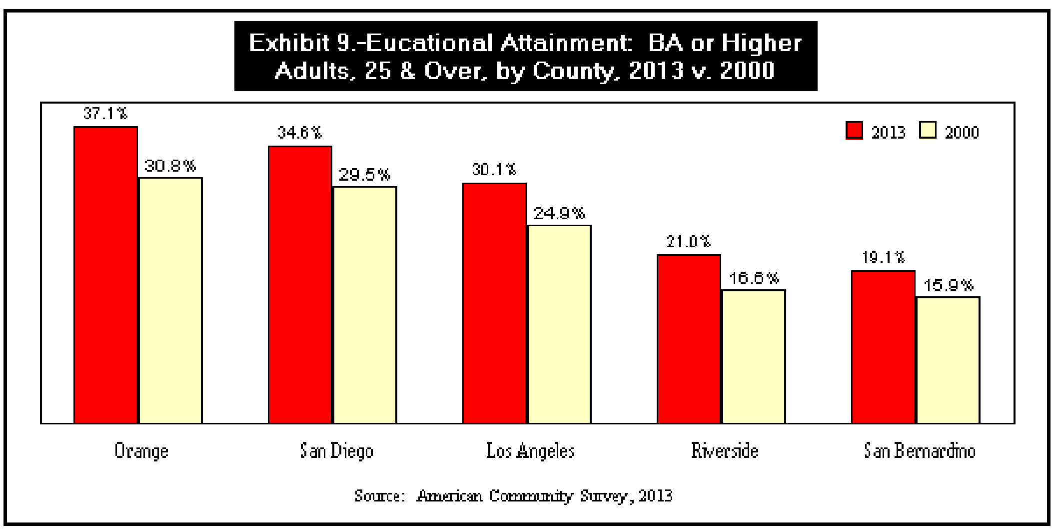
Two other key public health issues impact the ability for the Inland Empire to attain prosperity. These are the degree to which the region's population is marginally educated and the level of poverty affecting its residents.

According to the Census Bureau in 2013, 47.1% of San Bernardino County's population had stopped their educations with high school or less schooling. The share was 45.7% in

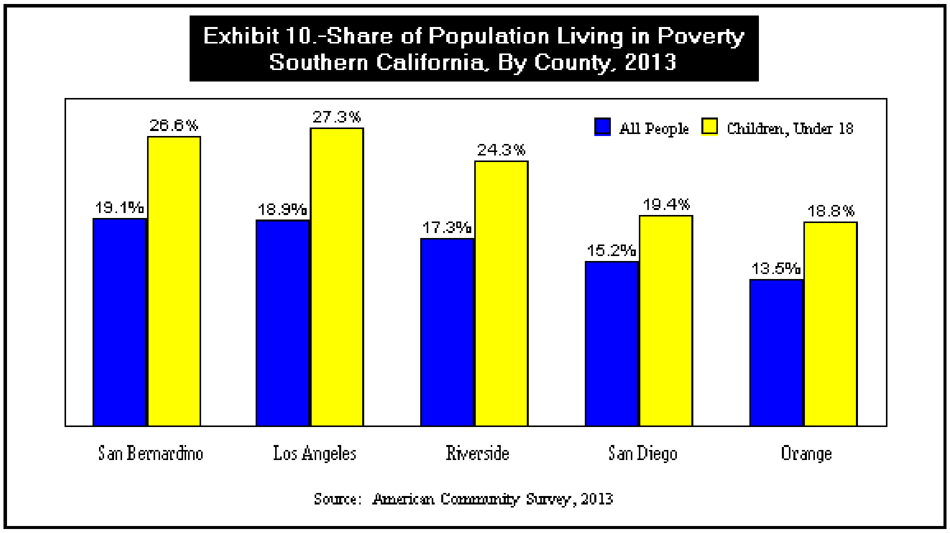
Riverside County (*Exhibit 8*). The situation has improved in that both counties were on either side of 50% of the population being poorly educated in 2000 (*50.8%; 49.7%*). However, these data mean that the kinds of firms interested in locating in the Inland Empire tend to be those not needing well-educated workers.



For the Inland Empire, the degree to which it is uncompetitive for firms requiring educated workers is seen in that just 19.1% of adults in San Bernardino County had bachelors or higher degrees. It was 21.0% in Riverside County. The situation has improved in that the shares were 15.9% and 16.6% respectively in 2000 (*Exhibit 9*). However, the 2013 figures contrast with 30.1% to 37.1% of adults in the 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 2013, 19.1% of San Bernardino County's population was below the poverty threshold. It was 17.3% Riverside County. Worst, roughly one in four young people under 18 were poor with levels at 26.6% and 24.3% respectively in the two counties (*Exhibit 10*). Poverty also has an ethnic dimension. By group (*not shown*), those living in poverty were African American (*27.1%*), Hispanic (*22.9%*), White (*8.1%*), Asian (*7.8%*). 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.

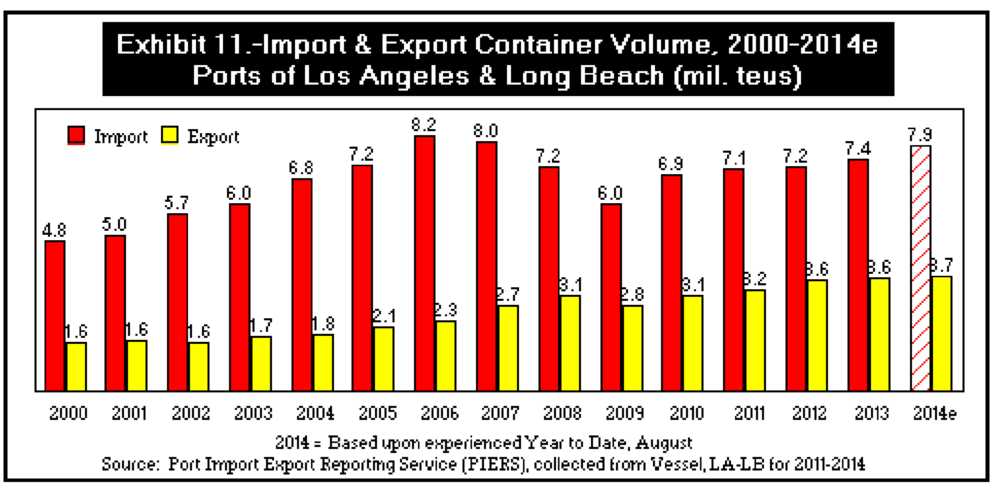


II. Key Growth Industries More Thoroughly Discussed

A. Key Existing Industries

1. Logistics. The Inland Empire's logistics industry is driven by two major forces:

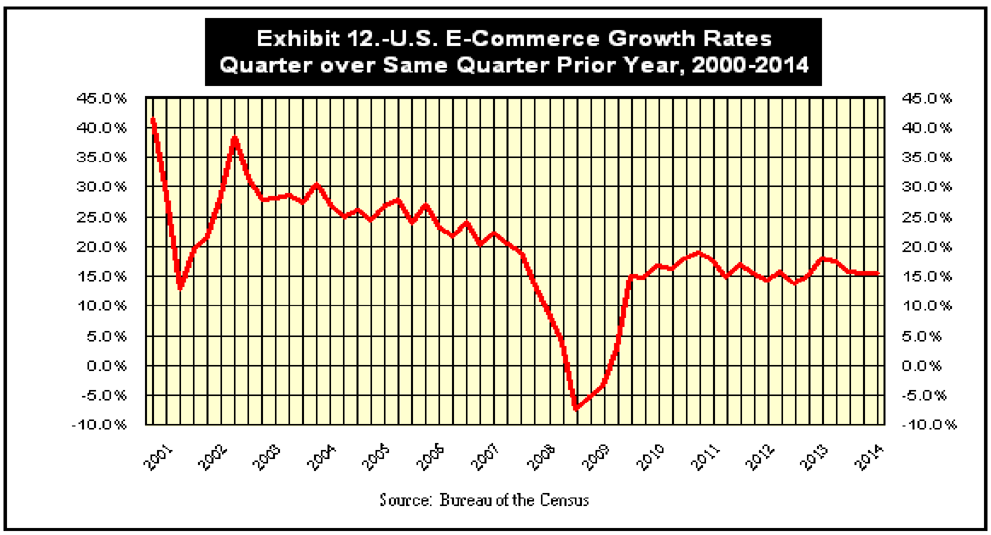
- **International Trade.** The volume of international trade moving through the ports of Los Angeles and Long Beach has been the traditional driver of the sector (*Exhibit 11*). On the import side, loaded containers entering the U.S. soared to 8.2 million twenty-foot container units (*teus*) in 2006. 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 September 2014 to reach 7.9 million teus for the year. That would be the just short of the highest volume.



Exported load containers are less of a driver for the Inland Empire. However, they reached a record 3.6 million teus in 2012-2013 and are on track to reach a new high of 3.7 million in 2014. This activity could represent a future role for the region as immigrant manufacturers choose to locate near the ports and because of the importance of the Coachella Valley's farmers to exports.

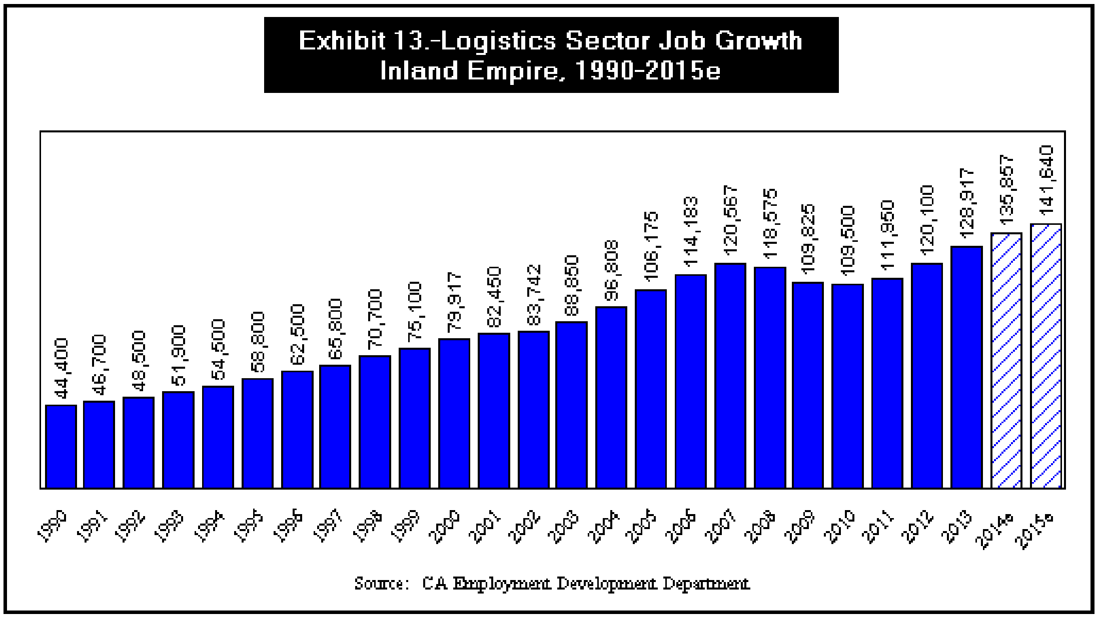
The facilities for handling this type of activity for international supply chain work are getting larger and larger due to the technology. The number of square feet per job is thus running between 3,000 and 3,500 square feet.

- **Fulfillment Centers.** The newest phenomenon impacting the Inland Empire's logistics sector is the entry into California of fulfillment centers. Seven of 17 firms looking for inland space in first quarter 2013 were for this use. 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 500,000 to over 1,000,000 square feet in size and use from 750 to 1,250 square feet per job as 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 12*).



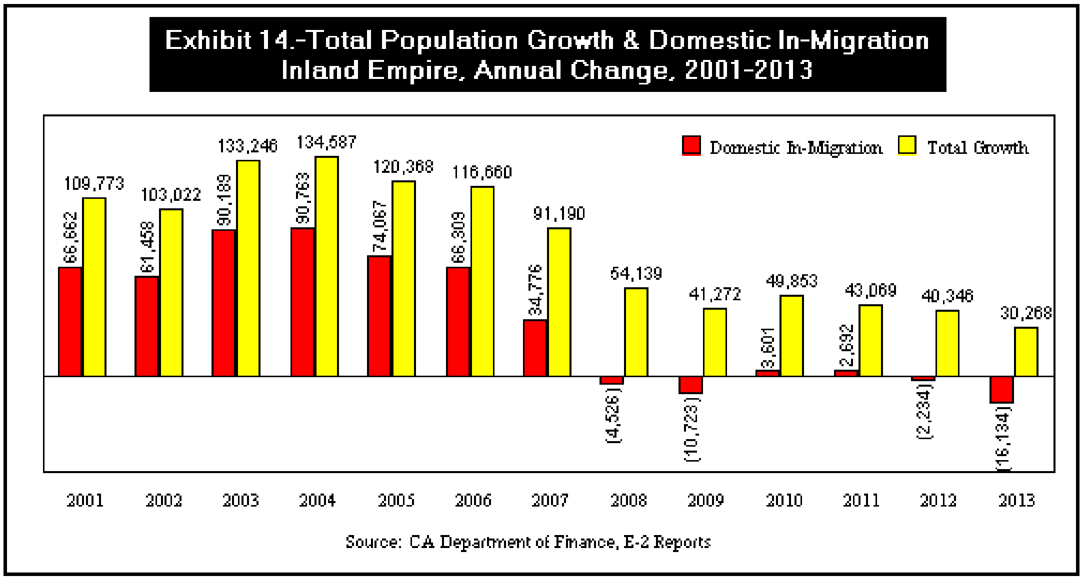
Another aspect of fulfillment centers is their retail sales tax potential for the cities where they locate. A one million square foot facility on 52 acres of land, conservatively assuming 50% of sales are to non-Californians, will generate about $5 million a year to a municipal government. That assumes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

- **Forecast.** Based upon growth through the first nine months of 2014 (*3.9%*) and the underestimate of inland job growth identified by BLS, it is estimated that the logistics sector will add about 6,940 positions for the full year to reach a record 135,857 jobs. This is based upon its 14.5% share of 2014 growth to date and total growth of 48,000 jobs. That estimate is below BLS's first quarter growth of 52,326. The 2015 estimate is for another 5,783 based on total job growth slowing to 40,000 jobs but the share remaining the same. That would take employment to 141,640. It is likely that the sector can average roughly 5,000 new jobs a year for the foreseeable future based upon predicted growth at the ports and of e-commerce.



- **Cautions.** This forecast could be hurt since the South Coast Air Quality Management District has targeted logistics to slow its growth. Also, the opening of the Panama Canal will impact volumes to an indeterminate degree as will recent throughput difficulties at the two ports.

2. **Health Care.** 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 14*). 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 and domestic net migration essentially 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 (*20%*), San Diego (*26%*) 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.

- **Affordable Care Act (*ACA*).** In 2013, the American Community Survey found that 19.4% or 836,689 of the Inland Empire's residents had no health insurance. To date, that program has been relatively successful in the Inland Empire. As stated above, 422,971 have signed up for coverage through Covered California or Medi-Cal. Most were people not previously covered by insurance, lowering the level of uninsured by about 50%.

Exhibit 15.-Affordable Care At Sign-Ups

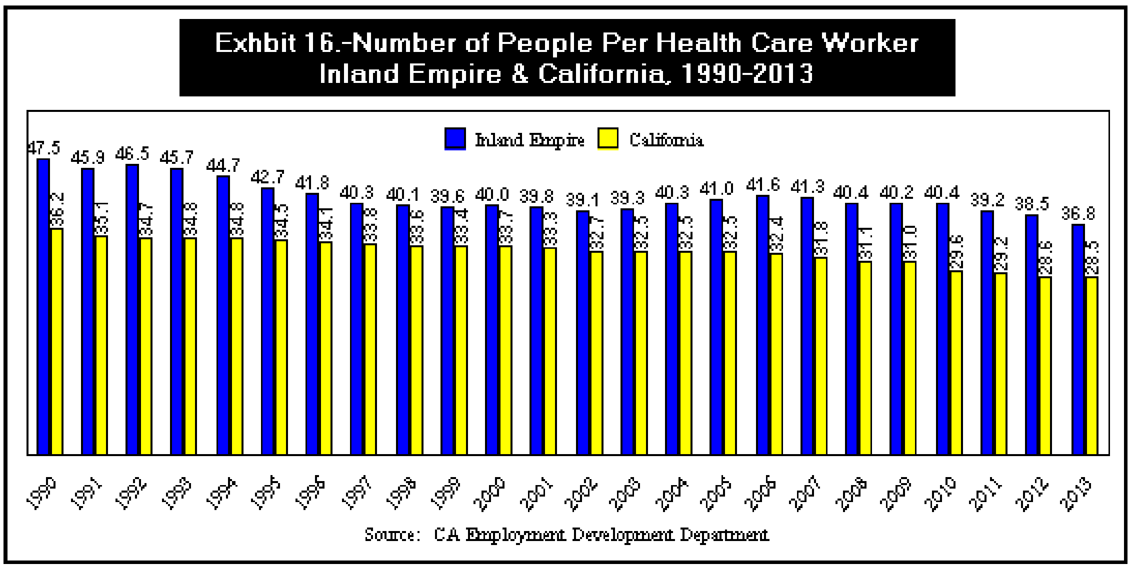
	California	Inland Empire
Non-Subsidized	173,609	**12,428**
Subsidy Eligible	1,222,320	**110,543**
Total	1,395,929	**122,971**

Medi-Cal		**300,000**
Total Health Coverage Sign-Ups		**422,971**

Source: Covered California, Inland Valley Health Plan

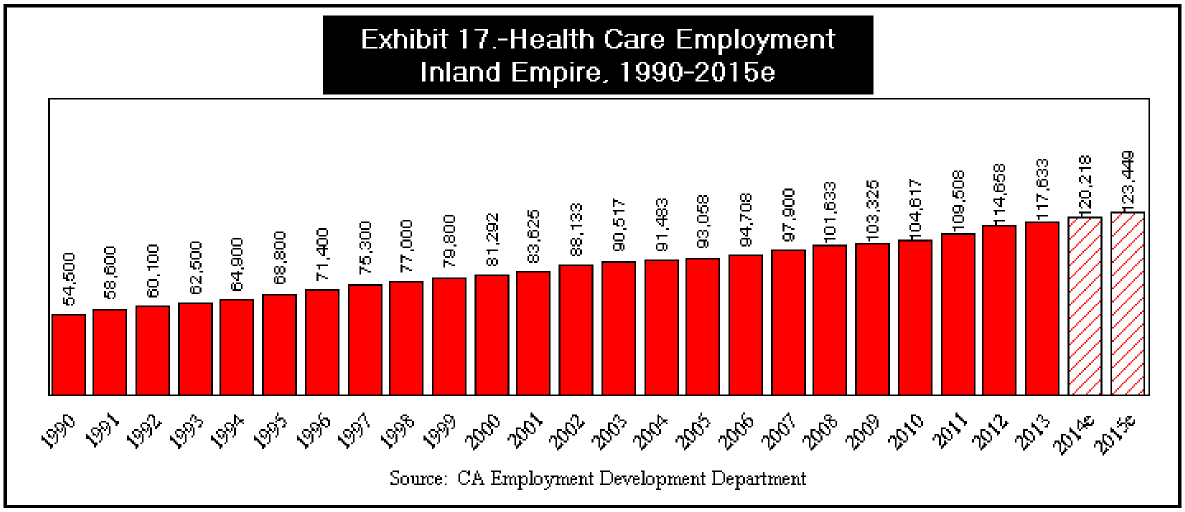
Interviews with executives at local clinics and hospitals indicates that they are working through the process of how to gear up for the increase in demand.

- **Health Care Workers Per Capita.** While demand for health care will undoubtedly rise in the inland counties, it is a fact that the region is already underserved. In 2013, there were 28.5 people for each health care worker in California (*Exhibit 4*). In the Inland Empire, it was 36.8. The region thus had 29.4% more people for each health care worker. Even without population growth or the ACA, the area already has more potential demand for care than workers supplying it. That alone will be a source of increase demand for workers going forward. In terms of physicians, the Inland Empire has the lowest ratio of primary (*40*) and specialty doctors (*70*) per 100,000 people of any California region. The state averages are respectively 80 and 138.

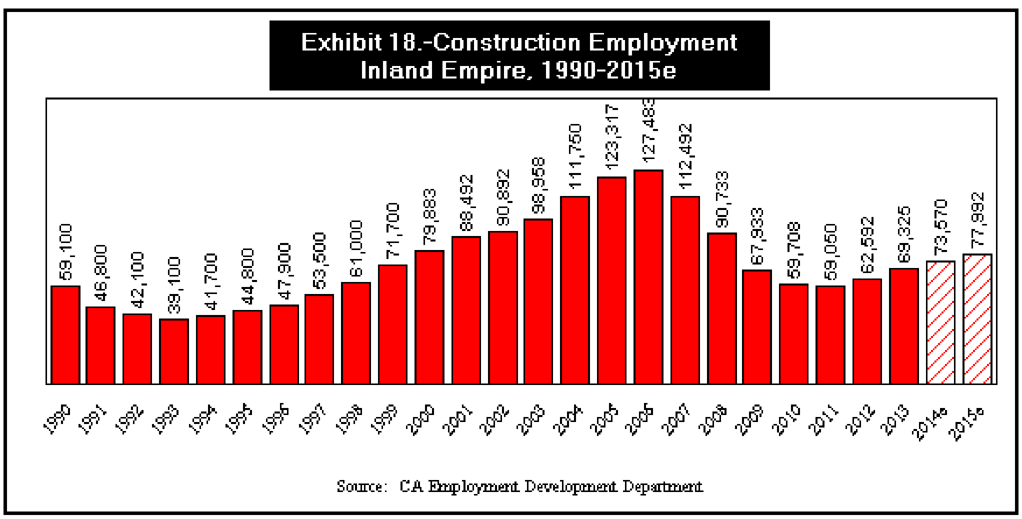


- **Aging Population.** In 2013, the 962,260 people aged 55 and over in the Inland Empire constituted 22.0% of the population. Many in this group are already in ages that disproportionately use medical care. The number is set to grow as the rest of the baby boomers move beyond 65.

- **Forecast.** Starting in 2007, the Inland Empire's health care sector has grown at an average of roughly 3,000 jobs per year except in 2009 due to the severe downturn. In 2013, the sector maintained that pace as executives began thinking through how to respond to the ACA, up 2,975 jobs to 17,633. For 2014, the estimate is for another 2,585 to 120,218 paced upon the sector's 5.4% share of an estimated 48,000 total jobs. In 2015, the forecast is for 3,231 more jobs to 123,449 using 8.1% (*150% of 2014 share*) of 40,000 new jobs (*Exhibit 17*).

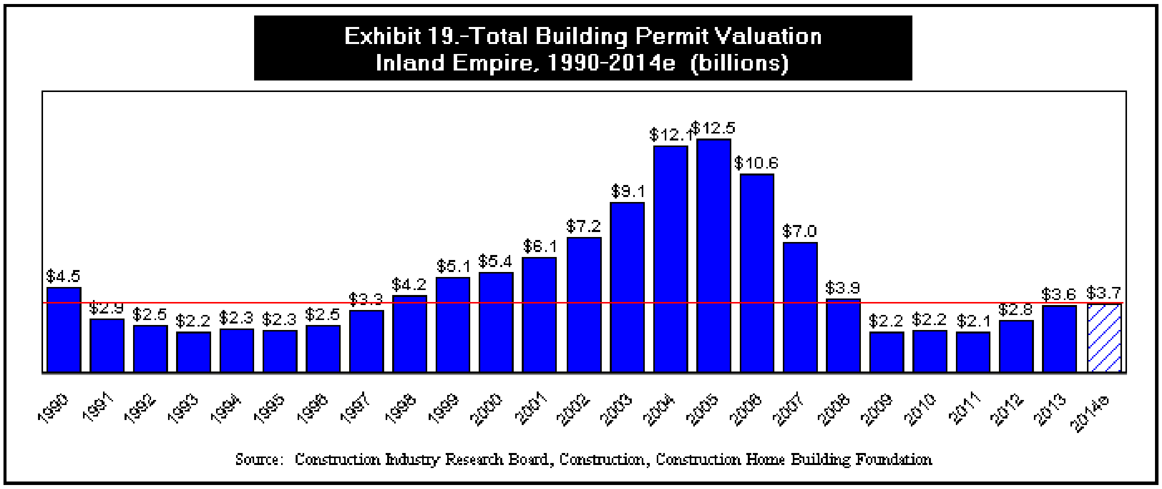


- **Caution.** The key worry for health care providers is the lack of a training pipeline to give them the staffing they will need to keep up with the potential for rapidly expanding demand. UCR Medical School and the new Arrowhead Medical Center affiliated school will help with physicians. However, there is also the need for all levels of nursing and technicians. Here, the difficulty likely will be the inability of public educational institutions to handle the required volume of training.

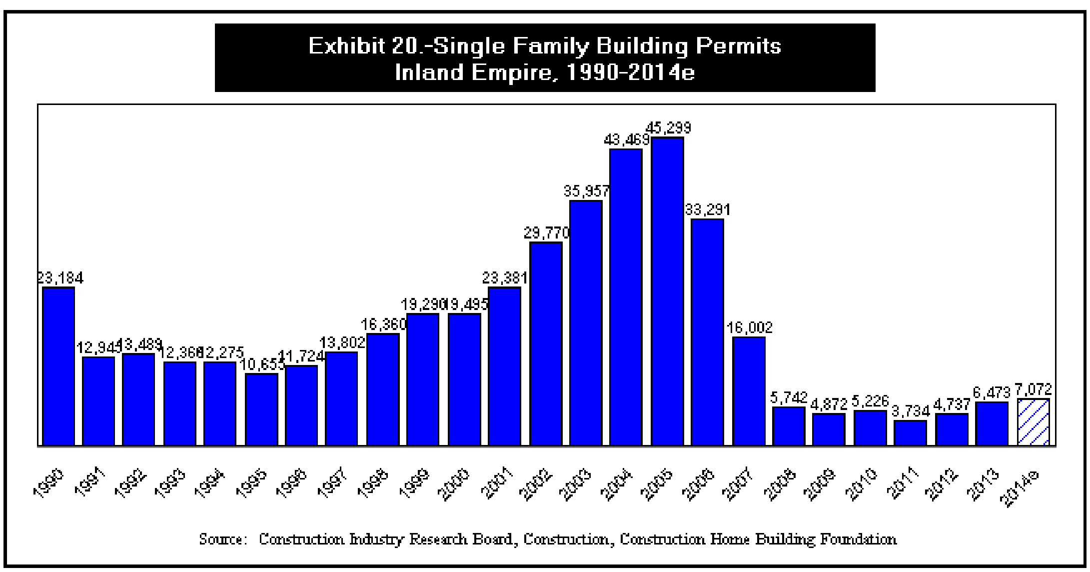


3. **Construction.** For the Inland Empire, the missing link in the recovery to date has been its construction employment. Including the job growth in 2012 and 2013, the sector had reach 69,325 jobs, down -58,158 jobs from the 127,483 job peak in 2006 (*Exhibit 18*). Looking ahead, there are several positive signs of recovery in the sector:

- **Permits.** Importantly, the total value of construction permits has begun to increase. For a low of $2.1 billion in 2011, the level is on track to reach $3.7 billion in 2014 based upon the first six months of the year (*Exhibit 19*). While low by the standards of the last decade, the direction is clearly a positive one as some residential projects, together with industrial and 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 7,072 single family detached permits based upon activity in the first six months of 2014 (*Exhibit 20*).



Other encouraging signs include the fact that the share of Inland Empire homeowners underwater on their mortgages has fallen to 15.4%, down from a high of 54.9% in fourth quarter 2009 (*Exhibit 21*). In addition, the number of Notices of Default that start the foreclosure process was down to 1,084 in September 2014. The high was 12,672 in March 2009. The level was less than one-third of the 3,383 that occurred in January 2007 when the mortgage meltdown began.

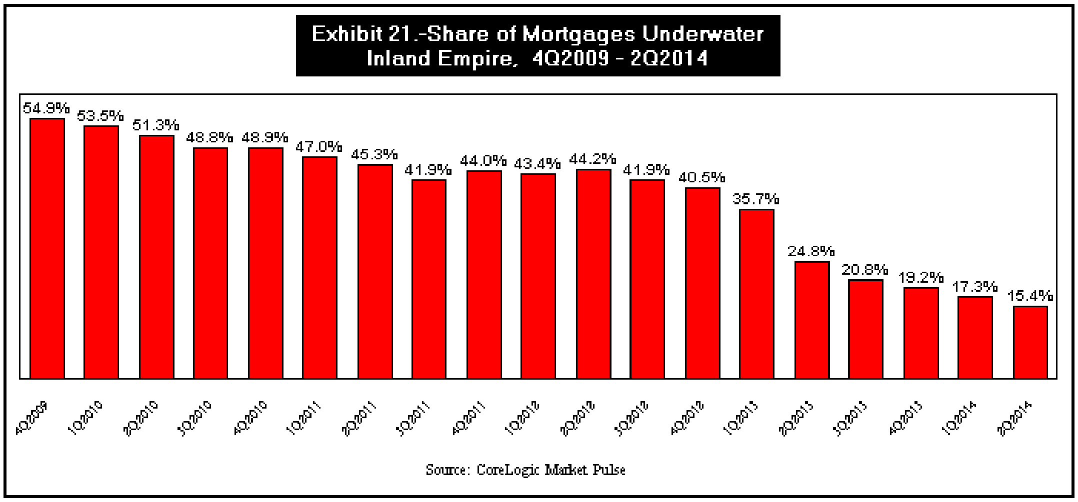
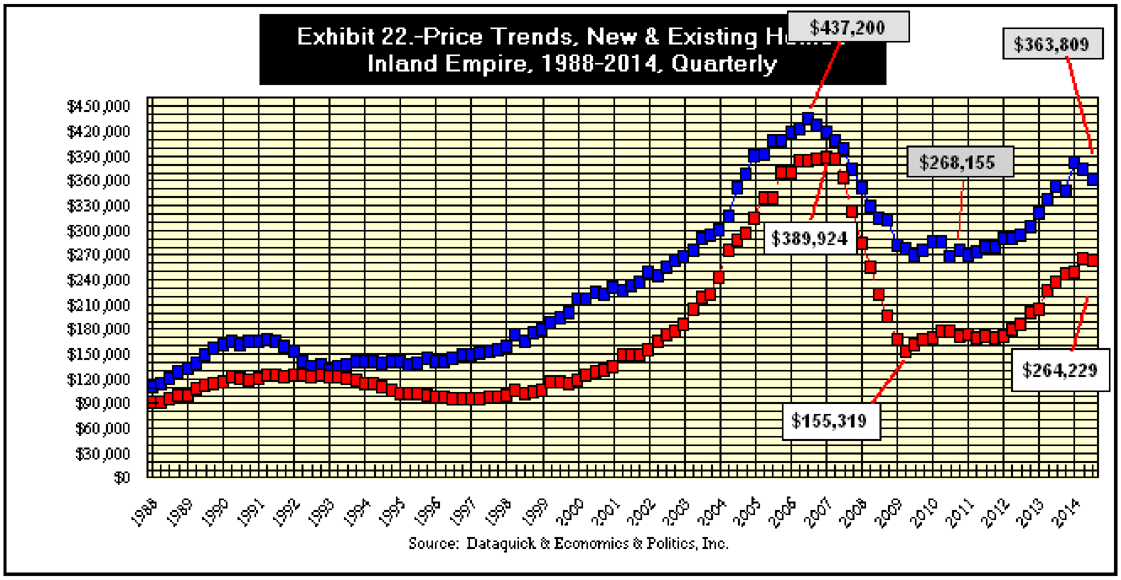


Exhibit 21.-Share of Mortgages Underwater
Inland Empire, 4Q2009 - 2Q2014

Source: CoreLogic Market Pulse

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 2014 median price was $264,229, up 70.1% from the low of $155,319 in second quarter 2009. The median new home price was at $363,809, up 35.7% 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 2014 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 space 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 4.6% in third quarter 2014, significantly below the historical average of 6.8% from 2000-2014. In September 2014, this segment's 12.4 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 17.8 million square feet.

2. Office vacancy was 17.0%, down from a recent high of 24.2%. The rate is almost down to its 15.6% historical average from 2000-2014. However, it still well above the low of 7.0% in 2003 when construction activity last restarted. Currently, no projects are being built.
3. Retail vacancy was 10.1% in fourth quarter 2013 v. 8.8% in 2009. This segment is not yet ready for rapid expansion though some retail building has started with 309,000 square feet under construction that quarter. However, that only represented a 0.3% expansion of the 109,260,577 already in existence.
4. Apartment vacancy was 3.8% in October 2014 with tenants paying a record $1,134 per month. This segment is building again in part due to the lack of supply detached homes for sale as well as the inability of many families to qualify for home loans.

- **Forecast.** In 2013, the Inland Empire's construction sector reached 69,325 jobs. For all of 2014, it is forecasted to gain another 4,245 jobs and reach 73,570. That is based upon its 8.8% of jobs from EDD's estimates through September plus the belief than 48,000 jobs will be created in the area once data for the full year are revised. In 2015, the total employment of 40,000 jobs is assumed, including 11.1% for construction. That share would represent an increase of 125% over the 2014 level given the previously identified forces favorable to the sector. This result would be to add another 4,422 jobs bringing the sector to 77,792 (*Exhibit 18 above*).

- **Caution.** There continues to be a host of issues facing the rejuvenation of the Inland Empire's construction sector. In the residential market, people continue to face difficulties in obtaining financing whether due to higher credit standards, low appraisals, previous foreclosures or short sale issues. However, the multitenant market is strong given the increased demand from the large number of families that cannot obtain financing for single family homes.

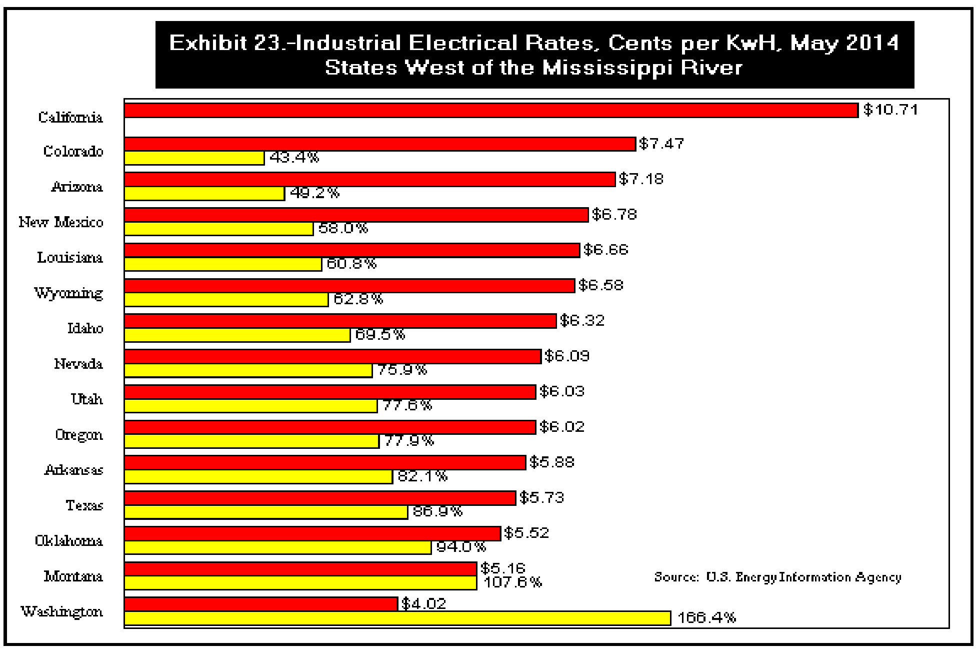
  Industrial construction will remain a force given the demand for facilities because of rising international trade and e-commerce. Public construction should remain strong because both inland counties have passed local sales tax measures for street and road construction.

  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 2014 taxable retail sales of $65.2 billion are set to exceed the 2006 record $61.1 by 6.6%. That said, inflation has been 15.3% between 2006-2014 meaning that the volume of goods being sold are not yet back to its inflation adjusted maximum.

4. **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 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 706,000 jobs from January 2010 to September 2014, up 6.2%. The sad fact is that California added just 6,900 jobs in this period, a 0.6% growth rate (*Exhibit 7 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.

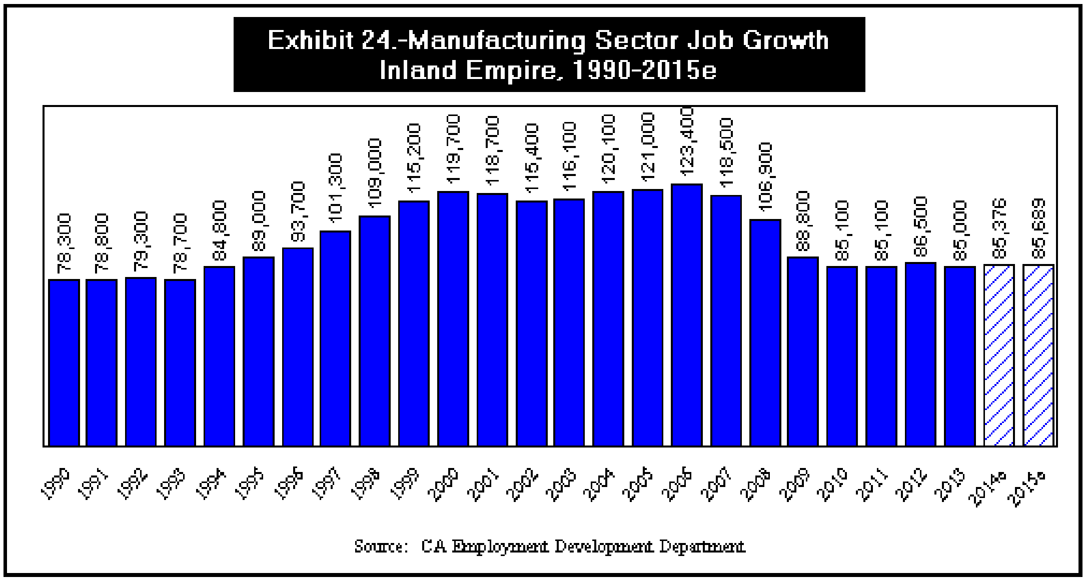


- **Energy Costs.** California has put in place strong policies aimed at increasing the state's use of renewable energy. However, for manufacturers and their workers, this has caused electrical costs to soar, making them uncompetitive versus nearby states (*Exhibit 23*). Thus, California's average industrial electricity rate was 10.06¢ per kilowatt-hour to meet demand in May 2014. That was 43.4% higher than Colorado (*7.47¢*), the second most expensive western state. Interestingly, it was 75.9% more costly than adjacent Nevada (*$6.09*) where Tesla elected to build its new manufacturing plant.

- **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.

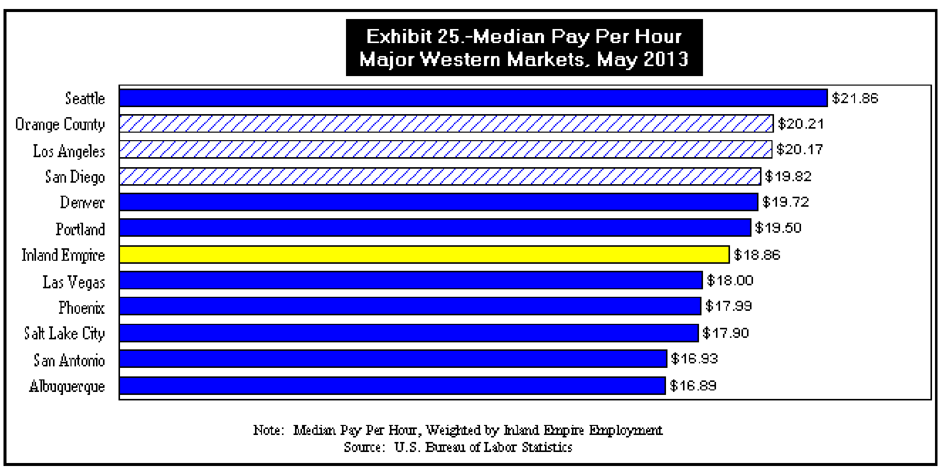
  An example of the uncertainty that AQMD injects into the manufacturing process is seen in the agency's declared statement that it must "electrify" the basin to meet its air quality mandates. To manufacturers, this means having to consider having to use electricity even when natural gas, for which Southern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

- **Forecast.** Given these facts, the prognosis for manufacturing job growth in the Inland Empire is unfortunately very weak. From 2000-2013, the sector has had a net loss of -30,200 jobs. With the Great Recession over, the sector has essentially been flat, adding no jobs in 2011, 1,400 in 2012 and losing -1,500 in 2013 taking it to 85,000 jobs. Looking ahead, the manufacturing share of jobs is forecasted using its 0.8% share of job growth through the first nine months of 2014. With estimated total job growth of 48,000 and 40,000 for 2014 and 2015, new job creation is estimated at 376 and 313 during those two years. This would bring manufacturing employment to 85,376 in 2014 and 85,689 in 2015 (*Exhibit 24*).



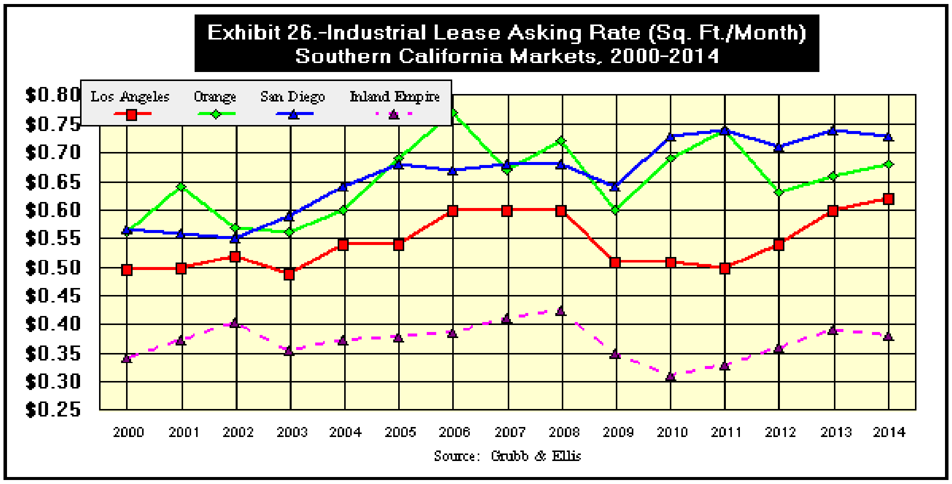
In talks with executives, it is difficult to find a scenario that will improve what should be a strong Inland Empire sector, given its competitive space and labor costs. Here, a typical response came from a major local aerospace manufacturer. Their processes require precision work by small machine shops 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 2013, the median pay for all Inland Empire occupations was $18.86 an hour. Compared to the coastal counties that was a bargain: Orange (*$20.2; 7.2% higher*), Los Angeles (*$20.17; 7.0% higher*), San Diego (*$19.82; 5.1% 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 25*). The differentials are logical given that 20.6% of the workforce commutes to the coastal counties and will work for a little less to avoiding having to do so.

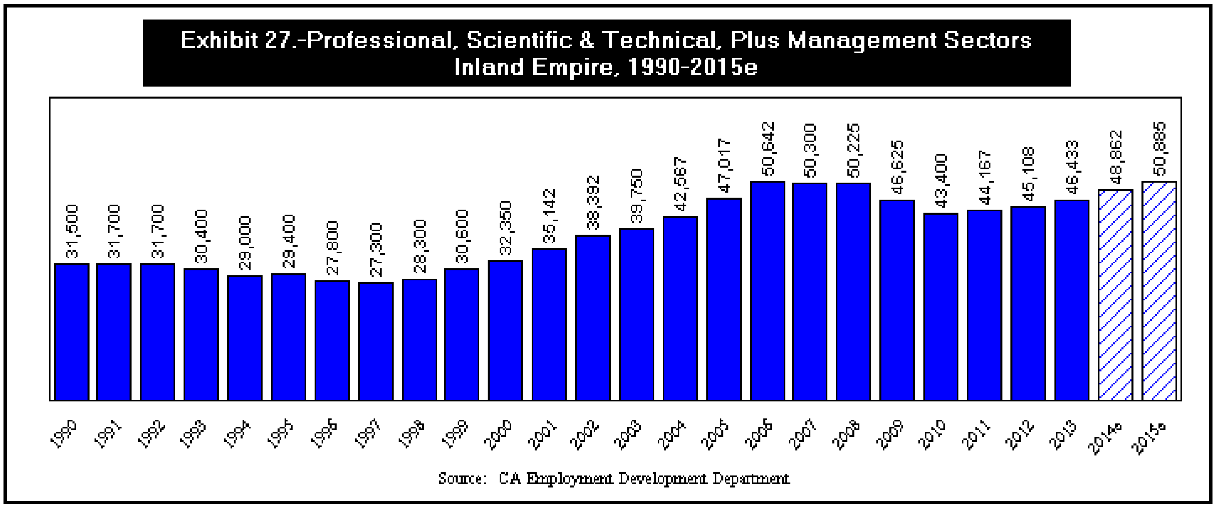


2. **Low Space Cost.** In third quarter 2014, industrial space in the Inland Empire leased for $0.38 per square foot. Space in the coastal counties has always cost significantly more. Most recently: Los Angeles (*$0.62; 63.2% higher*), Orange (*$0.68; 78.9% higher*), San Diego (*$0.73; 92.1% higher*) (*Exhibit 26*).

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.

5. **Professional, Management & Scientific Work.** Recently, it appears that 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. Through the first nine months of 2014, they were responsible for 5.1% of new jobs in the region. In 2013, the group added 1,325 jobs to reach 46,433. Given the forecast of 48,000 total jobs in 2014 and 40,000 in 2015, the level of the sector employment will rise first to 48,862 (*up 2,428*) and then 50,885 (*up 2,023*) (*Exhibit 27*).

This growth potential has been aided by the fact that the share of worker with bachelors and higher degrees has been growing in the inland counties due to local graduates and the migration of well-educated workers from the coastal counties seeking affordable inland upscale homes. From 2000-2013, the increase was 230,765 people or 73.9%. This is took the share of highly educated inland workers from 15.6% to 21.0% in Riverside County and 15.9% to 19.1% in San Bernardino County. While well below coastal county levels, it has made possible the expansion of some local high-end firms as well as the migration of others (*Exhibit 9, above*).



6. **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 2010-2020, EDD forecasts that 46 Inland Empire occupations will each add 1,000 or more jobs (*Exhibit 28, next page*). To summarize EDD's forecasts of them:

   - Together, these occupations will grow from 628,380 jobs in 2010 to 757,340 in 2020, a gain of 128,960 positions or 20.5%.
   - These occupations will represent 63.4% of the forecasted total employment gain of 203,440 in the Inland Empire from 2010-2020.
   - The largest share of the 46 occupations will pay from $20,000 to $29,999 (*39.1%*):

Under $20,000	8	17.4%
$20000-29,999	18	39.1%
$30,000-$39,999	8	17.4%
$40,000-$49,999	5	10.9%
$50,000-$100,000	7	15.2%
	46	**100.0%**

- 84.8% of these occupations will require a high school education/QED (*43.5%*) or less than high school completion (*41.3%*).
- 38 of the 46 occupations (*82.6%*) currently required no experience or short-term on-the-job training.
- Of the 203,400 gains in all occupations predicted by EDD, 105,070 were in seven sectors (*51.7%*), not including management and financial positions within them:

Logistics	26,170	12.9%
Eating & Drinking	25,470	12.5%
Health Care	22,030	10.8%
Education	10,760	5.3%
Professional, Scientific, Tech	8,940	4.4%
Production	5,970	2.9%
Construction	5,730	2.8%
	105,070	**51.6%**

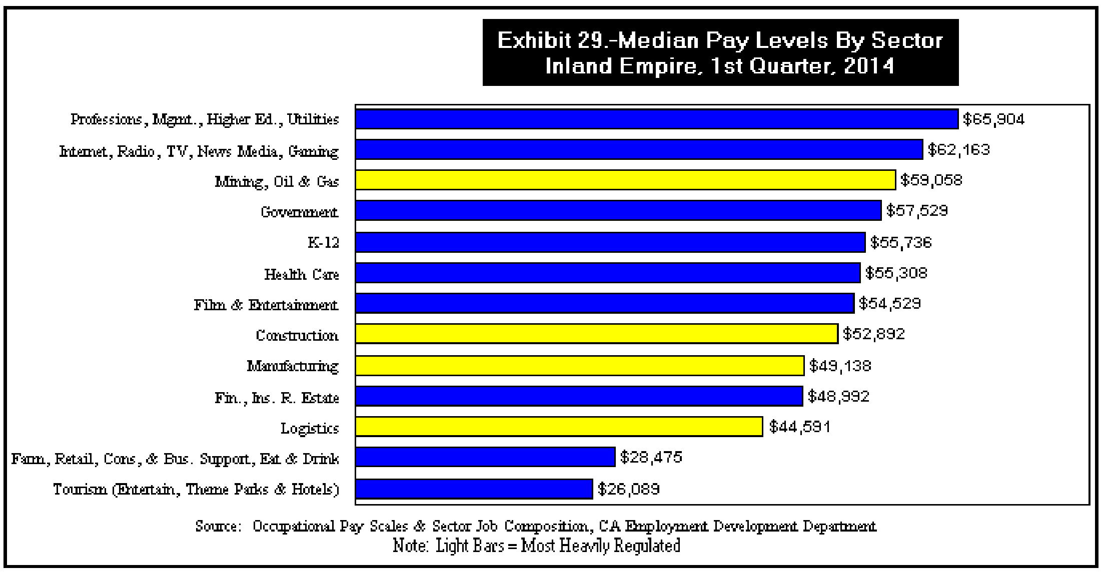
Exhibit 28.-Occupations with 1,000 or More Job Growth, Inland Empire, 2010-2020

SOC Code	Occupational Title	2010	2020	Growth	Median Annual	Entry Level Education	Work Experience	On-the-Job Training	Main Sector
412031	Retail Salespersons	42,760	53,630	10,870	$21,003	Less Than HS	None	ST OJT	Retail
399021	Personal Care Aides	22,760	31,530	8,770	$19,379	Less Than HS	None	ST OJT	Other Service
537062	Laborers and Freight, Stock, and Material Movers, Hand	31,230	39,620	8,390	$24,727	Less Than HS	None	ST OJT	Logistics
353021	Combined Food Preparation and Serving Workers, Including Fast Food	27,850	34,750	6,900	$18,863	Less Than HS	None	ST OJT	Eating & Drinking
412011	Cashiers	32,250	38,770	6,520	$20,134	Less Than HS	None	ST OJT	Retail
533032	Heavy and Tractor-Trailer Truck Drivers	22,530	28,960	6,430	$40,243	High School	1-5 years	ST OJT	Logistics
291141	Registered Nurses	22,160	27,100	4,940	$81,242	Associates	None	None	Health Care
353031	Waiters and Waitresses	18,400	22,390	3,990	$18,623	Less Than HS	None	ST OJT	Eating & Drinking
435081	Stock Clerks and Order Fillers	22,090	25,720	3,630	$22,892	Less Than HS	None	ST OJT	Logistics
439061	Office Clerks, General	24,090	27,700	3,610	$30,368	High School	None	ST OJT	Office Work
373011	Landscaping and Grounds Keeping Workers	16,440	19,840	3,400	$23,443	Less Than HS	None	ST OJT	Other Service
352011	Cooks, Fast Food	11,610	14,610	3,000	$18,663	Less Than HS	None	ST OJT	Eating & Drinking
252021	Elementary Teachers, Not Special Ed	21,010	23,890	2,880	$70,241	Bachelors	None	Internship	Education
434051	Customer Service Representatives	15,230	17,930	2,700	$33,569	High School	None	ST OJT	Sales
311011	Home Health Aides	5,000	7,690	2,690	$20,204	Less Than HS	None	ST OJT	Health Care
411011	First-Line Supervisors of Retail Sales Workers	16,780	19,350	2,570	$39,434	High School	1-5 years	None	Retail
339032	Security Guards	12,280	14,740	2,460	$21,754	High School	None	ST OJT	Other Service
431011	First-Line Supervisors of Office and Administrative Support Workers	14,010	16,310	2,300	$50,283	High School	1-5 years	None	Office Work
436013	Medical Secretaries	6,780	8,930	2,150	$29,463	High School	None	MT OJT	Health Care
414012	Sales Representatives, Wholesale and Mfg,	9,230	11,310	2,080	$53,024	High School	None	MT OJT	Logistics
351012	First-Line Supervisors of Food Preparation and Serving Workers	8,820	10,840	2,020	$25,629	High School	1-5 years	None	Eating & Drinking
352014	Cooks, Restaurant	9,050	11,060	2,010	$23,325	Less Than HS	<1 year	MT OJT	Eating & Drinking
372011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	17,120	19,110	1,990	$23,831	Less Than HS	None	ST OJT	Other Service
433031	Bookkeeping, Accounting, and Auditing Clerks	13,430	15,360	1,930	$36,933	High School	None	MT OJT	Office Work
537064	Packers and Packagers, Hand	9,970	11,880	1,910	$19,966	Less Than HS	None	ST OJT	Logistics
537051	Industrial Truck and Tractor Operators	7,810	9,660	1,850	$31,269	Less Than HS	<1 year	ST OJT	Logistics
533033	Light Truck or Delivery Services Drivers	9,880	11,670	1,790	$29,961	High School	None	ST OJT	Logistics
311014	Nursing Aides, Orderlies, and Attendants	9,250	10,970	1,720	$24,718	Post Secondary	None	None	Health Care
352021	Food Preparation Workers	9,060	10,660	1,600	$19,226	Less Than HS	None	ST OJT	Eating & Drinking
319092	Medical Assistants	6,940	8,540	1,600	$27,168	High School	None	MT OJT	Health Care
472061	Construction Laborers	11,870	13,380	1,510	$37,239	Less Than HS	None	ST OJT	Construction
434171	Receptionists and Information Clerks	7,510	8,990	1,480	$26,019	High School	None	ST OJT	Other Service
372012	Maids and Housekeeping Cleaners	10,280	11,760	1,480	$20,751	Less Than HS	None	ST OJT	Hotel
259041	Teacher Assistants	15,400	16,830	1,430	$29,970	High School	None	ST OJT	Education
353022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	6,440	7,840	1,400	$19,334	Less Than HS	None	ST OJT	Eating & Drinking
292061	Licensed Practical and Licensed Vocational Nurses	6,660	7,960	1,300	$45,373	Post Secondary	None	None	Health Care

399011	Childcare Workers	10,320	11,620	1,300	$24,566	High School	None	ST OJT	Other Service
436011	Executive Secretaries and Executive Administrative Assistants	8,560	9,840	1,280	$45,893	High School	1-5 years	None	Office Work
499071	Maintenance and Repair Workers, General	9,140	10,360	1,220	$37,598	High School	None	MT OJT	Other Service
359021	Dishwashers	5,350	6,560	1,210	$18,659	Less Than HS	None	ST OJT	Eating & Drinking
132011	Accountants and Auditors	6,770	7,930	1,160	$61,820	Bachelors	None	None	Administration
493023	Automotive Service Technicians and Mechanics	6,330	7,460	1,130	$38,844	High School	None	LT OJT	Other Service
111021	General and Operations Managers	16,920	18,030	1,110	$98,074	Associates	1-5 years	None	Administration
531021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	2,750	3,860	1,110	$47,728	High School	1-5 years	None	Administration
131111	Management Analysts	4,370	5,450	1,080	$71,135	Bachelors	1-5 years	None	Administration
119051	Food Service Managers	3,890	4,950	1,060	$46,002	High School	1-5 years	None	Eating & Drinking
	SUMMARY	**628,380**	**757,340**	**128,960**					

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 2014 in the inland area (*Exhibit 29*).

2. The results from this array are as follows:

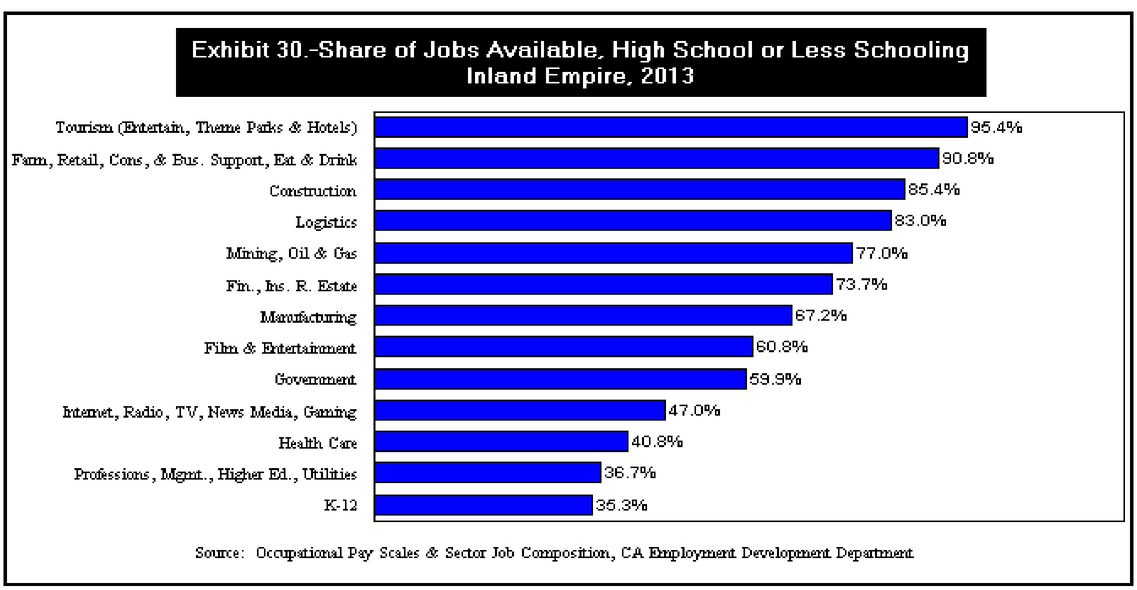
   - **High Paying Sectors (*24.4% of jobs*).** The five highest paying categories had median pay levels from $55,736 to $65,904. These included three private sector groups with a combined share of Inland Empire jobs in 2014 of 82,320 or 6.5%. It also included government and education, which combined for 227,056 jobs or 17.9%. Unfortunately, marginally educated workers cannot do well in these sectors.

   - **Median Paying Sectors (*35.8% of jobs*).** The six mid-range sectors had median pay levels from $44,591 to $55,308. They included the three essentially blue-collar sector with 290,900 jobs in 2014 or 23.0% of the Inland Empire total. There were also three office-based groups (*health care; finance, insurance & real estate; film & entertainment*). They were responsible for 162,324 jobs or 12.8% of the total. Marginally educated workers can succeed in these sectors.

   - **Lower Paying Sectors (*39.7% of jobs*).** The lower paying sectors had median pay levels ranging from $26,089 to $28,475. They included those in tourism (*30,878 jobs; 2.4%*) plus a variety of lower paying groups in such sectors as agriculture, retail, food & drink and consumer services (*472,000 jobs; 37.3%*). 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 education the ability to start work. In 2013, EDD's data show that numerous sectors allow people to do so (*Exhibit 30*). Two are low paying but would help a family's secondary wage earner (*Exhibit 29*):

1. **Tourism** (*median income: $26,089*) allows 95.4% of workers to have marginal educations. While growth will be rapid, there are not many good paying jobs.



2. **Broad Low Income Group** (*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 others, several offer significant opportunities for workers to start their careers and ultimately move up with reach of Middle Class median pay levels:

3. **Construction** (*median pay: $52,892*) has 85.4% of workers are 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.
4. **Logistics** (*median pay: $44,591*) has 83.0% of its workers in jobs requiring high school or less schooling. The sector has been one of the fastest growing in the Inland Empire.
5. **Finance, Insurance & Real Estate** (*median pay: $48,992*) will grow as the real estate market recovers. In this sector, 73.7% of workers are in jobs requiring minimal entry-level educations though many require specific state certifications.
6. **Manufacturing** (*median pay $49,138*) will offer little 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.
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:

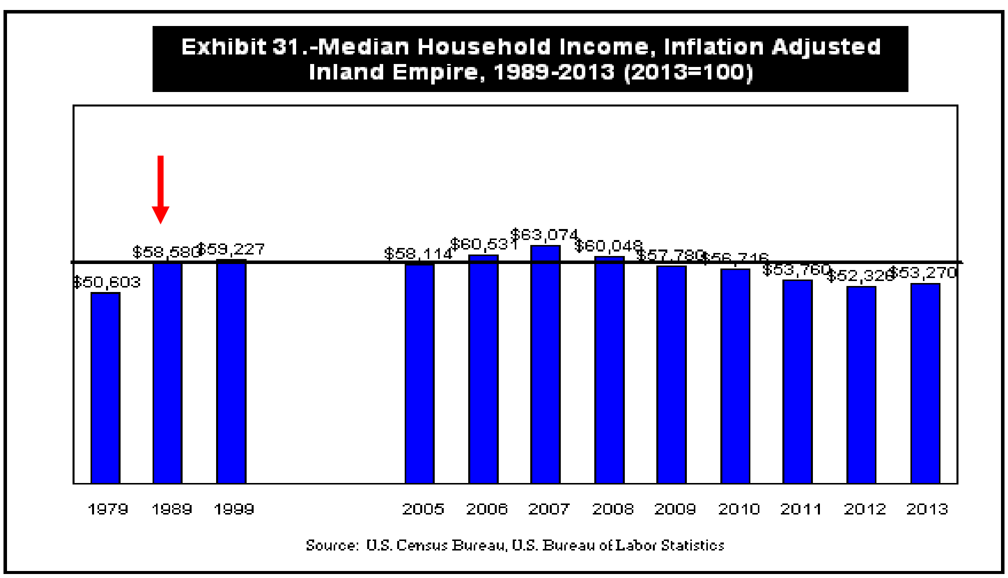
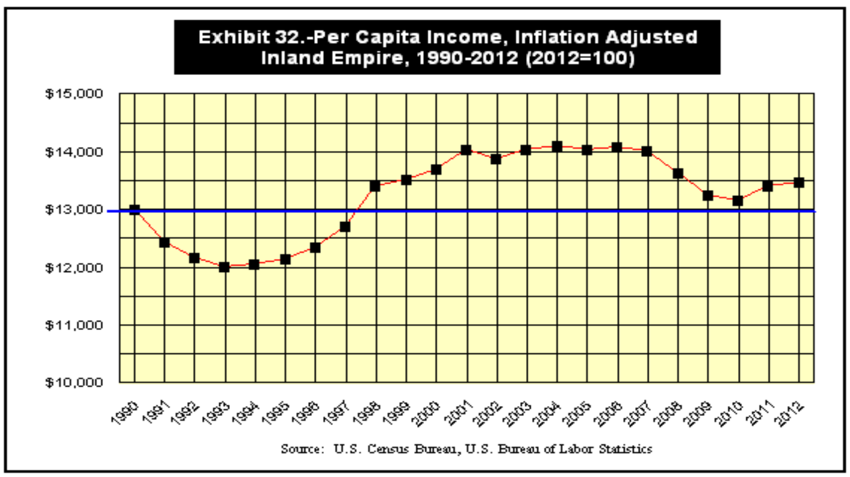


Exhibit 31.-Median Household Income, Inflation Adjusted
Inland Empire, 1989-2013 (2013=100)

A. Median Income. Using 1989 median incomes inflation adjusted to 2013 price levels as a standard (*$57,942*) for comparison, the trend for the Inland Empire's median household purchasing power has been generally flat to down. Through 1999 and 2005, median income had been essentially stationary. At the peak of the mortgage boom in 2007, household purchasing power (*$63,074*) had risen to 7.7% over the 1989 level. However, the Great Recession and its aftermath saw that fall to -9.1% below the 1989 level by 2013 (*$53,270*) though there was a $944 or 1.8% gain from 2012 to 2013.

B. Per Capita Income. Similarly, the trend for the Inland Empire's per capita income adjusted to 2012 prices showed that the purchasing power of average individuals declined significantly from $12,999 to $12,009 (*-7.6%*) with the 1990s aerospace/defense recession (*Exhibit 32*). From there, per capita income rose to a $14,102 peak in 2004. With the Great Recession, the purchasing power of an average person fell to $13,170 by 2010, off -6.6% from the peak. More recently, a gain to $13,408 by 2012 left the per capita income 3.7% 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. The Inland Empire is not immune to the imbalance in the income distribution. The share of its 1,275,967 households earning under $25,000 in 2013 was 22.5% with an income share of just 6.0% (*Exhibit 33*). Another 24.3% earned $25,000-$49,999 with only a 13.0% income share. Roughly middle class households included 18.8% earning $50,000-$74,999 with 16.7% of income, and 12.2% making $75,000-$99,999 with 15.2% of income. The well-off were the 13.7% making $100,000-$149,999 with a 24.3% income share and the 8.6% earning over $150,000 with 24.8% of income.

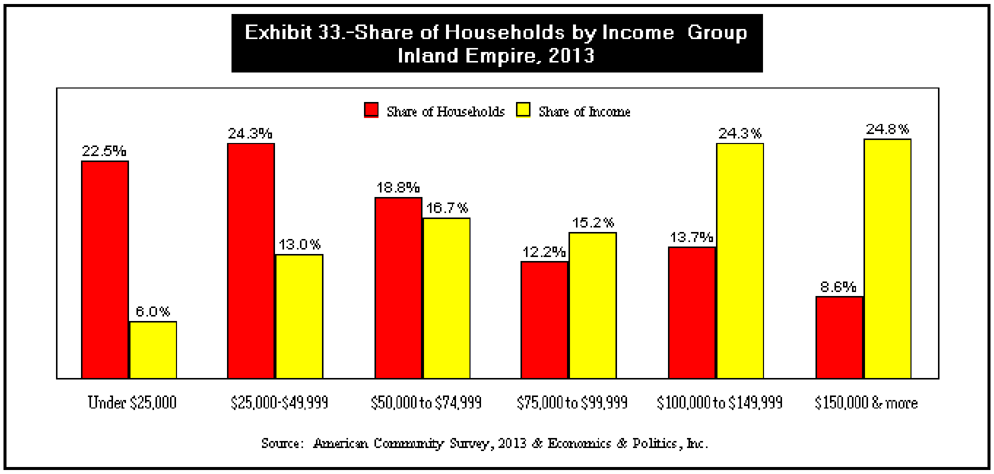


Exhibit 33.-Share of Households by Income Group
Inland Empire, 2013
Share of Households
Share of Income
22.5%
6.0%
24.3%
13.0%
18.8%
16.7%
12.2%
15.2%
13.7%
24.3%
8.6%
24.8%
Under $25,000
$25,000-$49,999
$50,000 to $74,999
$75,000 to $99,999
$100,000 to $149,999
$150,000 & more
Source: American Community Survey, 2013 & Economics & Politics, Inc.