LONG BEACH RISING

A City that Works for Everyone

October 2015

ECONOMIC ROUNDTABLE

Knowledge for the Greater Good

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October 2015

Economic Roundtable

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Executive Summary

A Stimulus Effect for the Region

Over 54,000 workers employed in Long Beach's formal economy will be affected by increases in the minimum wage. By 2020, the annual earnings of workers will increase by about $405 million. The largest share of increased wages—almost $130 million—will go to workers who also live in the City of Long Beach The greatest number of affected workers and the largest payroll increases will be in restaurants, retail trade, education, transportation and warehousing, and health care.

The economic stimulus from the $15 an hour minimum wage will create an estimated 3,186 new jobs, 1,006 in Long Beach, through $442 million in increased sales for the region, with $139 million in sales staying within the city. Increased sales and employment are projected to generate almost $70 million in increased public revenue by 2020.

The strongest impacts of the cash infusion from raising the minimum wage will be felt in Long Beach's lower-income neighborhoods, with total earned income increasing by as much as 4 percent in neighborhoods with the most low-wage workers. Over 74 percent of low-wage Latino workers will be affected by the wage increase, followed by younger, female, and African American workers.

Added income from a $15 minimum wage will help over 6,500 workers with jobs in Long Beach rise out of poverty by 2020. Every worker who escapes poverty brings an average of 1.3 additional family members along with them. Over 14,600 people, including 5,900 children, will be lifted out of poverty by the higher minimum wage. The share of workers in poverty will drop from 10.3 percent to 5.7 percent. And there will be a reduction of $78 million in public assistance expenditures, including a $26 million dollar reduction in cash aid payments.

Most workers who will benefit from the higher minimum wage are employed in consumer-oriented businesses such as retail, restaurants, hotels, and personal services that are concentrated in higher income neighborhoods where customers are better able to absorb the cost increases that result from raising the wage floor.

It is important to note that 11,700 Long Beach residents now commute to low- and mid-wage jobs in the City of Los Angeles, where they will soon benefit from the recently approved $15 minimum wage in that city. This will raise the economic stimulus within Long Beach to over 125 percent of what will result from the city's action alone, or over $174 million a year in increased sales.

Effects from the minimum wage increase will extend far beyond the municipal boundaries of Long Beach, likely altering flows of labor between the city and neighboring municipalities. Long Beach will be a more attractive and competitive employment destination for the most productive workers in each job class that employs lower-wage workers. The attendant shift in labor supply toward the Long Beach market will pressure neighboring cities to increase their minimum wage levels or risk of losing their most productive labor force to Long Beach.

Workers Living in Long Beach

The City of Long Beach has 81,800 residents working in Long Beach as well as other cities, and in both the formal and informal economies, who are paid less than $15 an hour. This includes 22,300 residents who are working and have family incomes below the poverty level. This represents a huge effort by residents, many of them parents, to support their families by working at jobs that fail to pay an adequate wage.

Eighteen percent Long Beach workers paid less than $15 an hour are estimated to employed below the table. Because their employers do not comply with labor and tax

laws, workers in the informal economy are highly vulnerable to wage theft and lack legal protections.

Long Beach residents will be major beneficiaries of action by the City of Long Beach as well as by neighboring cities to raise the minimum wage. The social fabric of Long Beach will be strengthened as family incomes become more sustainable.

As the second largest city in Los Angeles County, the fifth largest in the state and the thirty-sixty largest in the United States, action by Long Beach to raise the minimum wage to $15 will be important for enabling its labor force to earn enough to pay for basic necessities and also for setting the direction for other cities.

Income Sufficiency for Long Beach Residents

Ten percent of Long Beach residents who work receive food stamps and 5 percent receive cash aid. Forty-nine percent of Long Beach residents who work but are paid less than $15 an hour live in overcrowded housing and 32 percent pay over half of their income for rent.

The problems of substandard earnings and living conditions for working residents are most acute in council *district 1* (18 percent of working residents in poverty), followed by *district 6* (15 percent of working residents in poverty), then *district 2* (11 percent of working residents in poverty), and then *district 4* (10 percent of working residents in poverty). All four districts have poverty rates among working residents that are above the citywide average of 9 percent.

Low-wage jobs are more prevalent in Long Beach than in California as a whole – 36 percent vs. 35 percent of workers. The median hourly wage is lower in Long Beach than in California as a whole - $17.93 vs. $18.93 an hour.

Long Beach's economic standing among California cities will be strengthened by raising its minimum wage to $15.

Jobs Located in Long Beach

Over the past 25 years, Long Beach's economy has been shaped by loss of aerospace and diversification into service jobs. The fastest growing service industries pay low wages – restaurants, temps, guards and janitors, and personal and repair services.

Ninety-nine percent of jobs in the industries with below average wages involve one person providing face-to-face services to another person. These services are delivered by low-wage workers, while consumption of these services is concentrated among individuals with above average incomes.

Mom and pop employers, that is, businesses with four or fewer employees, account for only 8 percent of Long Beach's jobs. The fact that most employment is in larger, more stable establishments means that there is a resilient industry base in Long Beach for implementing a higher minimum wage.

Long Beach Industries that may be Sensitive to a $15 Minimum Wage

Long Beach's industry base has been restructured as a result of declining aerospace employment following the end of the Cold War. Rapidly growing industries that pay low wages to most of their workers include:

- Retail Trade
- Restaurants and Bars
- Temps, Guards and Janitors
- Residential Nursing
- Home Health Care

The replacement of high-wage manufacturing jobs by low-wage service jobs makes it important to raise the wage floor to ensure that employees in Long Beach are able to support themselves and their families through work.

An analysis of 1) industry rates of employment change, 2) average wages, 3) percent of workers paid less than $15, 4) payroll as a share of revenue, 5) profit per worker, and 6) value added per worker identified six industries that are likely to be most sensitive to increases in the minimum wage:

1. Temps, Guards and Janitors (Administrative support; waste management and remediation services)
2. Home Health Care Services
3. Residential Care and Nursing Facilities
4. Child Day Care Services
5. Restaurants and Bars
6. Personal and Repair Services

These six industries provide 22 percent of Long Beach's jobs, and all are in the service sector, providing needed face-to-face services for other residents and businesses.

The stresses from a $15 minimum wage are likely to be greatest for establishments with one to four employees, which have an 86 percent year-to-year survival rate, compared to a 93 percent rate for larger establishments.

Industry outcomes from raising the minimum wage should be carefully monitored over the five annual increments of stepped wage increases that are being proposed. However, there is little evidence that potential job attrition in these industries will outweigh the net gains to the economy from the increased buying power of Long Beach's labor force.

Tools for Monitoring Impacts of a Minimum Wage Increase

Tools to monitor the effects of the minimum wage increase on the economy will enable City of Long Beach elected officials, public agency staff, residents, and business owners to increase the minimum wage with confidence that any unintended impacts can be identified and managed. A *data dashboard* provides straightforward tools for the city to use in monitoring the impacts of the increase in the minimum wage by comparing annual changes in Long Beach's economic performance to county and state changes in the following data points:

» Business sales
» Employment
» Wages

Tripwires for each dashboard indicator are based on how annual changes in each indicator have corresponded with county and state changes since 2000. These monitoring tools will enable Long Beach to monitor and remedy any unintended effects.

Workers Living in Long Beach

Residents with Jobs Paying Less than $15

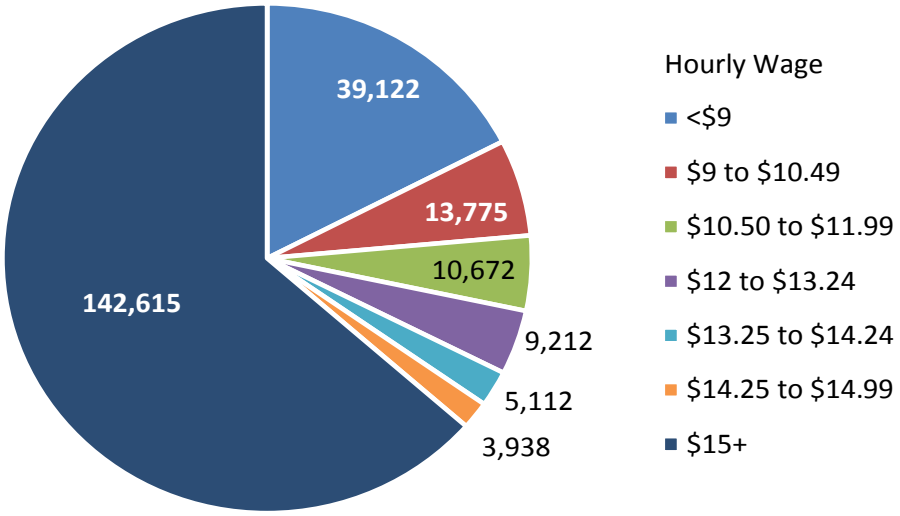
The City of Long Beach has 81,800 employed residents who are paid less than $15 an hour.[1] They make up 36 percent of Long Beach's total resident labor force. This chapter describes these workers. Later chapters describe workers whose jobs are located in Long Beach, some of whom live within the city and others of whom live in neighboring cities.

Wages

The wages of all 224,400 employed workers who live in Long Beach are broken out below in *Figure 1.1* based on the annual progression of increases in the minimum wage that have been approved by the City and County of Los Angeles.

Long Beach has 81,800 residents who are paid less than $15 an hour.

Figure 1.1 – Wage Distribution of 224,446 Wage and Salary Workers Living in Long Beach



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs, including workers in the informal economy. Workers with less than $500 in annual earnings are excluded from the data.

The five-year schedule of incremental increases in the minimum wage, the value that the wages will have in today's dollars (shown in parenthesis) based on an estimated 2 percent annual inflation rate, and the share of workers living in Long Beach who are now below each threshold based on the real value of the minimum wage in each year are as follows:

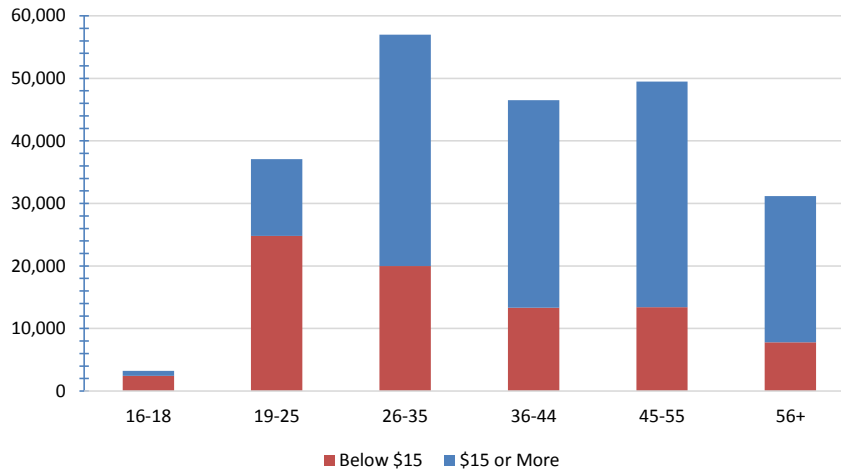
- 2015 - $9.00 ($9.00) 17 percent of Long Beach workers
- 2016 - $10.50 ($10.29) 6 percent of Long Beach workers
- 2017 - $12.00 ($11.52) 5 percent of Long Beach workers
- 2018 - $13.25 ($12.47 4 percent of Long Beach workers
- 2019 – $14.25 ($13.14) 3 percent of Long Beach workers
- 2020 - $15.00 ($13.56) 2 percent of Long Beach workers

Seventeen percent of Long Beach's resident labor force is estimated to be paid less than the current $9 an hour statewide minimum wage and to be experiencing wage theft. Part time workers are disproportionately concentrated in this sub-minimum wage group, as well as workers employed in the informal economy.[2] An additional 20 percent of Long Beach workers have wages that are higher than the current minimum wage of $9, but lower than the $15 minimum wage scheduled to be effective in 2020. Sixty-four percent of workers are paid more than $15 in 2020 dollars (or $13.56 in today's dollars).

Age

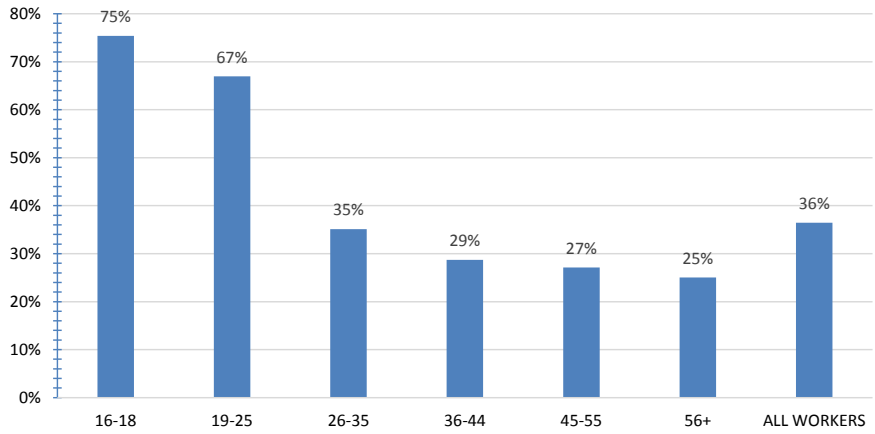
Eighty-five percent of Long Beach's employed residents are 19-55 years old, as shown in *Figure 1.2*. This is also the case with workers paid less than $15 an hour – 87 percent are 19 to 55 years old.

Figure 1.2 – Wages of Long Beach Residents by Age Group



Workers 16 to 18 years old make up only 1% of all workers and only 3% of the low-wage labor force.

Figure 1.3 – Percent of Long Beach Residents under $15 by Age Group



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs, including workers in the informal economy. Workers with less than $500 in annual earnings are excluded from the data.

The share of workers holding low-wage jobs declines with age. Workers 16 to 18 years old make up only 1 percent of all workers and only 3 percent of the low-wage labor force, however 75 percent of this small group of workers are paid under $15.

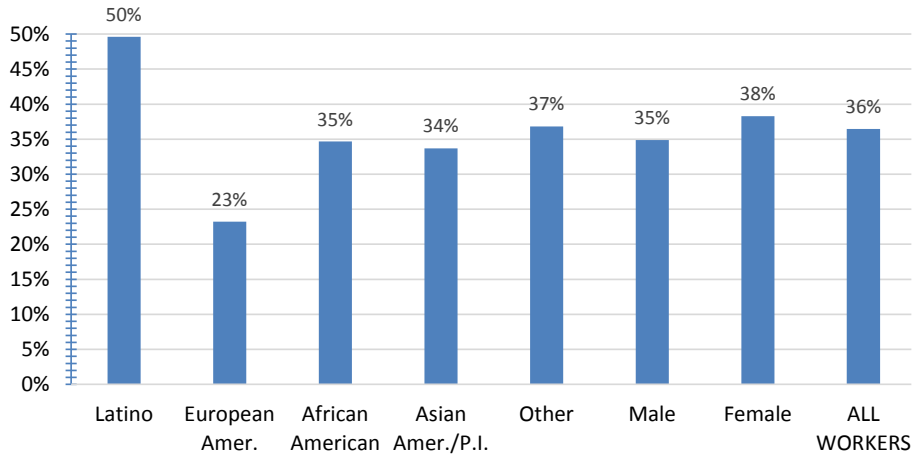
- 19-25 year olds make up 17 percent of workers, 67 percent are paid under $15
- 26-35 year olds make up 25 percent of workers, 35 percent are paid under $15
- 36-44 year olds make up 21 percent of workers, 29 percent are paid under $15
- 45-55 year olds make up 22 percent of workers, 27 percent are paid under $15
- 56+ year olds make up 14 percent of workers, 25 percent are paid under $15

Gender and Ethnicity

Women are more severely impacted by low-wage jobs than men – 38 percent vs. 35 percent, as shown in *Figure 1.4*. Men make up a 53 percent majority of Long Beach's total resident labor force and a 51 percent majority of its low-wage labor force.

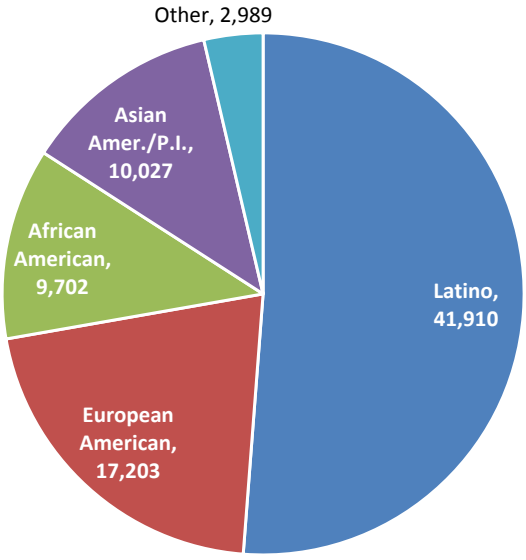
Women are more severely impacted by low-wage jobs than men – 38% vs. 35%.

Figure 1.4 – Rate of Low-Wage Employment by Ethnicity and Gender of Workers Living in Long Beach



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs, including workers in the informal economy. Workers with less than $500 in annual earnings are excluded from the data.

Figure 1.5 – Ethnic Distribution of Long Beach Residents Paid Less than $15



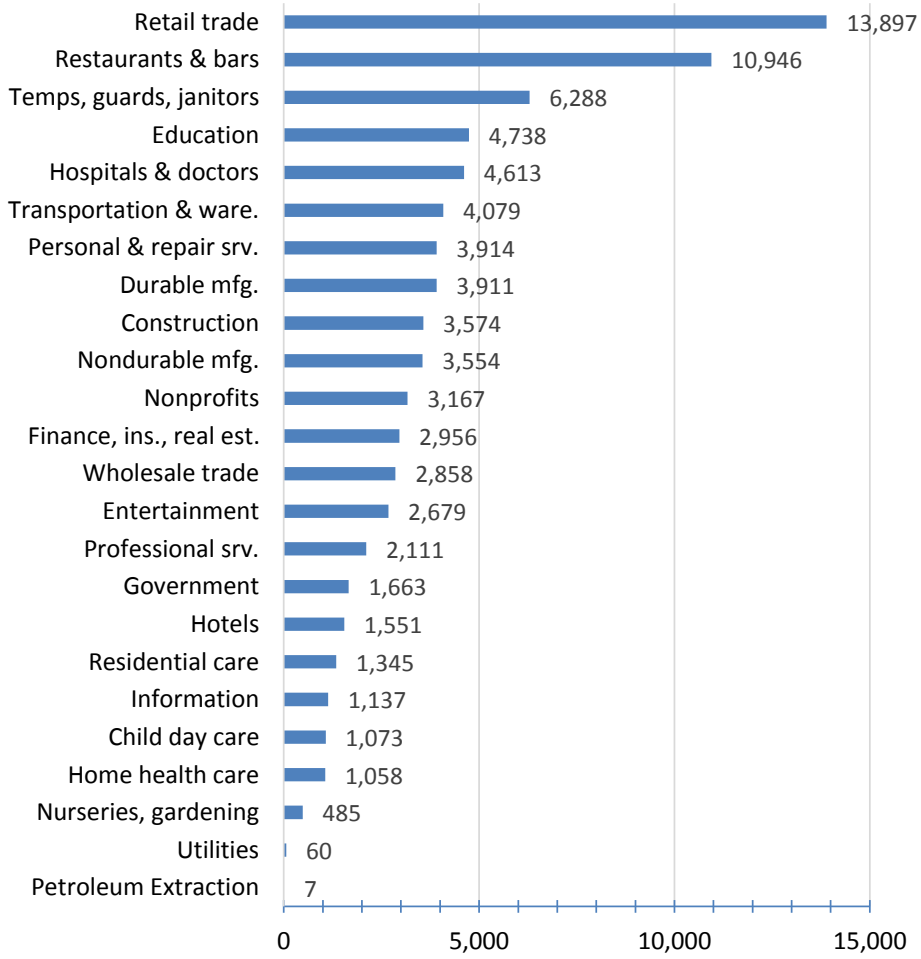
Slightly over half of Long Beach's resident labor force of low wage workers is made up of *Latinos* – 51 percent – as shown in *Figure 1.5. European Americans* make up 21 percent, *African Americans* 12 percent, *Asian Americans and Pacific Islanders* 12 percent, and *other ethnicities* 4 percent.

Within these broad ethnic categories, the groups with the highest percent of workers paid less than $15 are: *Hondurans* 64 percent, *Guatemalans* 62 percent, *Mexicans* 52 percent, *Peruvians* 52 percent, *Salvadorans* 50 percent, *Cambodians* 49 percent, and *Samoans* 48 percent.

Industries

Long Beach's low-wage labor force includes 13,900 residents with jobs in retail and 10,900 residents with jobs in restaurants, as shown in *Figure 1.6*. Retail and restaurants provide 18 percent of the jobs held by Long Beach residents, but account for 30 percent of all low-wage jobs.

Figure 1.6 – Number of Workers Living in Long Beach under $15 by Industry



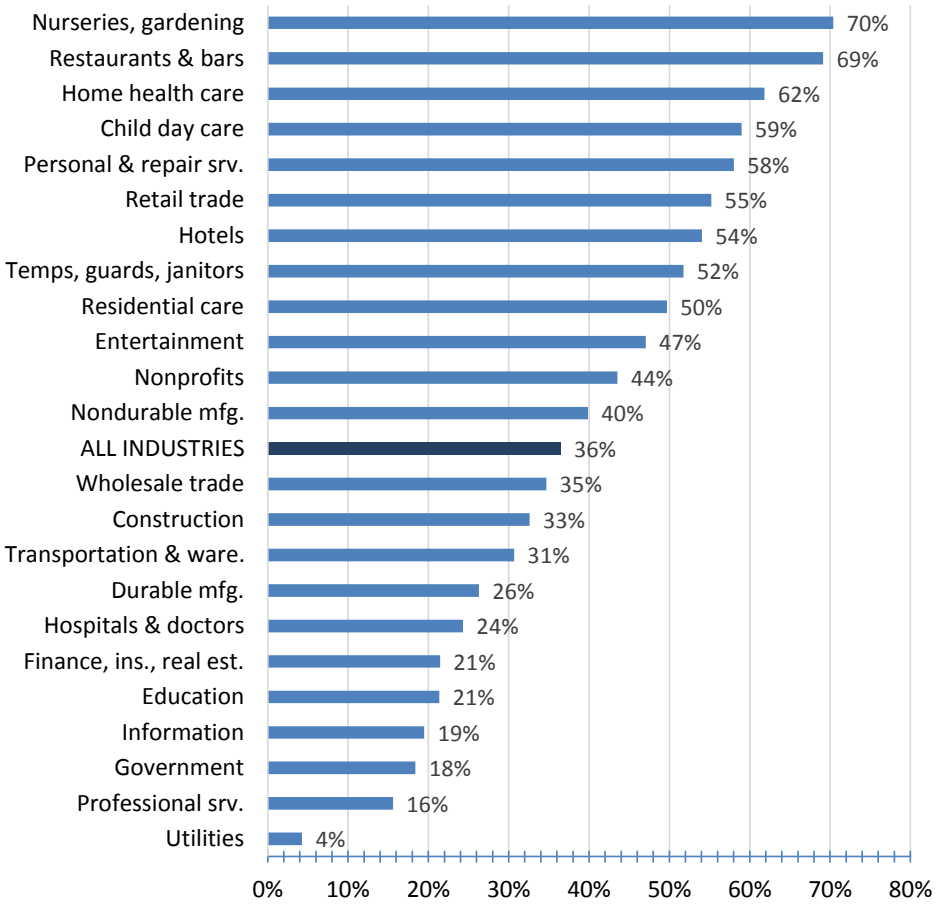
Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs, including workers in the informal economy. Workers with less than $500 in annual earnings are excluded from the data.

Retail and restaurants provide 18% of the jobs held by Long Beach residents but account for 30% of all low-wage jobs.

The most important benchmark for industry wage sustainability is the percent of workers who are paid more than $15 an hour. The percent of workers in each industry who fall below this benchmark is shown in *Figure 1.7*. Nurseries and gardening employers pay less than $15 to 70 percent of the Long Beach residents that they employ, closely followed 69 percent in restaurants. In eight industries, half or more of the workers are paid less than $15 an hour (hotels are excluded because of coverage by a recent wage ordinance).

1.	Nurseries, gardening	70 percent
2.	Restaurants and bars	69 percent
3.	Home health care	62 percent
4.	Child day care	59 percent
5.	Personal and repair services	58 percent
6.	Retail trade	55 percent
7.	Temps, guards, janitors	52 percent
8.	Residential nursing care	50 percent

Figure 1.7 – Percent of Workers Living in Long Beach Residents under $15 by Industry



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs, including workers in the informal economy. Workers with less than $500 in annual earnings are excluded from the data.

Latino heads of households are more likely to be low-paid than any other ethnic group – 39% are paid less than $15 and 16% are in poverty.

Workers who are Heads of Households

Sustaining wages are especially crucial for workers whose earnings are the primary source of income for their families. Twenty-seven percent of the primary bread winners for Long Beach families earn less than $15 and 11 percent are in poverty, as shown in *Figure 1.8.*

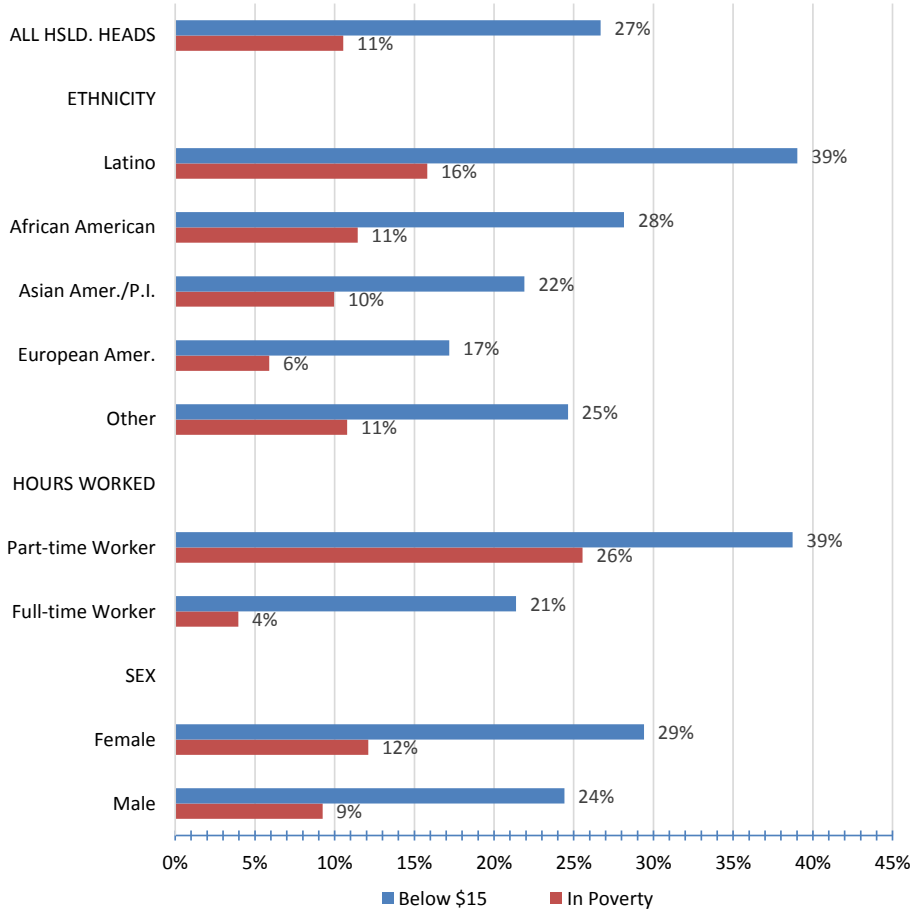
Latino heads of households are more likely to be low-paid than any other ethnic group – 39 percent are paid less than $15 and 16 percent are in poverty.

Part-time workers have the worst outcomes – 39 percent are paid less than $15 and 26 percent are in poverty.

Female heads of households fare more poorly than their male counterparts – 29 percent are paid less than $15 and 12 percent are in poverty, compared to 24 percent and 9 percent, respectively for men.

The issue of poverty among employed Long Beach residents is explored in the next section.

Figure 1.8 – Percent of Employed Heads of Long Beach Households Paid Less than $15



Sources: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. The $15 an hourly wage is indexed to the estimated value of the dollar in 2020, based on 2% annual inflation. This represents $13.56 in 2015 dollars. Poverty is based on total family income.

Residents who Work and are in Poverty

Labor Force Status

Ten percent of Long Beach workers live in poverty. Poverty is based on total family income, so this means that all of the members of their families are also in poverty.

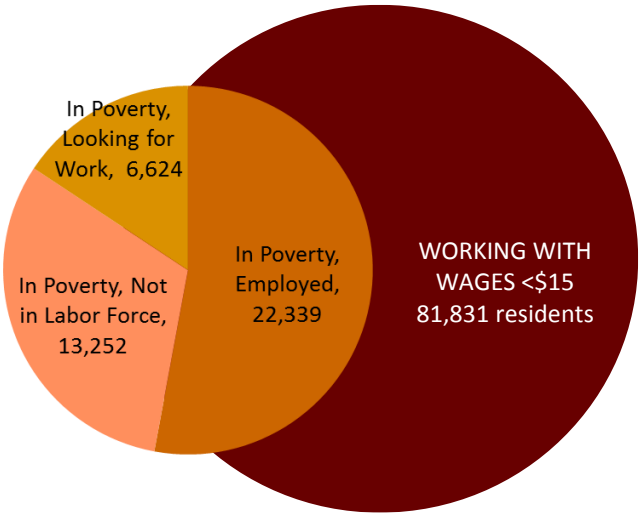
Fifty-three percent of working-age, potentially employable adults living in Long Beach who are in poverty are working, another 16 percent are looking for work and 31 percent are not in the labor force, as shown in *Figure 1.9*. These numbers exclude residents who are in school and not working or who have a disability and are not in the labor force.

Altogether, 22,339 Long Beach residents who are working have family incomes below the poverty level. This represents a huge effort by residents, many of them parents, to support their families by working at jobs that fail to pay an adequate wage.

A complete picture, all 57,128 working age residents in poverty, including those going to school and with disabilities is shown in *Figure 1.10*. It shows that two-thirds of working age residents in poverty are working, looking for work or going to school.

2/3 of working age residents in poverty are working, looking for work or going to school.

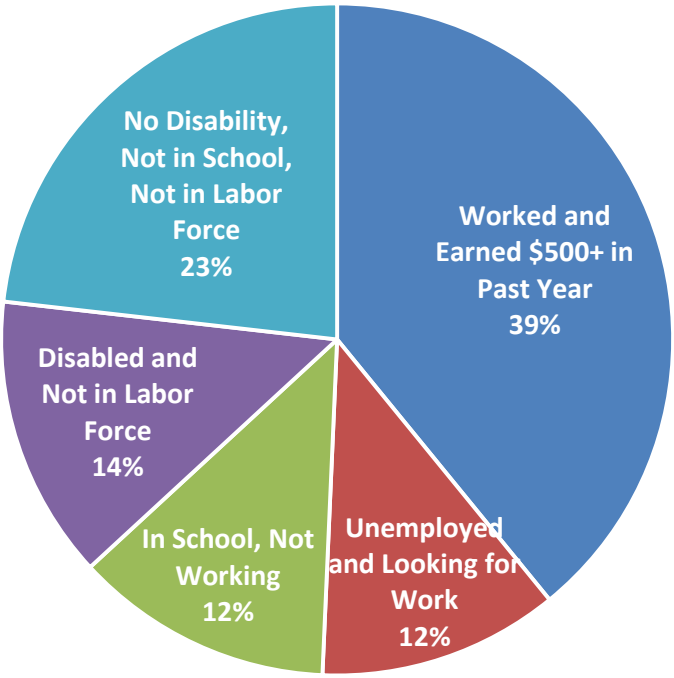
Figure 1.9 – Overlap of Poverty and Low-Wage Jobs among Long Beach Residents



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for persons 18-66years of age residing in the City of Long Beach. Poverty data excludes persons who are not working and have a disability or are attending school. Workers with less than $500 in wage and salary earnings are excluded from the employment numbers. Poverty is based on total family income.

Among the entire population of working-age residents in poverty: 39 percent are working, 12 percent are looking for work, 12 percent are in school, 14 have a disability, and 23 percent are not in labor force. The 23 percent who are not in the labor force include many single parents who are raising families and do not have access to affordable child care.

Figure 1.10 – Labor Force Status of 57,128 Long Beach Residents 18-66 Years of Age and in Poverty

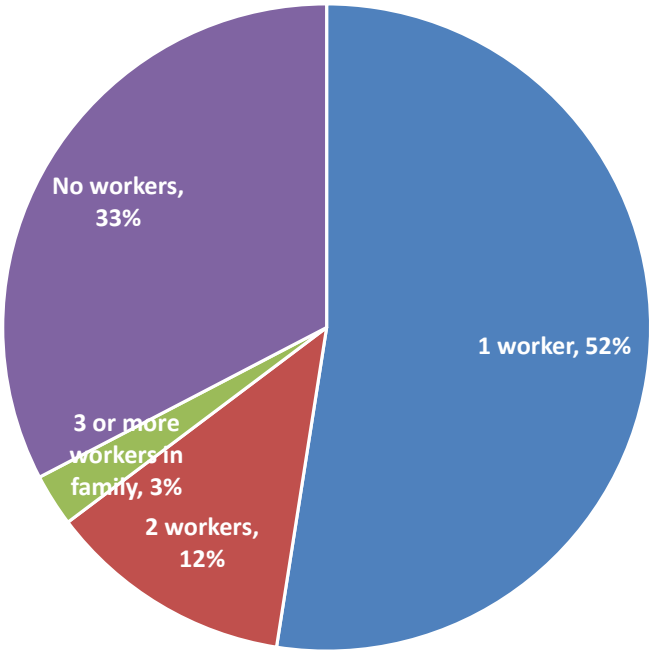


Sources: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for persons 18 to 66 years of age residing in the City of Long Beach. Poverty is based on total family income.

Working Members of Families in Poverty

Two-thirds of Long Beach families in poverty have one or more members working, as shown in *Figure 1.11*. Fifteen percent have two or more workers.

Figure 1.11 – Number of Workers in Long Beach Families in Poverty



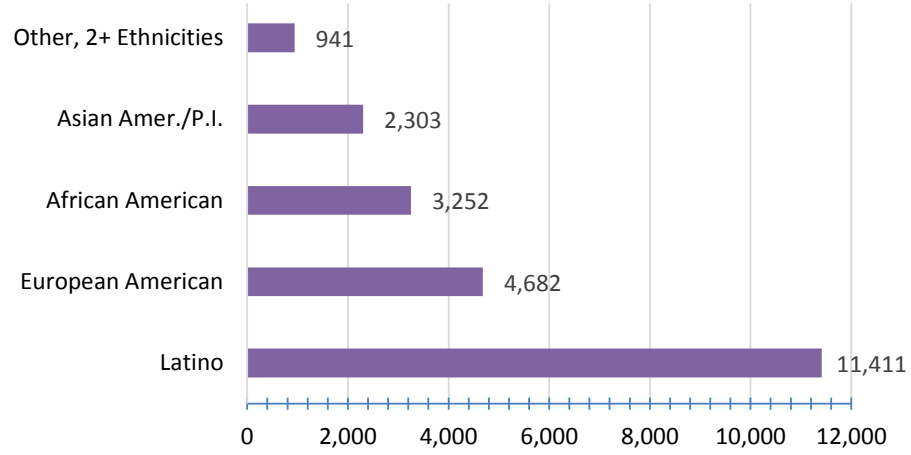
Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for persons residing in the City of Long Beach. Poverty is based on total family income.

Two-thirds of Long Beach families in poverty have one or more members working.

Ethnicity

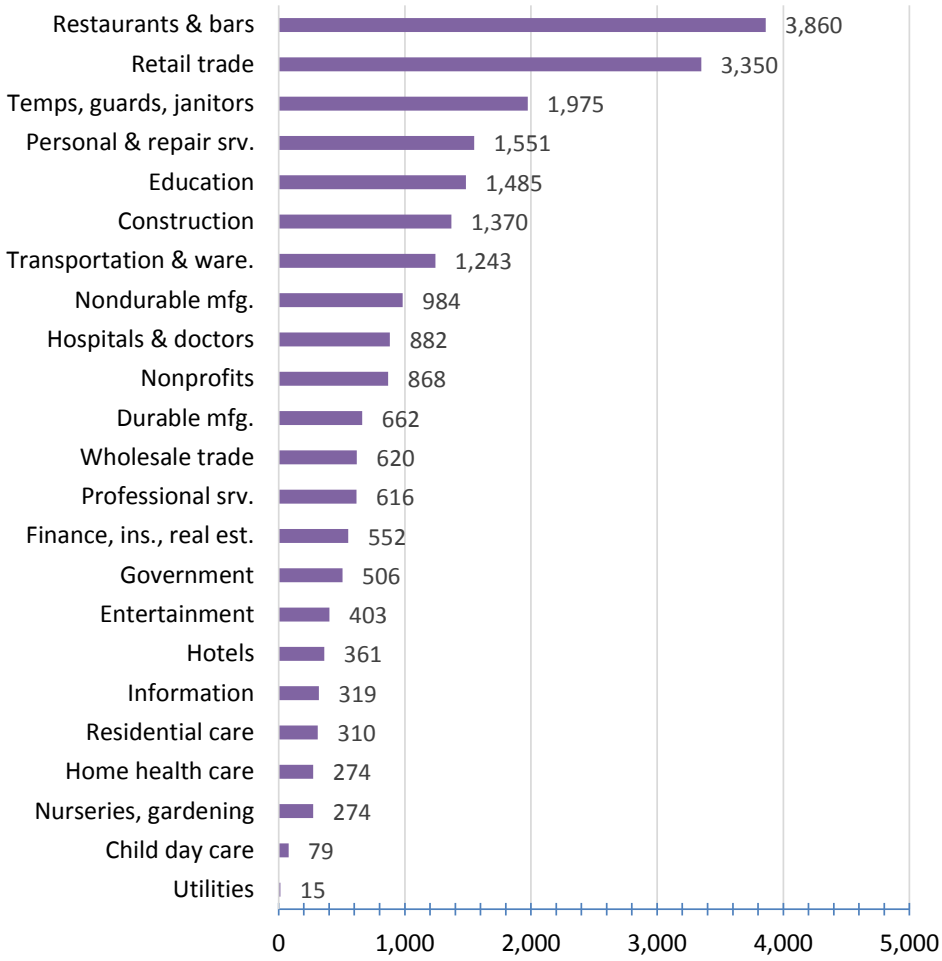
Half (51 percent) of Long beach residents who are working and in poverty are *Latino*, 21 percent *European American*, 14 percent *African American*, 10 percent *Asian Americans* or *Pacific Islanders*, and 4 percent *other ethnicities*, as shown in *Figure 1.12*.

Figure 1.12 – Number of Long Beach Workers in Poverty by Ethnicity



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. Poverty is based on total family income.

Figure 1.13 – Number of Working Long Beach Residents in Poverty by Industry



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. Poverty is based on total family income.

22,600 employed Long Beach residents have family incomes below the poverty level.

Twenty-two thousand six hundred Long Beach residents who worked during the past year have family incomes below the poverty level. The industries that employ these workers are shown in *Figure 1.13.* The largest employers of workers in poverty are:

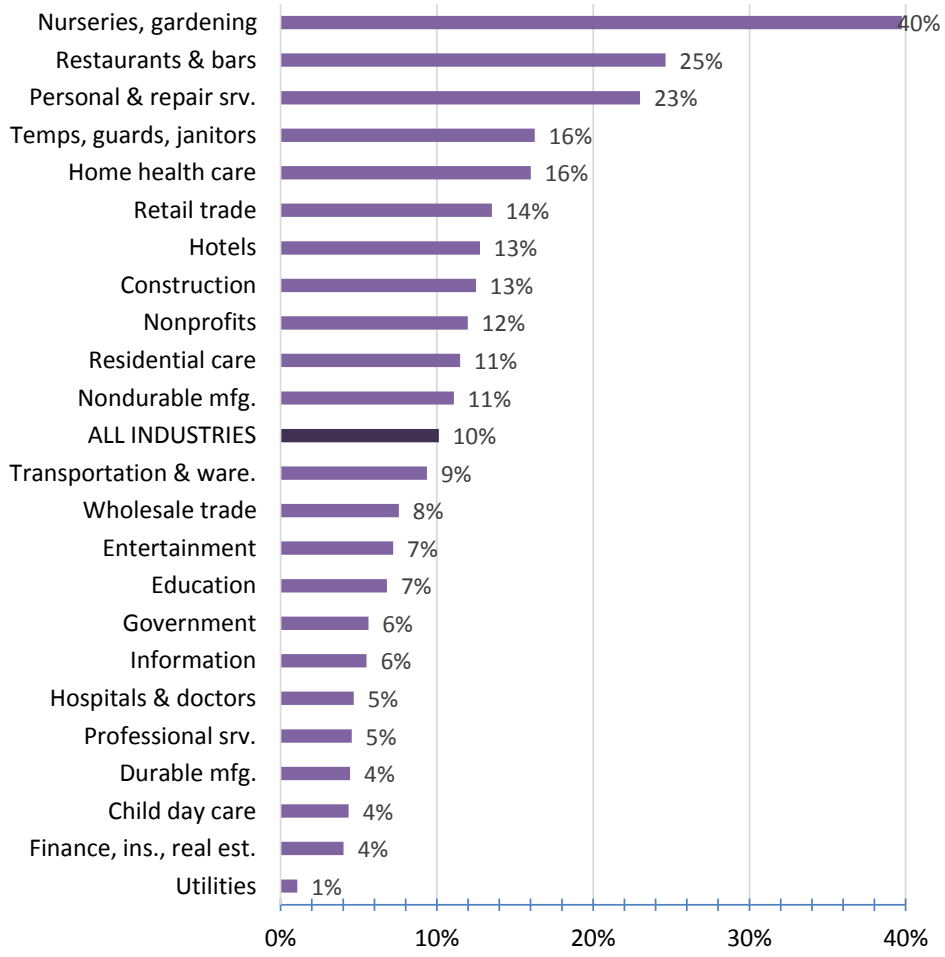
- Restaurants and bars 3,860
- Retail trade 3,350
- Temps, guards, janitors 1,975
- Personal and repair services 1,551
- Education 1,485
- Construction 1,370
- Transportation and warehousing 1,243

Industries with the highest percent of working Long Beach residents in poverty are shown in *Figure 1.14.* Twenty five percent of Long Beach residents employed by restaurants are in poverty. The poverty rate by industry is:

- Nurseries, gardening 40 percent
- Restaurants and bars 25 percent
- Personal and repair services 23 percent

- Temps, guards, janitors 16 percent
- Home health care 16 percent
- Retail trade 14 percent
- Construction 13 percent

Figure 1.14 – Percent of Long Beach Residents Working in each Industry who are in Poverty



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. Poverty is based on total family income.

25% of Long Beach residents employed by restaurants are in poverty.

Informal Employment

Industries with Under-the-Table Jobs

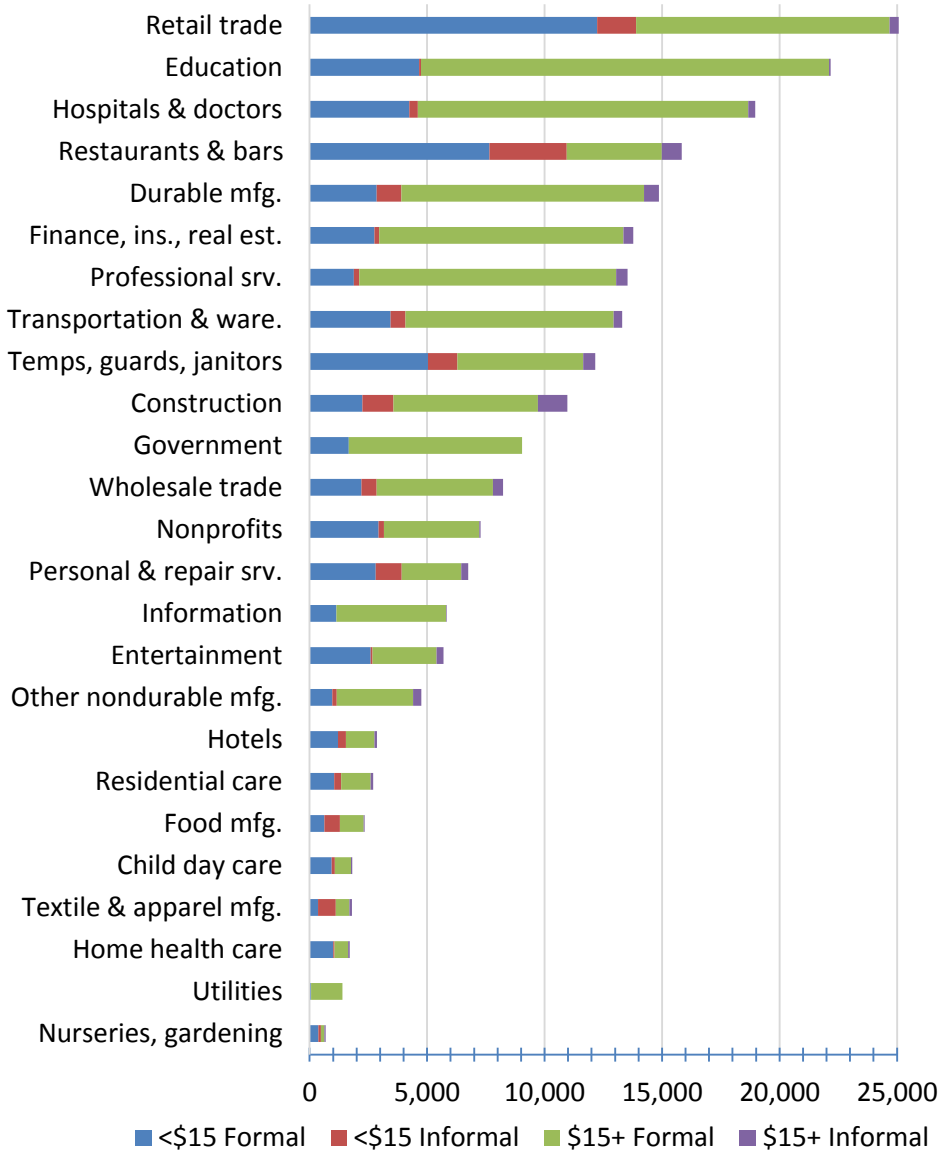
Ten percent of Long Beach workers are estimated to be employed in the informal economy, that is, carrying out legal activities for employers who do not comply with labor law and pay them under the table. Informal employment is much more prevalent in low wage jobs. **Eighteen percent of workers paid less than $15 an hour are estimated to be employed informally**, compared to 5 percent of workers paid $15 or more an hour. This breakout is shown in *Figure 1.15*.

18% of workers paid less than $15 an hour are estimated to be employed informally.

The five industries in which the most Long Beach residents work for employers who do not comply with labor law are:

1. *Restaurants and bars*: 15,800 total workers, 26 percent informal
2. *Construction*: 11,000 total workers, 23 percent informal
3. *Retail trade*: 25,200 total workers, 8 percent informal
4. *Temps, guards and janitors*: 12,200 total workers, 14 percent informal
5. *Durable manufacturing*: 14,900 total workers, 11 percent informal

Figure 1.15 – Long Beach Workers by Industry, Wage Level and Formal vs. Informal Job Status



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data.

Informal Employment within Occupations

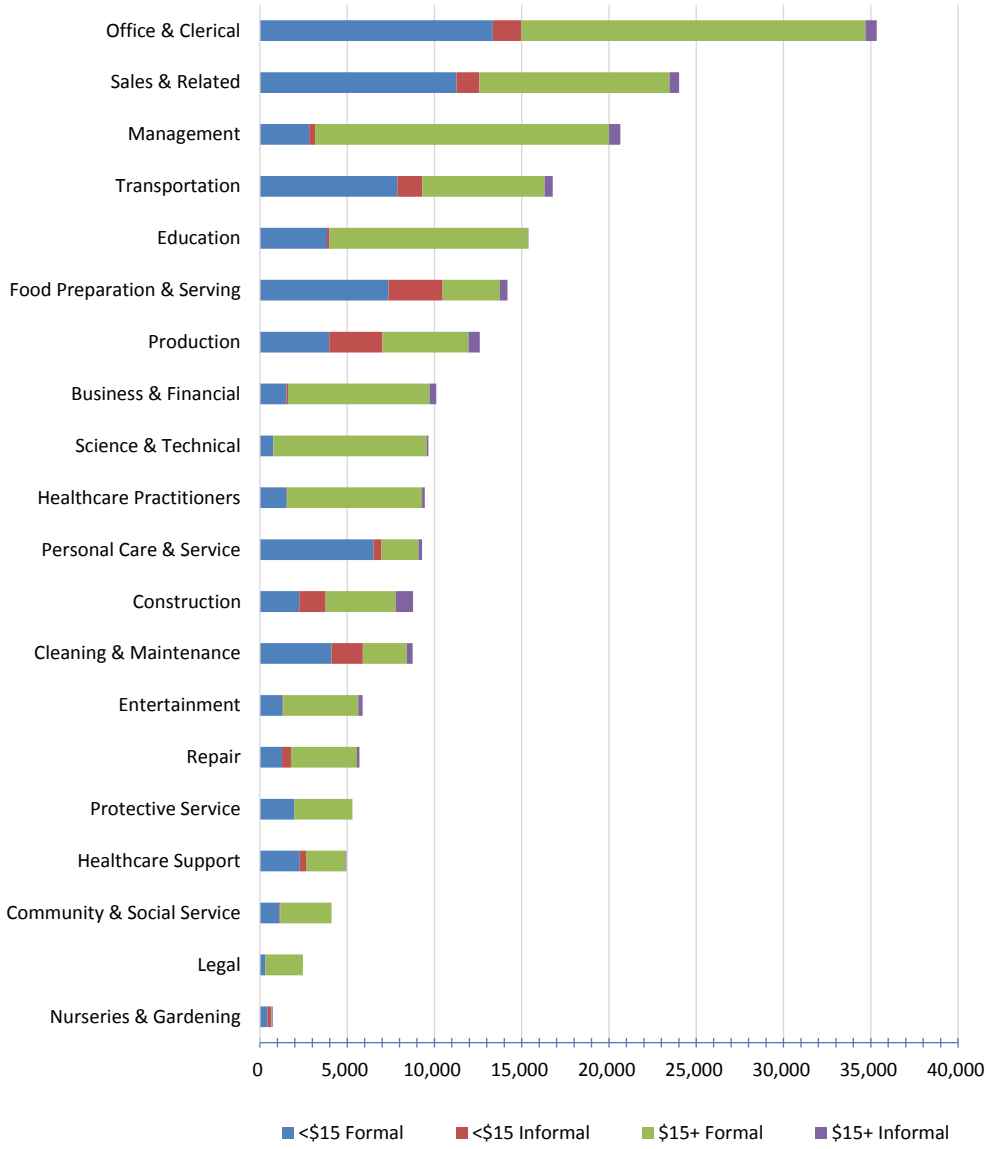
When we look at workers grouped by occupation rather than by industry, production jobs in factories have the most informal workers, as shown in *Figure 1.16*.

The five occupations with the most workers paid under the table are:

1. *Production*: 12,600 total workers, 29 percent informal
2. *Food preparation and serving*: 14,200 total workers, 25 percent informal
3. *Construction*: 8,800 total workers, 28 percent informal
4. *Office and clerical*: 35,400 total workers, 6 percent informal
5. *Cleaning and maintenance*: 8,800 total workers, 24 percent informal

The prevalence of informal employment in many low-wage industries means that enforcement of wage standards will often require reforming long-standing business models

Figure 1.16 – Long Beach Workers by Occupation, Wage Level and Formal vs. Informal Job Status



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data.

29% of factory *production* workers and 25% of restaurant *food preparation and serving* workers are estimated to be employed informally.

of noncompliance with tax and labor laws. The reality for employers that have gained an unfair competitive advantage by violating tax and labor laws is that if they are to be sustainable businesses they must adopt business models that pay legally mandated costs.

Conclusion

The City of Long Beach has 81,800 residents who are paid less than $15 an hour and 22,339 residents who worked during the past year and have family incomes below the poverty level. This represents a huge effort by residents, many of them parents, to support their families by working at jobs that fail to pay an adequate wage.

Long Beach residents will be major beneficiaries of action by the City of Long Beach as well as neighboring cities to raise the minimum wage. The social fabric of Long Beach will be strengthened as family incomes become more sustainable.

Eighteen percent Long Beach workers paid less than $15 an hour are estimated to be employed below the table. Because their employers do not comply with labor and tax laws, workers in the informal economy are highly vulnerable to wage theft and lack legal protections.

As the second largest city in Los Angeles County and the 36th largest city in the United States, action by Long Beach to raise the minimum wage to $15 will be important for enabling its labor force to earn enough to pay for basic necessities and also for setting the direction for other cities.

Endnotes

[1] Unless otherwise noted, data about workers living in Long Beach is derived from Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. This includes workers employed in the informal economy. Later chapters that discuss jobs located in the City of Long Beach use data that is limited to the formal economy, which reduces the number of workers shown in the data. Workers with less than $500 in annual earnings are excluded from the data. The $15 an hourly wage is indexed to the estimated value of the dollar in 2020, based on 2 percent annual inflation. This represents $13.56 in 2015 dollars.

[2] The informal economy refers to wage and salary workers carrying out legal activities for employers who do not comply with labor and tax laws that require payment of payroll taxes as well as social safety net protections such as unemployment and disability insurance.

Geography of Income Sufficiency for Long Beach Residents

Wages and Poverty in Long Beach

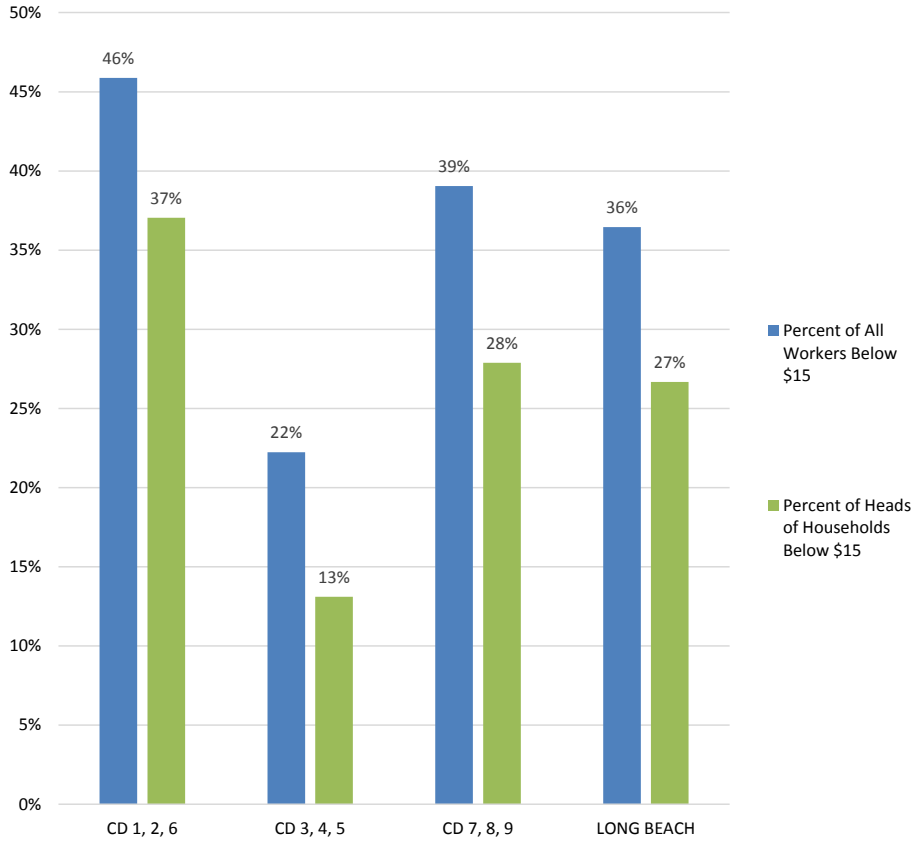
Wages in Council Districts

The share of Long Beach residents with jobs paying less than $15 an hour varies widely among council districts. Almost half of the residents in council districts 1, 2 and 6 are paid less than $15, as shown in *Figure 2.1*.[1] Council districts 3, 4 and 5 have less than half this percentage of low-wage residents with only 22 percent paid less than $15, and council districts 7, 8 and 9 are close to the citywide average with 39 percent paid less than $15. The share of all working residents as well as the share of heads of households earning less than $15 is as follows:

- CD 1, 2, 6
  - 46% of workers paid <$15
  - 37% of heads of households paid <$15
- CD 3, 4, 5
  - 22% of workers paid <$15
  - 13% of heads of households paid <$15
- CD 7, 8, 9
  - 39% of workers paid <$15
  - 28% of heads of households paid <$15

Almost half of the residents in council districts 1, 2 and 6 are paid less than $15.

Figure 2.1 – Percent of Employed Residents below $15 by Council District



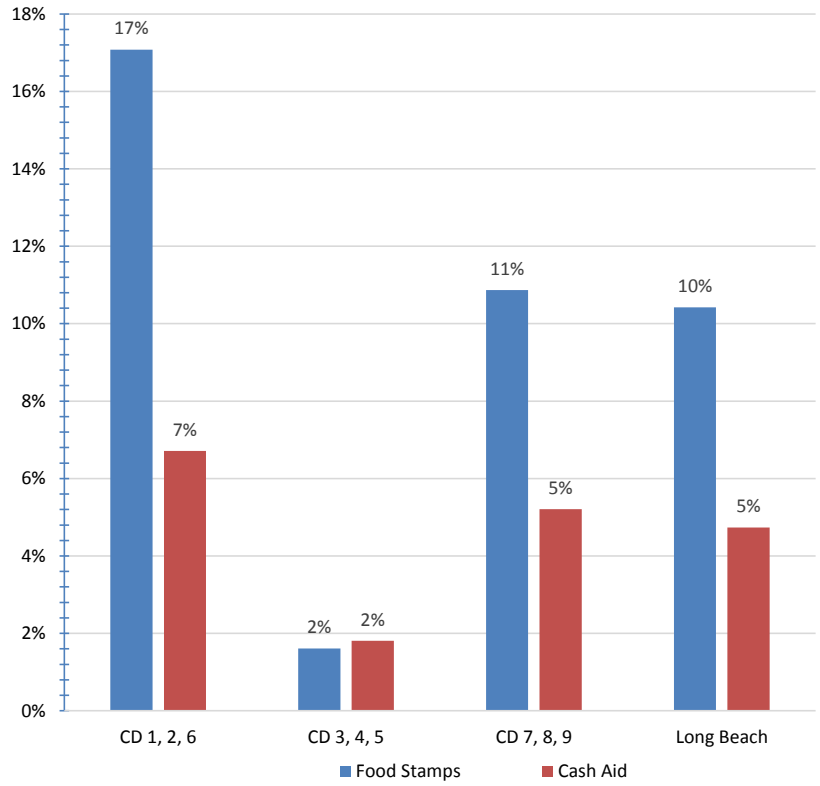
Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. The $15 an hourly wage is indexed to the estimated value of the dollar in 2020, based on 2% annual inflation. This represents $13.56 in 2015 dollars.

Workers who are heads of households fare somewhat better than the overall workforce but citywide, over a quarter of the primary earners for families are paid less than $15. The highest share of low wage workers is in council districts 1, 2 and 6 with 37 percent paid less than $15. The lowest share is in council districts 3, 4 and 5 with 13 percent paid less than $15. Council districts 7, 8 and 9 are close to the citywide average with 28 percent paid less than $15.

Public Assistance

Ten percent of working Long Beach residents receive food stamps and 5 percent receive cash aid, as shown in *Figure 2.2*. Despite being part of the labor force, these families cannot pay for basic necessities with their earnings and must rely on the social safety net to put food on the table or to augment meager pay.

Figure 2.2 – Percent of Employed Residents Receiving Public Assistance



Sources: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data.

10% of working Long Beach residents receive food stamps and 5% receive cash aid.

Council districts 1, 2 and 6 have the highest share of working residents who rely on public assistance with 17 percent receiving food stamps and 7 percent receiving cash aid. Council districts 3, 4 and 5 have the lowest share with 2 percent receiving food stamps as well as cash aid. Council districts 7, 8 and 9 are close to the city wide average with 11 percent receiving food stamps and 5 percent receiving cash aid.

Housing Conditions

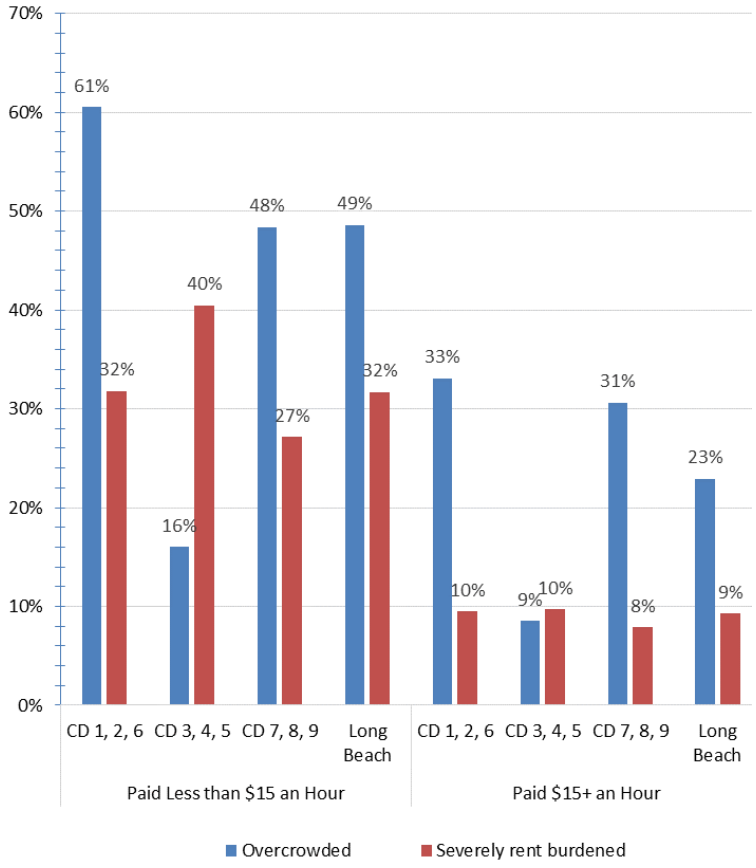
Forty-nine percent of Long Beach's resident labor force that is paid less than $15 an hour lives in overcrowded housing and 32 percent pay over half of their income for rent, as shown in *Figure 2.3*. Overcrowding means that there is more than one person per room. Severe rent burden means that 50 percent or more of household income is paid for rent.

In contrast, workers paid $15 or more an hour have less than half the levels of overcrowding and severe rent burden as their low-wage counterparts. Housing conditions for workers paid less than $15 an hour are as follows:

- Council districts 1, 2, 6
  - 61 percent of workers are overcrowded
  - 32 percent of workers are severely rent burdened
- Council districts 3, 4, 5
  - 16 percent of workers are overcrowded
  - 40 percent of workers are severely rent burdened
- Council districts 7, 8, 9
  - 48 percent of workers are overcrowded
  - 27 percent of workers are severely rent burdened

49% of Long Beach's resident labor force that is paid less than $15 an hour lives in over-crowded housing and 32% pay over half of their income for rent.

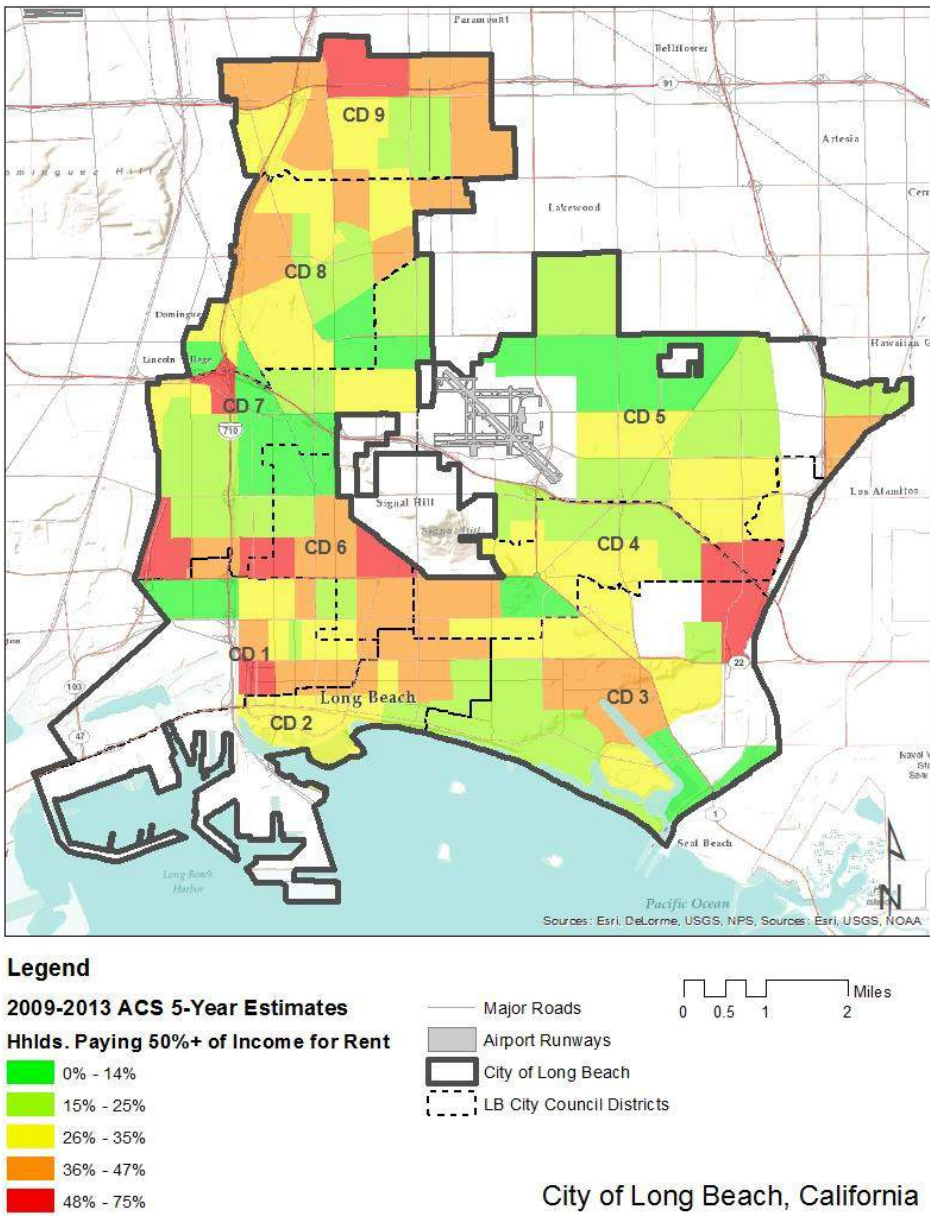
Figure 2.3 – Housing Conditions of Employed Long Beach Residents



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in the City of Long Beach and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. The $15 an hourly wage is indexed to the estimated value of the dollar in 2020, based on 2% annual inflation. This represents $13.56 in 2015 dollars. Overcrowding is more than one person per room, severe rent burden is 50 percent or more of household income paid for rent.

A census tract heat map showing the percent of Long Beach households that are severely rent burdened, paying 50 percent or more of their income for rent, is shown in *Figure 2.4*.

Figure 2.4 – Percent of Households Paying 50 Percent or More of Income for Rent



Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, Table B25070, Gross Rent as a Percent of Household Income in the Past 12 Months.

Poverty

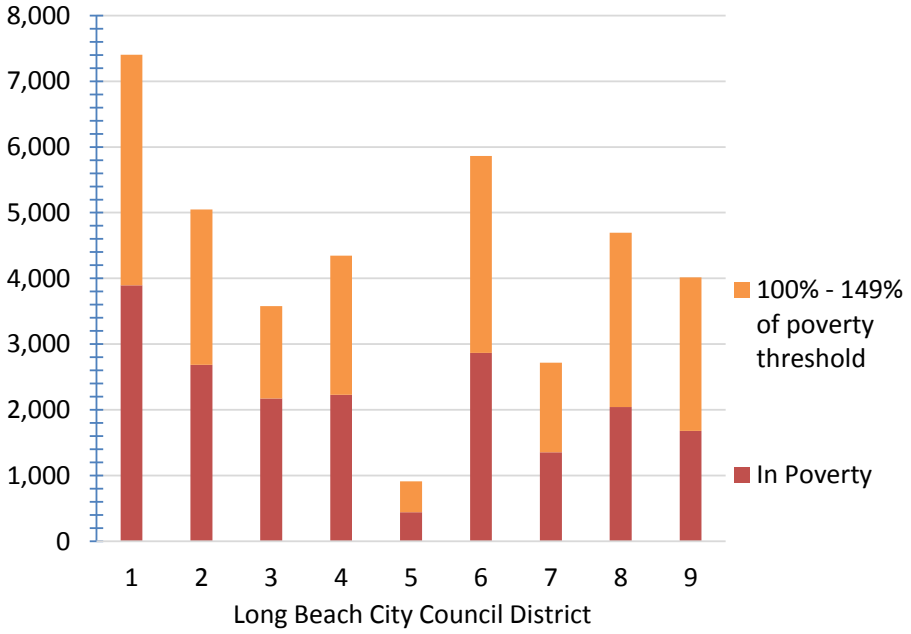
The number of residents in each council district who worked in the most recent week and were in poverty or just above the poverty threshold is shown in *Figure 2.5*. Over 19,300 *currently employed* Long Beach residents are in poverty.[2]

Council district 1 has the most working residents in poverty (3,897), followed by district 6 (2,866), and district 3 (2,686).

A census tract heat map showing the amount of workers' earned income is provided in *Figure 2.6*.

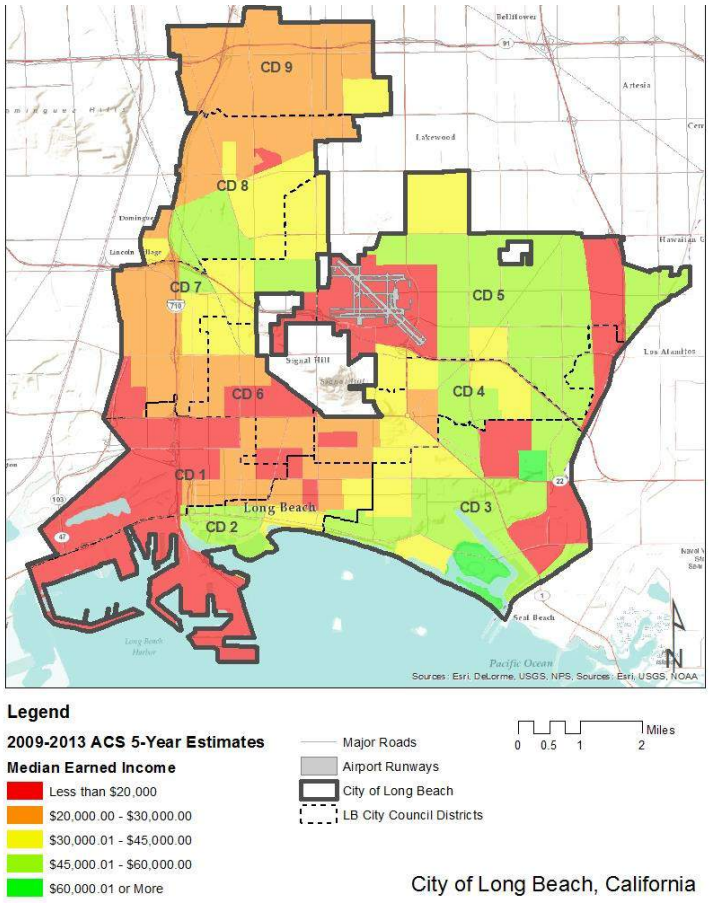
Council district 1 has the most working residents in poverty (3,897), followed by district 6 (2,866), and district 3 (2,686).

Figure 2.5 – Poverty Status of Workers Residing in Long Beach



Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, Table B08122, Means of Transportation to Work by Poverty Status in the Past 12 Months. The universe is workers 16 years of age and over for whom poverty status was determined and who were at work last week.

Figure 2.6 – Median Earned Income by Census Tract in Long Beach



Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey, Table S2001, Earnings in the Past 12 Months (in 2013 inflation-adjusted dollars).

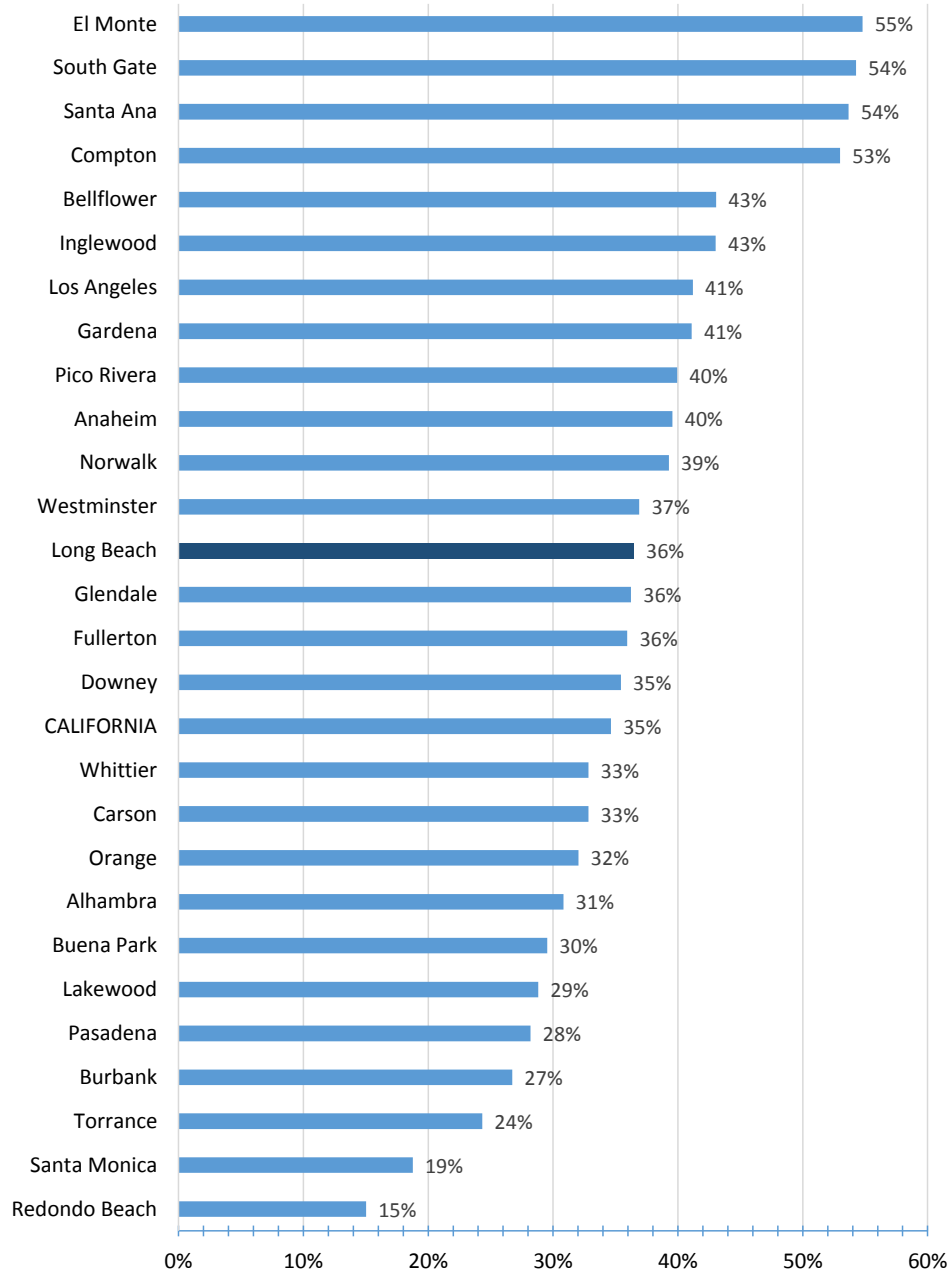
Wages for Long Beach Residents Compared to Other Cities

Workers Paid Less than $15

Low-wage jobs are more prevalent in Long Beach than in California as a whole – 36 percent vs. 35 percent of workers, as shown in *Figure 2.7*.

Long Beach's neighbors to the north, Downey, Carson and Lakewood all have smaller shares of their resident labor forces – 35, 33 and 29 percent, respectively - than Long Beach that are paid less than $15 an hour.

Figure 2.7 – Percent of Workers Living in Each City Paid Less than $15 an Hour



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in each city and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. The $15 an hourly wage is indexed to the estimated value of the dollar in 2020, based on 2% annual inflation. This represents $13.56 in 2015 dollars.

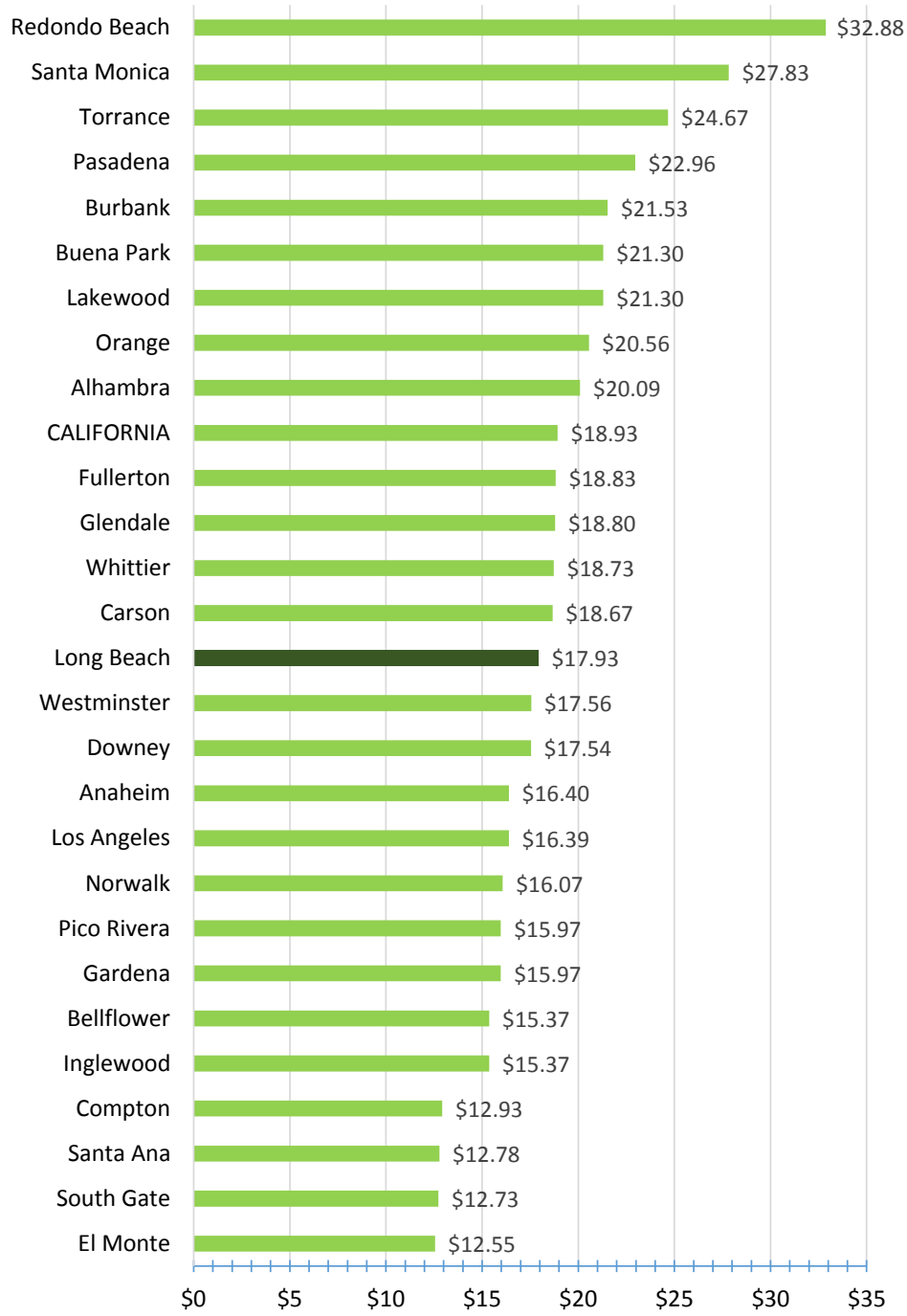
Low-wage jobs are more prevalent in Long Beach than in California as a whole - 36% vs. 35% of workers.

Median Hourly Wages Paid to Workers

The median hourly wage is lower in Long Beach than in California as a whole - $17.93 vs. $18.93 an hour.

Long Beach residents receive wages that are higher than Westminster and Downey - $17.56 and $17.54, respectively, but lower than Carson and Whittier - $18.67 and $18.73, respectively.

Figure 2.8 – Median Hourly Wage Paid to Workers Living in Each City



Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in each city and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. Hourly wages are shown in 2014 dollars.

The median hourly wage is lower in lower in Long Beach than in California as a whole - $17.93 vs. $18.93 an hour.

Median Hourly Wage for Cooks

The median hourly wage for Long Beach residents who are restaurant cooks is $10.28 an hour, as shown in *Figure 2.9*.

Restaurants are the largest employer of low-wage workers, including cooks and food preparation workers, which are the largest restaurant occupations. Cooks are the better paid of the two occupations.

Figure 2.9 – Median Hourly Wage Paid to Restaurant Cooks Living in Each City

Source: Public Use Microdata Sample records from the 2009 to 2013 American Community Surveys. Data is for workers residing in each city and employed in wage and salary jobs. Workers with less than $500 in annual earnings are excluded from the data. Hourly wage are shown in 2014 dollars.

Cooks living in Long Beach are paid less than cooks in Lakewood, Bellflower, Pico Rivera and Alhambra.

Long Beach residents who work as cooks receive slightly higher pay than the statewide average of $10.06. But cooks living in Long Beach are paid less than cooks in Lakewood, Bellflower, Pico Rivera and Alhambra. Cooks living in Lakewood are paid $10.56, and cooks living in Bellflower, Pico Rivera and Alhambra are paid $10.65.

Conclusion

Ten percent of Long Beach residents who work receive food stamps and 5 percent receive cash aid. Forty-nine percent of Long Beach residents who work but are paid less than $15 an hour live in overcrowded housing and 32 percent pay over half of their income for rent.

The problems of substandard earnings and living conditions for working residents are most acute in council *district 1* (18 percent of working residents in poverty), followed by *district 6* (15 percent of working residents in poverty), then *district 2* (11 percent of working residents in poverty), and then *district 4* (10 percent of working residents in poverty). All four districts have poverty rates among working residents that exceed the citywide average of 9 percent.

Low-wage jobs are more prevalent in Long Beach than in California as a whole – 36 percent vs. 35 percent of workers. The median hourly wage is lower in Long Beach than in California as a whole - $17.93 vs. $18.93 an hour.

Long Beach's economic standing among California cities will be strengthened by raising its minimum wage to $15.

Endnotes

[1] Wage data is derived from the American Community Survey's Public Use Microdata Sample. The unit of geography for this data is Public Use Microdata Areas (PUMAs). Long contains four PUMAs, which align reasonably closely with the council district groupings shown in this report.

[2] This data is for workers who were *employed in the most recent week*. Poverty data in the preceding chapter is for workers who were employed in the past year. The number of workers who were employed in the past year is roughly three thousand greater than the number who were employed in the past week.

Jobs Located in Long Beach

Number of Jobs in Long Beach

Long Beach's economy has been shaped by loss of aerospace and diversification into service jobs.

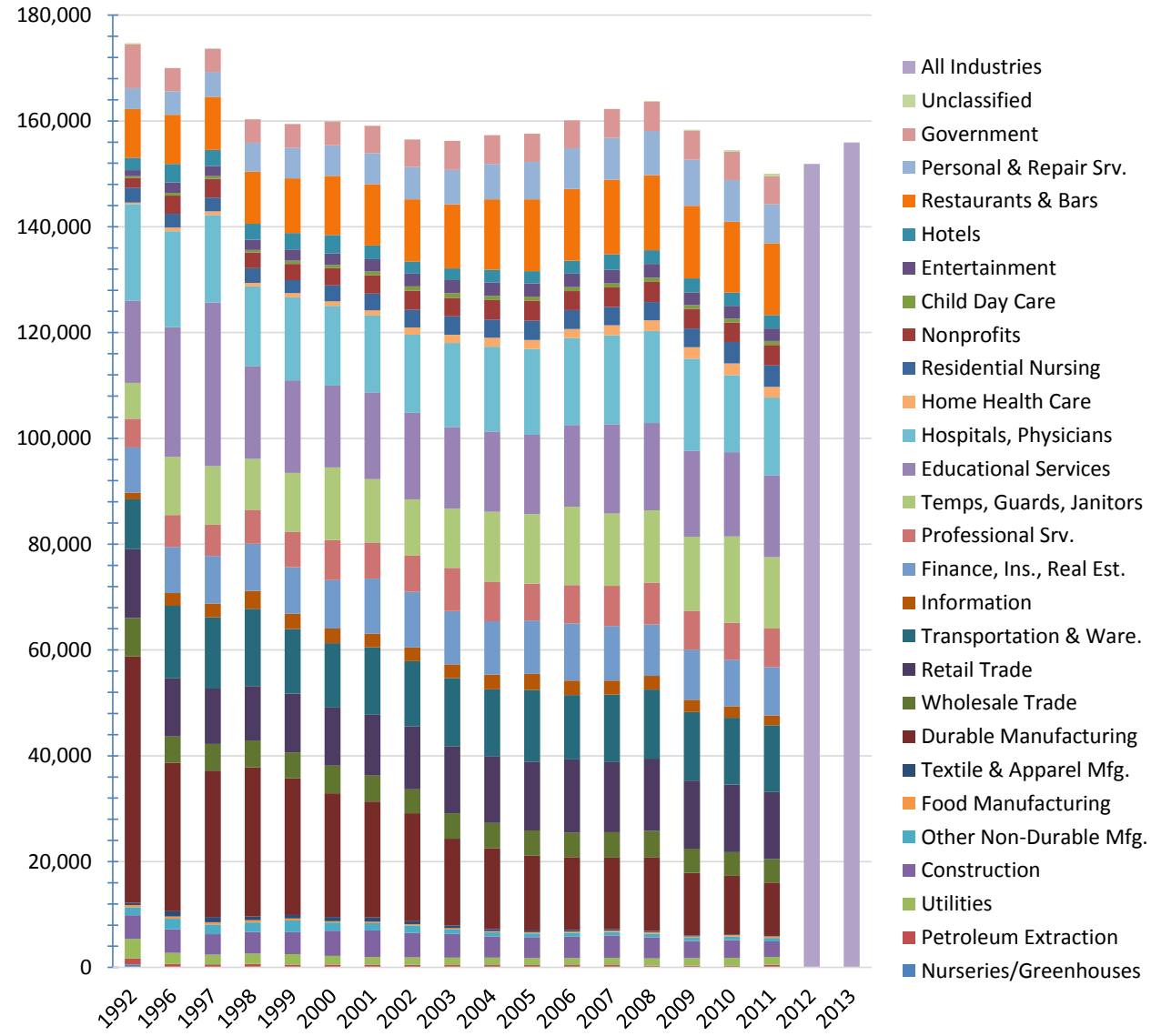
Industry Employment Trends

Following the collapse of aerospace manufacturing in 1990, Long Beach employment declined until 2004, grew until 2008, then declined in the recent recession, and has grown since 2011. Over the past 25 years, Long Beach's economy has been shaped by loss of aerospace and diversification into service jobs. Durable manufacturing, which was largely comprised of aerospace, accounted for 27 percent of jobs in 1992 and only 7 percent in 2011, as shown in *Figure 3.1.* Long Beach still has fewer jobs than in the early 1990s.

The greatest job growth has been in five industries listed below, the first three of which are low wage industries. Industries with significant growth from 1992 to 2011 include:

1. Restaurants and bars 48 percent
2. Administrative support services (temps, guards and janitors) 99 percent

Figure 3.1 – Annual Long Beach Employment by Industry



Sources: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 1992, 1996-2011; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2012-2013 data for primary jobs. Data is for jobs in the formal economy that are located in Long Beach.

3.	Personal and repair services	87 percent
4.	Transportation and warehousing	34 percent
5.	Professional, technical and scientific services	35 percent

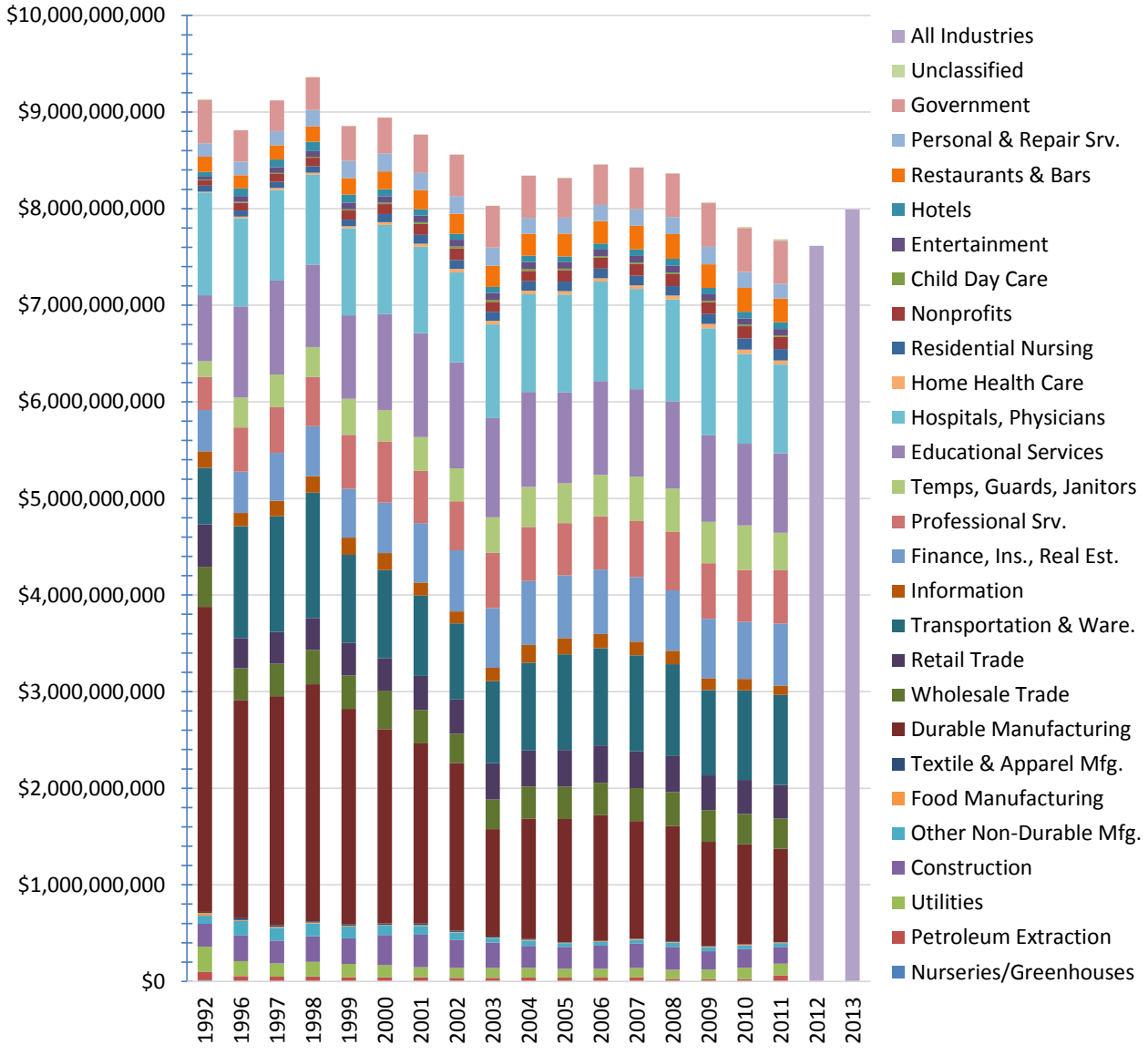
The collapse of aerospace damaged Long Beach's economy by eliminating good paying jobs not just for engineers but also for average hard working people.

Industry Payroll Trends

Durable manufacturing provided 35 percent of Long Beach's aggregate payroll in 1992 and 13 percent in 2011. As a result, total Long Beach payroll in real dollars declined 16 percent from 1992 to 2011 (the last year for which we have complete payroll data). Other industries with significant payroll decline include wholesale and retail trade with 25 and 20 percent decline, respectively, in payroll.

Total Long Beach payroll in real dollars declined 16 percent from 1992 to 2011.

Figure 3.2 – Annual Long Beach Payroll by Industry*



Source: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 1992, 1996-2011; County Business Patterns zip code data 2012-2013. Payroll shown in 2014 $.

** County Business Pattern data does not include government employment or payroll, so payroll data for 2012-2013 understates Long Beach's total payroll because it does not include wages paid to government workers.*

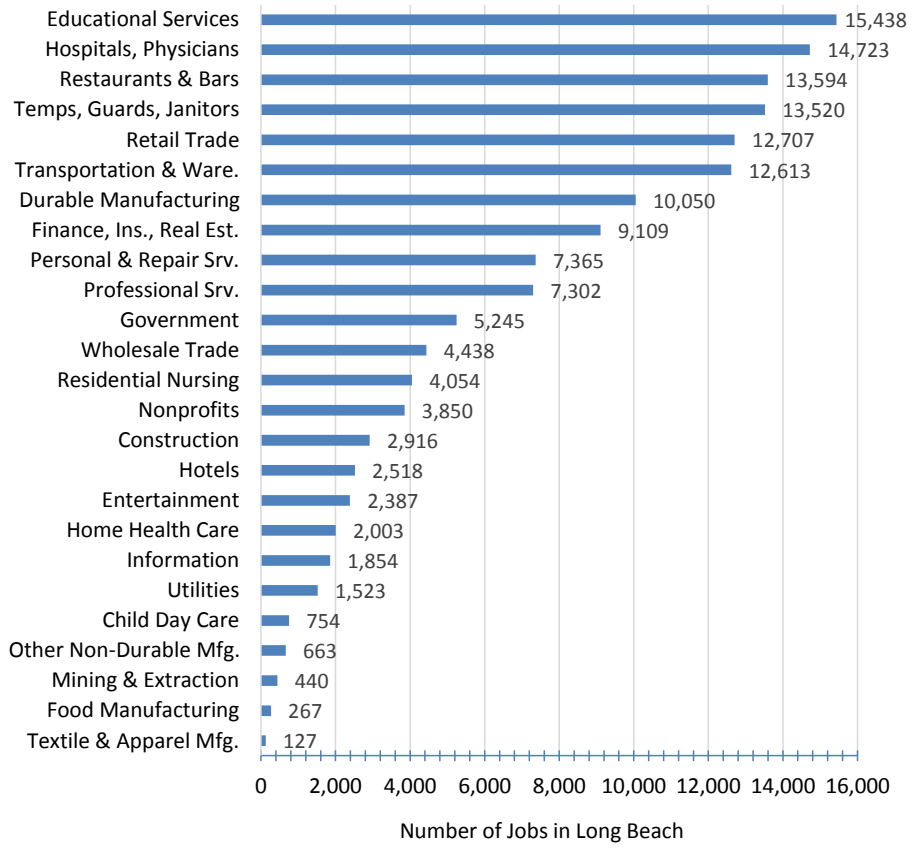
Three industries had significant growth in total payroll:

1.	Transportation and warehousing	59 percent
2.	Professional, technical and scientific services	35 percent
3.	Restaurants and bars	55 percent

Number of Jobs in Long Beach by Industry

Education and health care are Long Beach's largest employers, as shown in *Figure 3.3.*

Figure 3.3 – Industries Providing Jobs in Long Beach, 2011



Source: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 2011. Only jobs in the formal economy are shown.

Education and health care are Long Beach's largest employers.

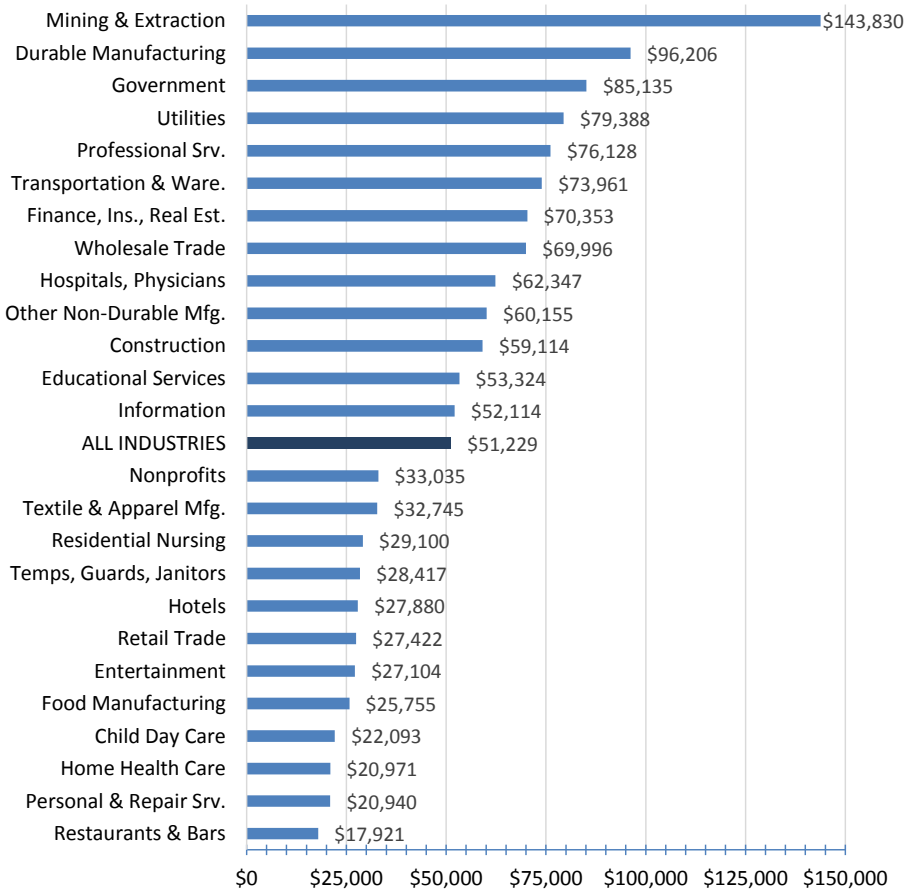
Eight industries each provided 9,000 or more jobs in the city in 2011:

1.	Educational Services	15,400
2.	Hospitals, Physicians	14,700
3.	Restaurants and Bars	13,600
4.	Administrative Support Services (temps, guards and janitors)	13,500
5.	Retail Trade	12,700
6.	Transportation and Warehousing	12,600
7.	Durable Manufacturing	10,100
8.	Finance, Insurance and Real Estate	9,100

Average Pay per Job by Industry

The average pay per job in Long Beach is $51,229, as shown in *Figure 3.4.*

Figure 3.4 – Average Wages Paid by Long Beach Industries, 2014$



Source: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 2011. Only jobs in the formal economy are shown. Wages are from 2011 data, adjusted to 2014 dollars.

The biggest low wage industry is restaurants and bars, which accounts for 9% of jobs in Long Beach.

Twelve industries have average wages below the overall average for Long Beach, as shown in *Table 3.1*. The biggest low wage industry is restaurants and bars, accounting for 9 percent of jobs in Long Beach.

Ninety-nine percent of the jobs in the industries with below average wages shown in *Table 3.1* involve one person providing face-to-face services to another person. These services are delivered by low-wage workers, while consumption of these services is concentrated among individuals with above average incomes.

Table 3.1 Average Annual Pay in Low Wage Industries and Percent of Jobs in Industries

Industry	Average Annual Pay	*Percent of Jobs*
Nonprofits	$ 33,035	3%
Textile and Apparel Manufacturing	$ 32,745	0.1%
Residential Nursing	$ 29,100	3%
Temps, Guards, Janitors	$ 28,417	9%
Hotels	$ 27,880	2%
Retail Trade	$ 27,422	8%
Entertainment	$ 27,104	2%
Food Manufacturing	$ 25,755	0.2%
Child Day Care	$ 22,093	1%
Home Health Care	$ 20,971	1%
Personal and Repair Services	$ 20,940	5%
Restaurants and Bars	$ 17,921	9%

Size Distribution of Long Beach Employers

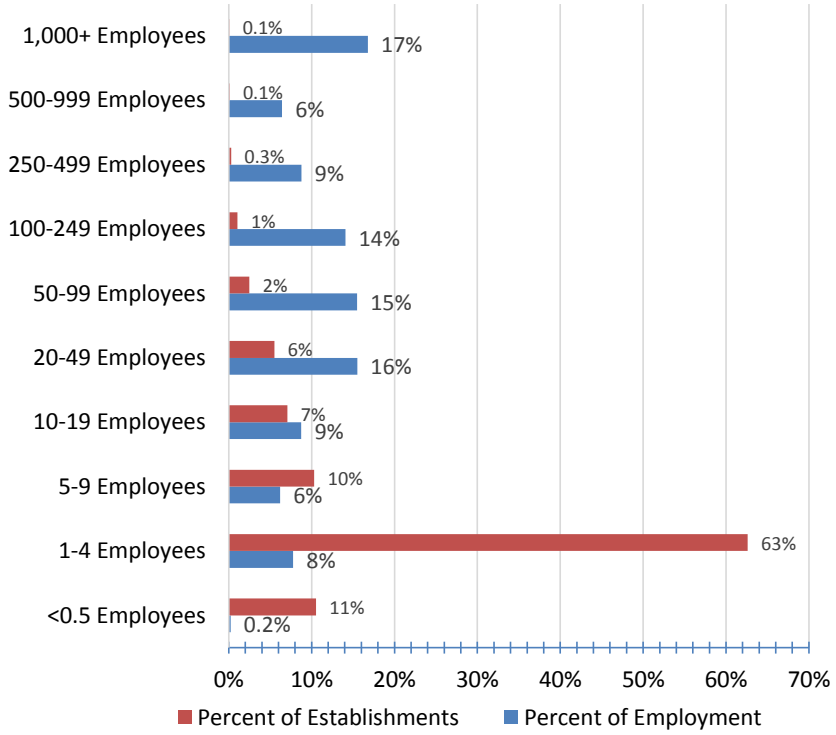
Establishments of different sizes have different roles in the city's economic ecology. Small employers are seedbeds of job generation and innovation as well as the source of most business startups and closures. Larger, more resilient employers account for most jobs.

At the upper end of the size range, a tenth of one percent of employers have one thousand or more employees, but they account for 17 percent of total employment. Only 1.5 percent of establishments have 100 or more employees and they account for 46 percent of total employment.

The majority of businesses are small: 73 percent have four or fewer employees. Combined, however, these establishments account for a minor share of total employment, only 8 percent, as shown in *Figure 3.5*. Eleven percent are "micro-employers," employing one worker for five or fewer months. They account for only a fifth of one percent of total employment.

84% of employers have 9 or less workers, but provide only 14% of jobs.

Figure 3.5 – Number of Establishments and Employees in the City of Long Beach Based on Firm Size, 2011



Source: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 2011.

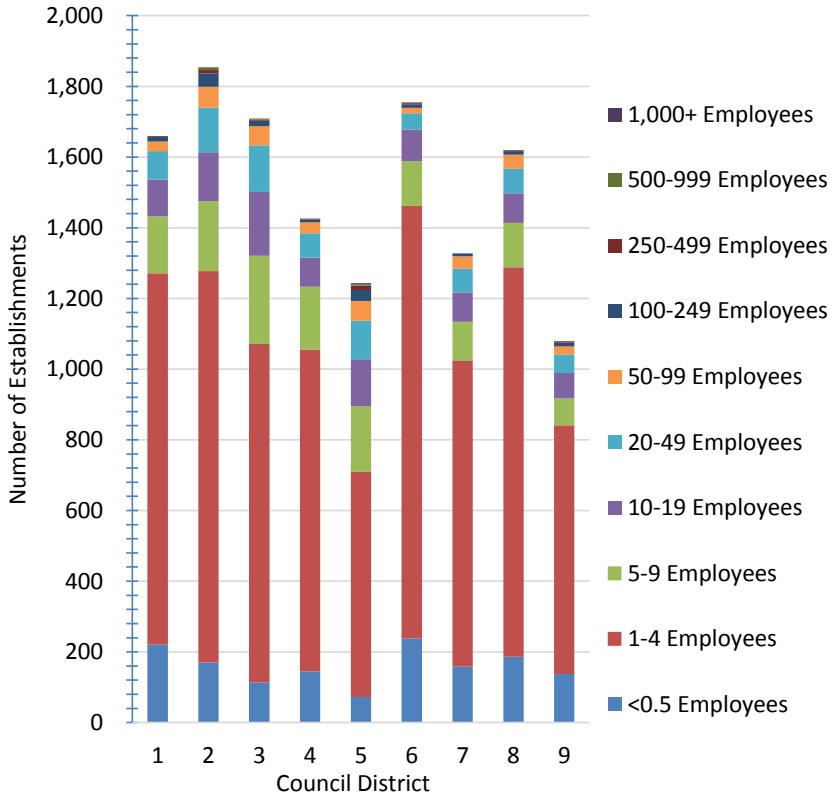
The number of employers in each council district, broken out by size, is shown in *Figure 3.6* and the number of jobs in employers of each size in each district is shown in *Figure 3.7*. District 2 has the most employers and jobs, district 6 has the most small employers, and district 9 has the least jobs.

The number of establishments and jobs in each district is detailed in *Table 3.2*.

Table 3.2 Establishments and Jobs by Council District

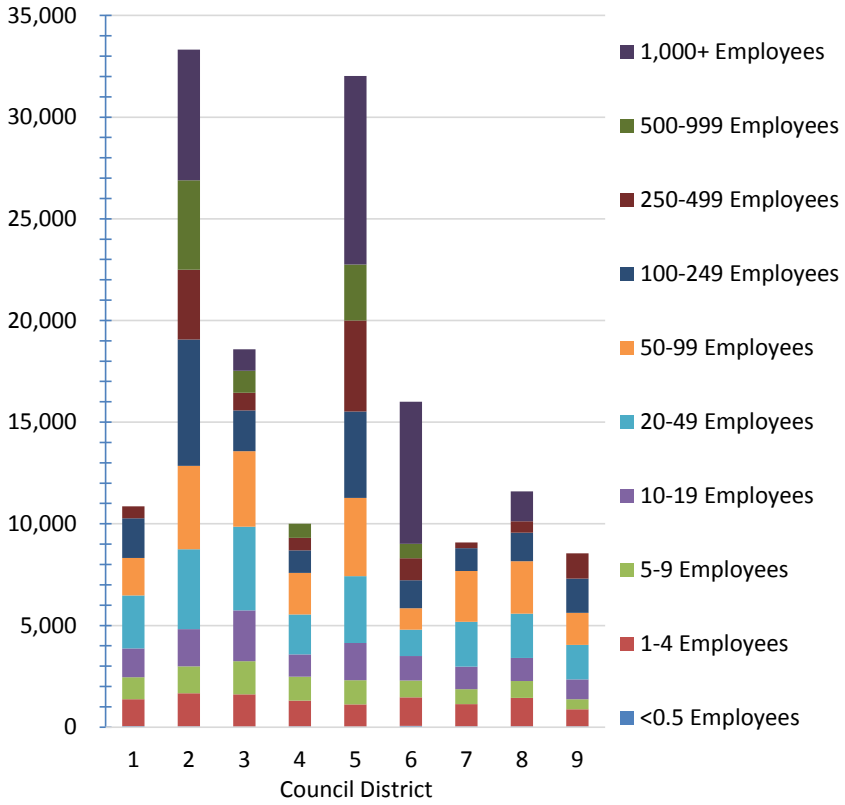
District	Establishments	Jobs in 2011
1	1,659	10,900
2	1,854	33,300
3	1,709	18,600
4	1,426	10,000
5	1,243	32,000
6	1,755	16,000
7	1,328	9,100
8	1,620	11,600
9	1,079	8,600

Figure 3.6 – Number of Establishments by Size and Council District, 2011



Source: Quarterly Census of Employment and Wages (QCEW) records for Long Beach, 2011.

Figure 3.7 – Number of Jobs by Establishment Size and Council District, 2011



Conclusion

Over the past 25 years, Long Beach's economy has been shaped by loss of aerospace and diversification into service jobs. The fastest growing service industries pay low wages – restaurants, temps, guards and janitors, and personal and repair services.

Ninety-nine percent of the jobs in the industries with below average wages involve one person providing face-to-face services to another person. These services are delivered by low-wage workers, while consumption of these services is concentrated among individuals with above average incomes.

Mom and pop employers, that is, businesses with four or fewer employees, account for only 8 percent of Long Beach's jobs. The fact that most employment is in larger, more stable establishments means that means that there is a resilient industry base in Long Beach for implementing a higher minimum wage.

Long Beach Industries that may be Sensitive to a $15 Minimum Wage

Factors that Make Industries Sensitive to Wage Increases

Overview

Raising the minimum wage will put more dollars in the pockets of workers, creating an economic stimulus. But some low-wage businesses may close.

The most credible research indicates that the net outcomes will be positive.

This chapter identifies potential risks and tools for managing risks. Crosscurrents from a higher minimum wage will include new sources of economic stimulus as well as the need for significant adjustments by low-wage businesses. Information about likely industry effects is a tool for anticipating and managing the impacts of a higher minimum wage.

We investigate 1) industry rates of employment change, 2) average wages, 3) percent of workers paid less than $15, 4) payroll as a share of revenue, 5) profit per worker, and 6) value added per worker. These six factors are analyzed to flag industries that may be most stressed by increases in the minimum wage.

A review of these six criteria suggests that six industries are likely to be most sensitive to increases in the minimum wage. Mitigating factors for potential adverse impacts on the six industries are identified below.

Other chapters of this report identify and discuss additional factors that can shape industries' success in maintaining robust employment while paying higher wages. *First*, the geographic distribution of low-wage jobs – the share that are in communities that can readily absorb slight cost increases for needed services. *Second*, the local economic stimulus that results from channeling more business revenue into paying workers' wages.

Raising the minimum wage will put more dollars in the pockets of workers, creating an economic stimulus. But some low-wage businesses may close because of difficulty adapting to higher wages. The most credible research indicates that the net outcomes will be positive.[1] Nevertheless, raising the minimum wage to $15 in five annual increments is beyond to scope of most previous studies of effects from raising the wage floor. Information in this chapter about industries that may be sensitive to the wage increase provides a road map for monitoring that should be carried out to ensure that there are no unintended consequences from raising the minimum wage.

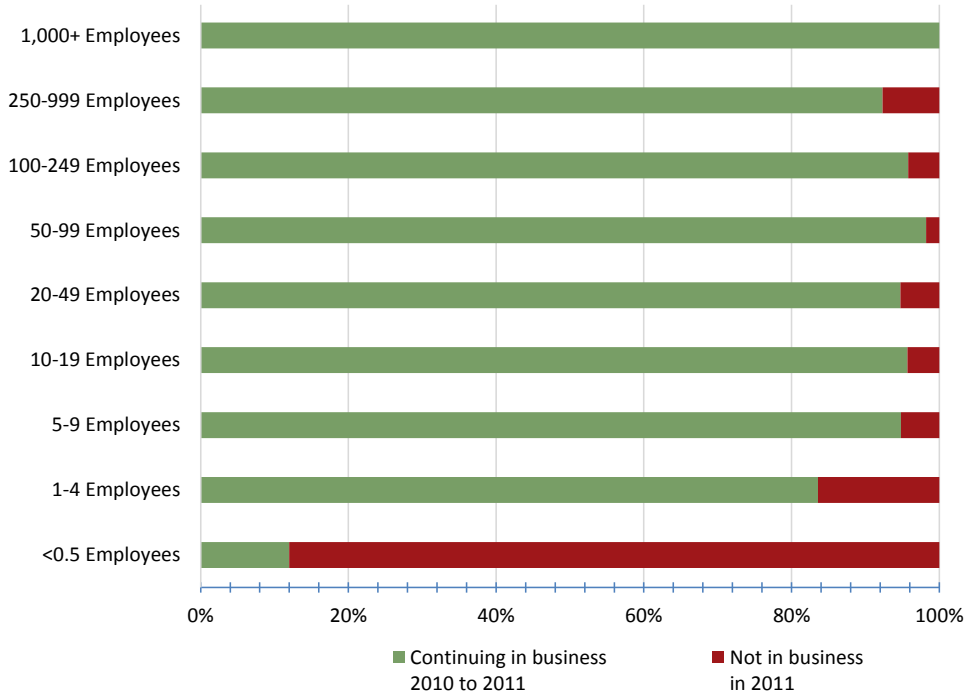
To equip the City of Long Beach to be an informed steward of its own economic well-being, we recommend a data dashboard of economic indicators for the city to use to monitor effects of the wage increase and ensure that there are not any avoidable adverse impacts. Data dashboard recommendations are provided in a later chapter of this report.

Effects of Establishment Size

Survival rates based on establishment size are consistent across industries. Establishments with five or more employees have a far higher survival rate than those that are smaller, as shown in *Figure 4.1.* Fourteen percent of establishments with one to four employees close from one year to the next, with a similar share starting up from one year to the next. Among micro establishments – those providing less than half a person-year of employment - 88 percent of establishments close from one year to the next. The elevated level of risk for going out of business among these very small employers may be heightened in sectors that rely on low-wage labor.

In contrast, 93 percent of establishments with five or more employees survive from one year to the next.

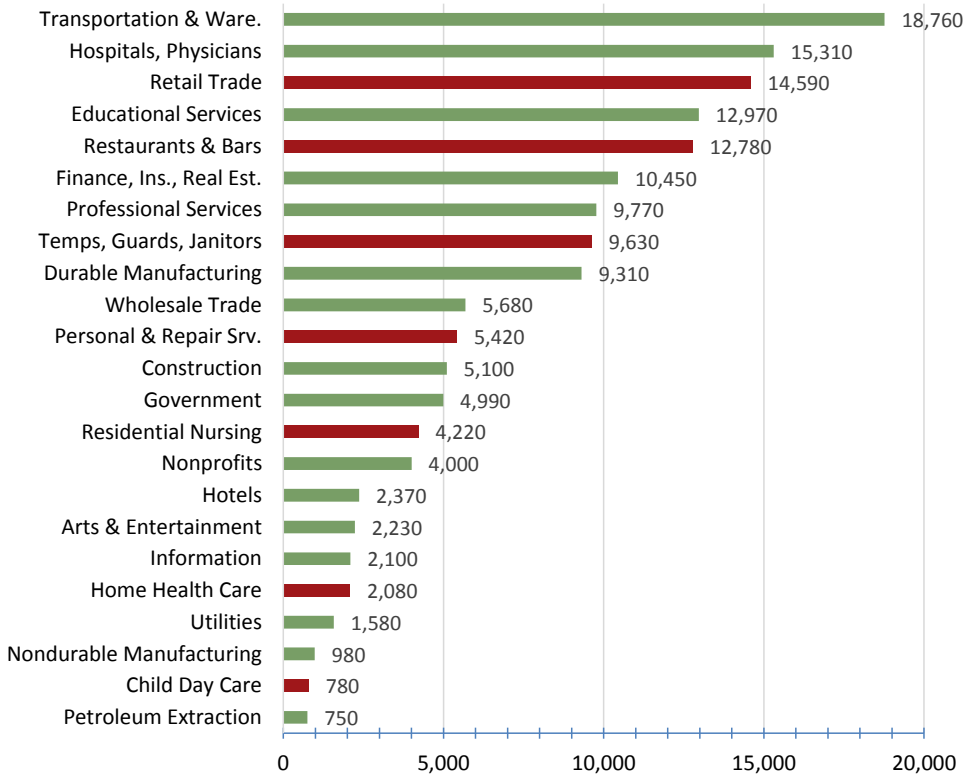
Figure 4.1 – Survival Rate for Long Beach Establishments by Employment Size



95% of establishments with 5 or more employees survive from one year to the next.

Source: ES-202 records for the City of Long Beach 2010-2011. Only establishments in the formal economy are shown. Private household employers are excluded.

Figure 4.2 – Jobs in Long Beach Establishments by Industry Sector, 2013



Source: Longitudinal Employer-Household Dynamics (LEHD) origin-destination and residence area files (2013). Data is for primary jobs. Only jobs in the formal economy are shown. Low wage industries highlighted in red.

In the normal course of events, there is stability among all but very small employers, and a high rate of closures and start-ups among very small employers. This pattern should be monitored during the course of raising the minimum wage, to assess whether there may be adverse effects from wage increases.

Following implementation of the minimum wage increase, higher concentrations of start-ups in low-income communities would be evidence that the increase in take-home pay is diversifying and broadening business growth.

Industry Size

There are 155,950 wage and salary jobs in Long Beach's formal economy.

The most recent employment data for Long Beach establishments is from 2013. There are 155,950 wage and salary jobs in Long Beach's formal economy, as shown in *Figure 4.2*, with low-wage industries denoted by *red bars*.[2] Five industry sectors provide nearly half of all jobs:

1.	Transportation and Warehousing	18,760 jobs	12 percent of all jobs
2.	Hospitals and Physicians	15,310 jobs	10 percent of all jobs
3.	Retail Trade	14,590 jobs	9 percent of all jobs
4.	Educational Services	12,970 jobs	8 percent of all jobs
5.	Restaurants and Bars	12,780 jobs	8 percent of all jobs

Industry Growth and Decline

Long Beach's industry structure changes steadily as markets for products and services change. Impacts to a particular industry are better understood in the context of these growth dynamics.

The typical number of jobs that each industry sector in Long Beach gained or lost each year over the past 18 years, that is from 1996 through 2013, is shown in *Figure 4.3*. The rate at which each sector grew or declined is shown in *Figure 4.4*.

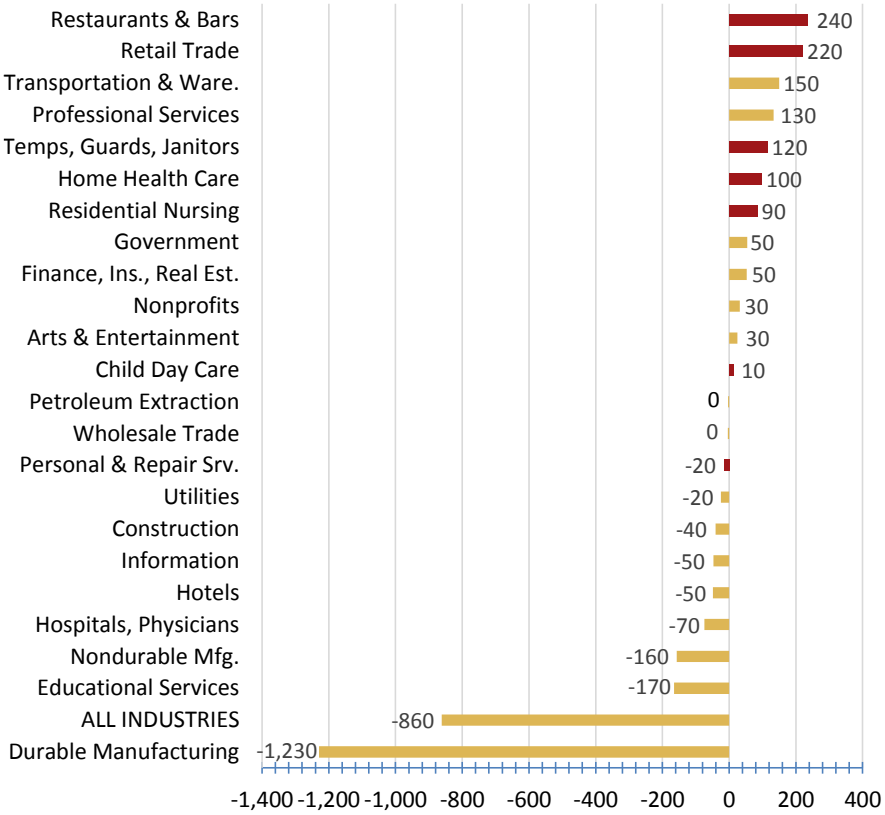
Six industry sectors have each grown by a hundred or more jobs a year:

1.	Restaurants and Bars	240 additional jobs a year
2.	Retail Trade	220 additional jobs a year
3.	Transportation and Warehousing	150 additional jobs a year
4.	Professional Services	130 additional jobs a year
5.	Temps, Guards, Janitors	120 additional jobs a year
6.	Home Health Care	100 additional jobs a year

Four of these industries with the largest growth pay low wages to many workers – *restaurants*, *retail*, *temps, guards and janitors*, and *home health care* - demonstrating the need for a higher wage floor to ensure that employees in Long Beach are able to support themselves and their families through work.

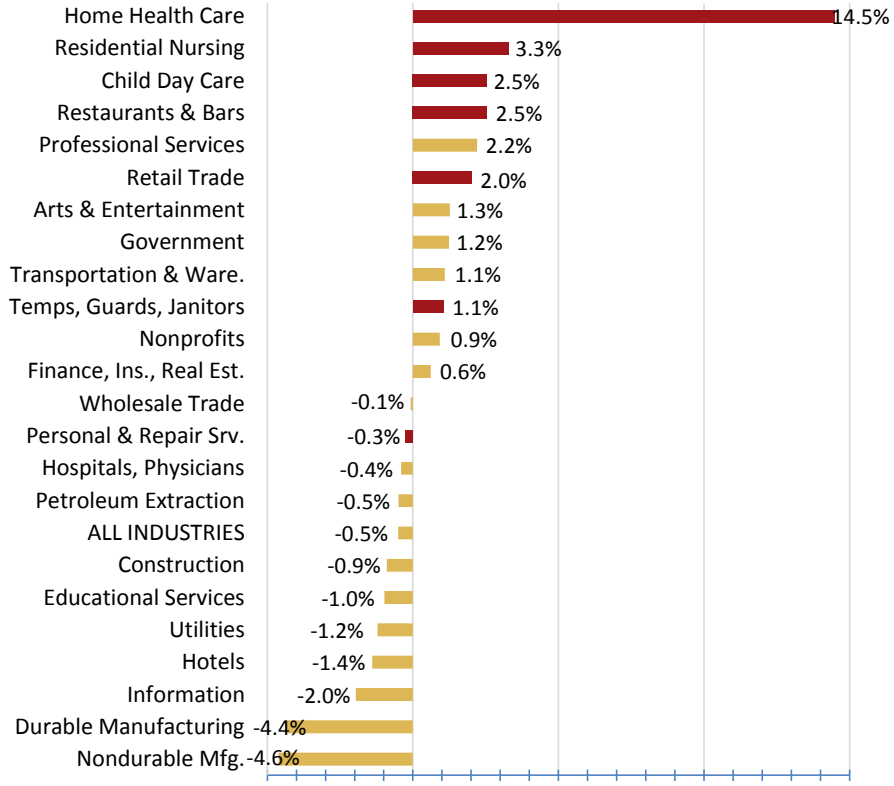
One industry sector has dominated job loss in Long Beach – *durable manufacturing* - losing an average of 1,230 jobs a year since 1996. This has created a negative job balance sheet for the city, with net losses for all industries averaging 860 jobs a year. However, this linear average does not reflect the fact shown elsewhere in this report that Long Beach has achieved job growth after each recession, most recently with strong growth since 2011.

Figure 4.3 – Annual Employment Change in Long Beach Industries, 1996-2013



Source: ES-202 records for the City of Long Beach, 1996-2011. Longitudinal Employer-Household Dynamics origin-destination and residence area files 2012-2013, data for primary jobs. Only jobs in the formal economy are shown. Low wage industries highlighted in red.

Figure 4.4 – Rate of Annual Employment Change in Long Beach Industries, 1996-2013



Four industries with the largest growth pay low wages to many workers – restaurants, retail, temps, guards and janitors, and home health care - demonstrating the need for a higher wage floor.

Six industries have averaged two percent or more annual growth over the past 18 years, with remarkable annual growth of over 14 percent in the *home health care* industry:

1. Home Health Care — 14.5 percent annual job growth
2. Residential Nursing — 3.3 percent annual job growth
3. Child Day Care — 2.5 percent annual job growth
4. Restaurants and Bars — 2.5 percent annual job growth
5. Professional Services — 2.2 percent annual job growth
6. Retail Trade — 2.0 percent annual job growth

Five out of six of Long Beach's most rapidly growing industries pay low wages.

Five out of six of Long Beach's most rapidly growing industries pay low wages to many workers – all but *professional services*.

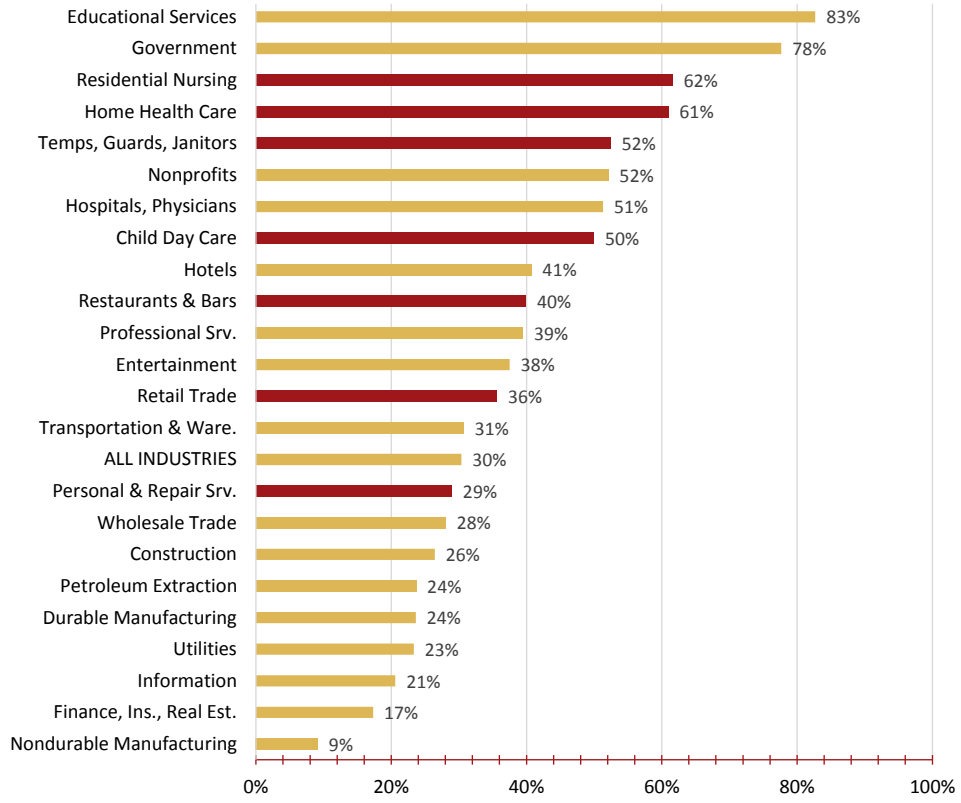
Sectors with the highest rate of job loss are high-wage industries, undercutting the strength of Long Beach's wage structure. Three industries have averaged two percent or more annual job decline over the past 18 years:

- Nondurable Manufacturing — -4.6 percent annual job loss
- Durable Manufacturing — -4.4 percent annual job loss
- Information — -2.0 percent annual job loss

Share of Industry Revenue Used to Compensate Workers

The likely impact of minimum wage increases on employers can be understood more clearly by considering three other factors: wages as a share of industry revenue, the amount of value created in the economy by each worker, and profit per worker. This data is available only at the county level, but is valuable for understanding the financial environment of Long Beach businesses.

Figure 4.5 - Percent of Industry Revenue Used to Pay Workers



Source: IMPLAN 2013 data and model of Los Angeles County economy. Low wage industries highlighted. Data is for jobs in the total economy, including informal jobs.

The percent of industry revenue that goes toward compensating workers is shown in *Figure 4.5*. Low-wage industries with a large share of their outlays going for payroll costs will have to change their business models to pay $15 and some may have difficulty adapting to this change.

On average, industries in Los Angeles County spend 30 percent of revenue on employee compensation. However, some industries are more labor intensive than others. Six labor-intensive, low-wage industries pay an above-average percent of their revenue on payroll: *residential nursing care* (62 percent), *home health care* (61 percent) *temps, guards and janitors* (52 percent), *child day care* (50 percent), *restaurants and bars* (40 percent), and *retail trade* (36 percent).

Given the high proportion of revenue that goes toward compensating workers in these industries and the very low wages of much of their labor force, some establishments in these industries will need to mitigate the impacts of increased labor costs with other strategies. Possible strategies are discussed below in profiles of the six industries that appear most sensitive to the effects of raising the wage floor.

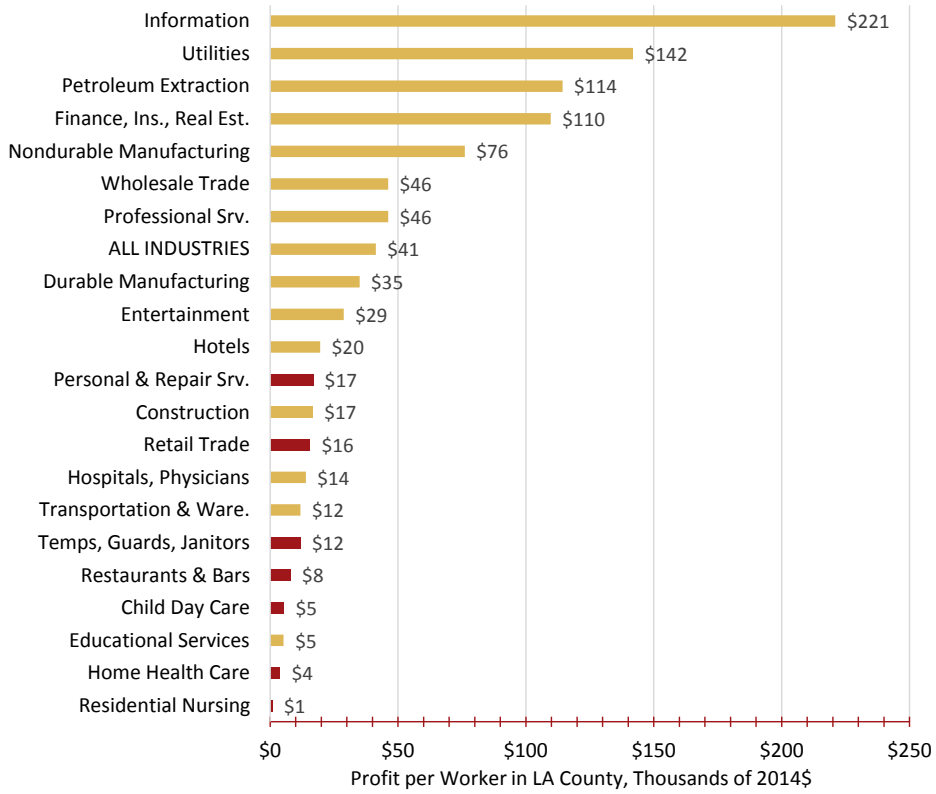
Low-wage industries with a large share of their outlays going for payroll costs will have to change their business models to pay $15 and some may have difficulty.

Profit per Worker

Industries with higher levels of profit per worker have an option to reallocate a portion of profit to offset higher labor costs. Overall, industries in Los Angeles County generate an average of $41,000 in profit per worker, as shown in *Figure 4.6*.

Four industries pay low wages and generate under $10,000 per year in profit per worker: *residential nursing care* ($882 profit), *home health care* ($3,855), *child day care* ($5,406), and *restaurants and bars* ($7,974). These industries account for 17 percent of Long Beach's employment.

Figure 4.6 - Profit per Worker



Source: IMPLAN 2013 data and model of Los Angeles County's economy. Low wage industries highlighted. Dollars adjusted to 2014 value.

Industries with low levels of profit per worker and a low-wage labor force may find it necessary to increase prices or reduce non-labor outlays in order to pay a higher minimum wage.

Value Added per Worker

Paying higher wages for services that continue to be purchased within the region will increase the economic value these industries contribute to the economy.

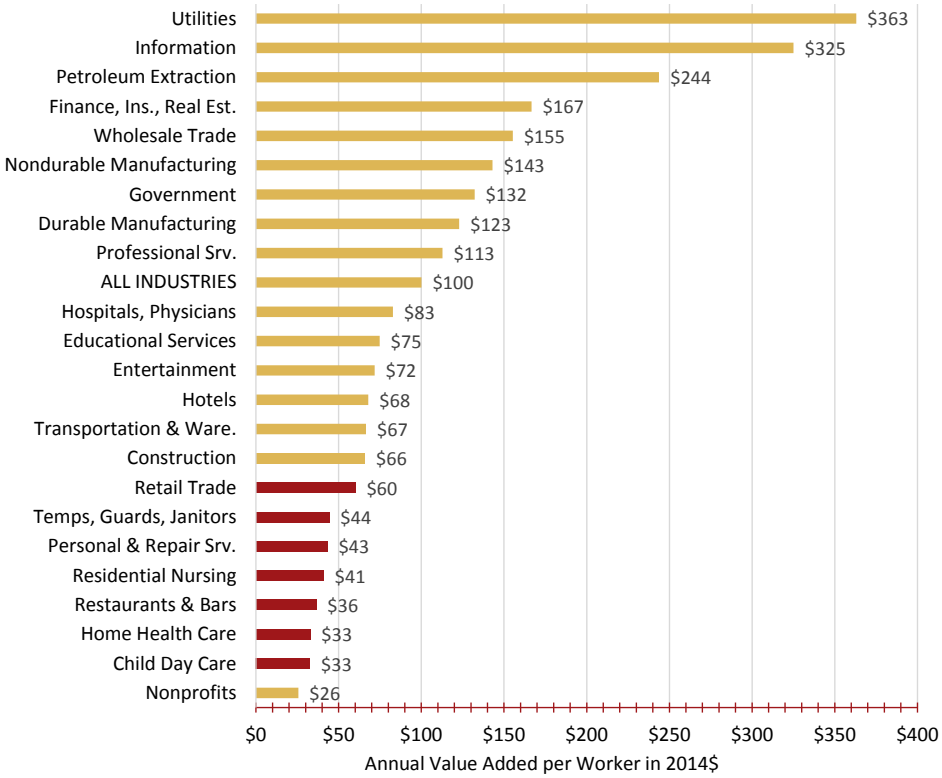
An important indicator to consider for assessing impacts of a higher minimum wage on Long Beach industries is the measure of value added per worker. Wages paid to workers who provide the services that generate revenue comprise a major portion of the value that establishments create. The value created by industries roughly equates to the sum of profit *plus* employee compensation *plus* taxes.[3] Los Angeles County industries add an average of $100,000 in value a year per worker, as shown in *Figure 4.7*.

Low-wage, labor-intensive industries are likely to add low levels of value per worker. Six low-wage industries add less than $50,000 a year in value per worker: *child day care* ($32,650), *home health care* ($32,926), *restaurants and bars* ($36,461), *residential nursing care* ($40,932), *personal and repair services* ($43,253), and *temps, guards and janitors* ($44,424). These industries account for 28 percent of Long Beach's employment.

Low levels of added value are in large measure an outgrowth of low wages. **Paying higher wages for services that continue to be purchased within the region will increase the economic value these industries contribute to the economy.**

The success of service establishments in paying higher wages and thereby increasing the amount of value they create will be shaped by the three factors identified earlier: the geographic distribution of low-wage jobs, the local economic stimulus from channeling more business revenue to paying workers' wages, and the agility of employers in adjusting their business models to pay sustaining wages.

Figure 4.7 – Value Added per Worker



Source: IMPLAN 2013 data and model of Los Angeles County's economy. Low wage industries highlighted. Dollars adjusted to 2014 value.

Industries with Revenue and Wages Set by Other Government Bodies

State and federal funding will also impact the feasibility of raising the minimum wage. At least two low-wage industries obtain a substantial share of their revenue from government agencies and are dependent on those entities to provide reimbursement rates that will support wage increases. The first is *home health care services*, which receives much of its funding from the California Department of Social Services. The second is *nursing and residential care*, which receives a substantial share of its funding through Medicare and Medi-Cal.

Enforcement of wage standards in these industries will need to take into account the approval process required to fund higher labor costs. These industries account for 4 percent of employment in Long Beach.

Industries that are Most Sensitive to Wage Increases

Summary of Industry Effects

Indicators of industry sensitivity to a higher minimum wage are summarized in *Table 4.1.* Six areas of potential sensitivity are flagged when they are present for an industry.

1. *Declining industries*: Annual job loss of 1.5 percent or more of 1996 employment in contrast to overall industry-wide annual decline that was equivalent to 0.5% of 1996 employment.
2. *Low-wage industries*: Average pay that is 80 percent or less (<$40,983) of the average for all industries, which was $51,229.
3. *Large sub-minimum labor force*: Fifty percent or more of workers paid less than $15 (in 2020 dollars), compared to the citywide average of 36 percent.
4. *Labor intensive industries*: Industries in which compensation to workers (wages and employee benefits) is equal to 40 percent or more of industry revenue (i.e., output) in 2013.
5. *Low profit industries*: Industries in which profit per worker in 2013 was less than $15,000.
6. *Low productivity industries*: Industries in which value added per worker in 2013 was less than $60,000.

Six industries providing 22% of wage and salary jobs have four or more factors indicating that they may be sensitive to a higher minimum wage.

Six Industries Flagged

Six industries providing 22 percent of wage and salary jobs have four or more factors indicating that they may be sensitive to a higher minimum wage. We have flagged these industries, and particularly smaller businesses within the industries, for close monitoring throughout the five annual increments of minimum wage increases. Each of these industries is discussed below.

1. *Temps, Guards and Janitors (Administrative support; waste management and remediation services):* This industry accounts for six percent of the city's jobs. Employment is growing in contrast to long-term overall city loss. Average industry wages are a little over half of the level in the city's overall labor market. Over half of workers are paid less than $15 an hour. Worker pay consumes over half of industry revenue. Profit per worker is less than a third of the labor

Table 4.1 Indicators of Industry Sensitivity to Minimum Wage Increases

	Jobs in Long Beach Formal Economy[1]			Long Beach Resident Workers[2]	Los Angeles County Industries, Total Economy[3]			
Industry	Long Beach jobs 2013	Annual job chg. as % of 1996 emp.	Average annual pay	% of workers paid less than $15	Wages as % of 2013 output	Profit per worker 2013	Value added per worker 2013	
ALL INDUSTRIES	155,945	-0.5%	$51,229	36%	30%	$41,340	$100,059	
Petroleum Extraction	749	-0.5%	$143,830	2%	24%	$114,350	$243,762	
Utilities	1,577	-1.2%	$79,388	4%	23%	$175,464	$433,600	
Construction	5,104	-0.9%	$59,114	33%	26%	$16,727	$65,867	
Non-Durable Mfg.	979	-4.6%	$48,169	40%	9%	$76,115	$143,021	
Durable Manufacturing	9,312	-4.4%	$96,206	26%	24%	$34,996	$122,839	
Wholesale Trade	5,681	-0.1%	$69,996	35%	28%	$46,198	$155,264	
Retail Trade	14,591	2.0%	$27,422	55%	36%	$15,689	$60,174	
Transportation & Ware.	18,764	1.1%	$73,961	31%	31%	$21,443	$76,116	
Information	2,095	-2.0%	$52,114	19%	21%	$220,972	$325,106	
Finance, Ins., Real Est.	10,446	0.6%	$70,353	21%	17%	$77,537	$128,369	
Professional Services	9,771	2.2%	$76,128	16%	39%	$46,154	$112,824	
Temps, Guards, Janitors	9,626	1.2%	$28,417	52%	**52%**	**$12,710**	**$45,653**	✓
Educational Services	12,968	-1.0%	$53,324	21%	**83%**	**$4,175**	**$52,471**	
Hospitals, Physicians	15,309	-0.4%	$62,347	24%	**51%**	**$4,176**	$82,854	
Home Health Care	2,082	14.5%	$20,971	62%	**61%**	**$3,855**	**$32,926**	✓
Residential Nursing	4,215	3.3%	$29,100	50%	**62%**	**$3,856**	**$40,932**	✓
Nonprofits	4,004	0.9%	$33,035	44%	**52%**		**$25,614**	
Child Day Care	784	2.5%	$22,093	59%	**50%**	**$5,406**	**$32,650**	✓
Entertainment	2,231	1.3%	$27,104	47%	38%	$28,819	$71,705	
Hotels	2,366	-1.4%	$27,880	54%	**41%**	$19,610	$67,888	
Restaurants & Bars	12,776	2.5%	$17,921	69%	40%	**$7,974**	**$36,461**	✓
Personal & Repair Srv.	5,420	-0.3%	$20,940	58%	29%	**$7,975**	**$43,253**	✓
Government	4,991	-0.3%	$85,135	18%	**78%**		$105,950	

Criteria for highlighting potential industry sensitivities:

1. Annual job loss from 1996 through 2013 as % of 1996 employment is 1.5% or more.
2. Average pay in 2011, adjusted to 2014 dollars: pay 80% or less of the average for all industries (<$40,983).
3. Percent of workers below $15: 50% of workers below $13.56 in 2015 dollars, equivalent to $15 in 2020.
4. Worker pay as % of output 2013: labor costs that are 40% or more of output.
5. Profit per worker 2013: annual profit <$15,000 per worker in 2013, adjusted to 2014 dollars.
6. Value added per worker in 2013: value added of less than <$60,000 per worker.
7. Sensitivity flag: four or more highlighted impacts for an industry.

Data Notes:

1. Data for jobs located in in the City of Long Beach formal economy from 1996 to 2011 are from the source data for the Quarterly Census of Employment and Wages (QCEW), and data for 2012-2013 are from Longitudinal Employer-Household Dynamics origin-destination and residence area files. Dollar values have been adjusted to 2014 dollars.

2. Long Beach resident worker data is from the American Community Survey PUMS 2009-2013 for workers living in the city. See the Methods Appendix for details. The percent of workers below $15 is based on 2020 dollars, or $13.56 in current dollars.

3. Los Angeles County industry data is from IMPLAN data for Los Angeles County in 2013. It includes all jobs, both formal and informal, located in the county. All dollar values have been adjusted to 2014 dollars.

market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is less than half of the average for the overall labor market.

Potential mitigating factors: Fifty-six percent of temps, guards and janitors employment is in establishments with 100 or more employees that have high resilience. All of the revenue for this industry comes from services provided to other industries. These client industries are likely to have the capacity to pay higher costs to offset wage increases.

All of these jobs entail providing needed face-to-face services for other residents and businesses.

2. *Home Health Care Services:* This industry accounts for one percent of the city's jobs. Employment is growing very rapidly – 14.5 percent per year - and is likely to continue growing as the population ages. Average industry wages are less than half of the level in the city's overall labor market. Sixty-two percent of workers are paid less than $15 an hour. Worker pay consumes over sixty percent of industry revenue. Profit per worker is less than a tenth of the labor market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is less than half of the labor market average. Much of the revenue for this industry comes from the California Department of Social Services.

   Potential mitigating factor: Forty-two percent of employment is in establishments with 100 or more employees that have high resilience. Although there may be delay, the California Department of Social Services is likely to raise compensation levels to offset the cost of Long Beach's higher minimum wage.

3. *Residential Care and Nursing Facilities:* This industry accounts for three percent of the city's jobs. Employment is growing rapidly and is likely to continue growing as the population ages. Average industry wages are a little over half of the level in the city's overall labor market. Over half of workers are paid less than $15 an hour. Worker pay consumes over sixty-two percent of industry revenue. Profit per worker is less than a tenth of the labor market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is less than half of the labor market average.

   Potential mitigating factor: Sixty percent of employment is in establishments with 100 or more employees that have high resilience. Much of the revenue for this industry comes from Medicare and Medi-Cal. Although there may be delay, reimbursement rates are likely to adjust to reflect prevailing labor costs in Long Beach.

4. *Child Day Care Services:* This industry accounts for half of one percent of the city's jobs. Employment is growing rapidly. Average industry wages are very low – less than half of the level in the city's overall labor market. Fifty-nine percent of workers are paid less than $15 an hour. Worker pay consumes half of industry revenue. Profit per worker is slightly more than a tenth of the labor market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is a third of the labor market. Only 14 percent of employment is in establishments with 100 or more employees that have high resilience.

   Potential mitigating factor: This industry provides an essential service for working parents. It may prove to be the case that higher wages for working parents will make it possible to offset higher labor costs by increasing the price for child care services. As with other industries that are sensitive to a higher wage floor, outcomes for this industry should be monitored.

5. *Restaurants and Bars:* This industry accounts for eight percent of the city's jobs. Employment is growing rapidly. Average industry wages are very low – roughly a third of the level in the city's overall labor market, although many jobs are part

The estimated increase in operating costs across all industries from a $15 minimum wage is 0.9%.

time. Sixty-nine percent of workers are paid less than $15 an hour. Worker pay consumes 40 percent of industry revenue. Profit per worker is about a sixth of the labor market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is a third of the labor market average. Only 18 percent of employment is in establishments with 100 or more employees that have high resilience.

A study carried out for the City of Los Angeles by the UC Berkeley's Institute for Research on Labor and Employment found that raising the minimum wage to $15 will increase restaurant operating costs by only 7.8 percent. This estimate takes account of both increased payroll costs and savings from reduced employee turnover.[4]

Potential mitigating factor: This is a fast growing industry provides a widely used and appreciated service. It may prove to be the case that higher wages for workers will have stimulus effects that increase consumption in this industry despite the likelihood of some price increases.

6. *Personal and Repair Services:* This industry accounts for six percent of the city's jobs. Employment is declining slightly. Average industry wages are very low – a little over a third of the level in the city's overall labor market. Fifty-eight percent of workers are paid less than $15 an hour. Profit per worker is about a fifth of the labor market average, leaving little room to reallocate profit to pay for higher wages. Value added per worker is about half of the labor market average. Only 21 percent of employment is in establishments with 100 or more employees that have high resilience.

   Potential mitigating factor: This industry provides widely used and appreciated services. It may prove to be the case that higher wages for workers will have stimulus effects that increase consumption in this industry despite the likelihood of some price increases.

In summary, outcomes in at least six industries should be carefully monitored. However, there is little evidence that potential job attrition in these industries will outweigh the likely stimulus effect from: 1) retaining a greater share of industry revenue in the region and 2) putting increased wages in the pockets of households that are likely to quickly recycle all of their added income back into the local economy.

The six industries that are likely to be most sensitive to minimum wage increases provide about a fifth of the city's jobs. All of these jobs entail providing needed face-to-face services for other residents and businesses. Eighty-four percent of these jobs are in growing industries. It is reasonable to anticipate that demand for the services provided by these workers will remain resilient.

The most important conclusion to draw from this analysis of potential industry impacts is that the economic outcomes from raising the minimum wage to $15 cannot be known with certainty in advance of implementing the increases and that careful industry monitoring of the effects of raising the wage floor is essential throughout the five years in which sequential increases will occur. Later in the report we discuss methods for carrying out this monitoring.

Conclusion

Long Beach's industry base has been restructured as a result of declining aerospace employment following the end of the Cold War. Rapidly growing industries that pay low wages to most of their workers include:

- Retail Trade
- Restaurants and Bars
- Temps, Guards and Janitors
- Residential Nursing
- Home Health Care

The replacement of high-wage manufacturing jobs by low-wage service jobs makes it important to raise the wage floor to ensure that employees in Long Beach are able to support themselves and their families through work.

An analysis of 1) industry rates of employment change, 2) average wages, 3) percent of workers paid less than $15, 4) payroll as a share of revenue, 5) profit per worker, and 6) value added per worker identified six industries are likely to be most sensitive to increases in the minimum wage:

1. Temps, Guards and Janitors (Administrative support; waste management and remediation services)
2. Home Health Care Services
3. Residential Care and Nursing Facilities
4. Child Day Care Services
5. Restaurants and Bars
6. Personal and Repair Services

These six industries provide 22 percent of Long Beach's jobs, and all are in the service sector, providing needed face-to-face services for other residents and businesses.

The stresses from a $15 minimum wage are likely to be greatest for establishments with one to four employees, which have an 86 percent year-to-year survival rate, compared to a 93 percent rate for larger establishments.

Industry outcomes from raising the minimum wage should be carefully monitored over the five annual increments of stepped wage increases that are being proposed. However, there is little evidence that potential job attrition in these industries will outweigh the net gains to the economy from the increased buying power of Long Beach's labor force.

Endnotes

[1] Important studies of the effects of minimum wage increases include:

- Aaronson, Daniel and Eric French (2013) *How Does a Federal Minimum Wage Hike Affect Aggregate Household Spending?* The Federal Reserve Bank of Chicago, Chicago Fed Letter, August 2013, Number 313. Available at: http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/2013/cflaugust2013_313.pdf
- Allegretto, Sylvia, Arindrajit Dube, Michael Reich and Ben Zipperer (2013), *Credible Research Designs for Minimum Wage Studies*, Working Paper, Institute for Research on Labor and Employment, UC Berkeley. Available at: http://www.irle.berkeley.edu/workingpapers/148-13.pdf.
- Belman, Dale and Paul J. Wolfson (2014), *What Does the Minimum Wage Do?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan.
- Card, David and Alan B. Krueger (1994), *Minimum Wage and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania*, American Economic Review 84(4): 772-93.
- Hirsch, Barry T., Bruce Kaufman and Tetyana Zelenska (2011), *Minimum Wage Channels of Adjustment*, IZA Discussion Paper No. 6132. Institute for the Study of Labor. Available at: http://www2.gsu.edu/~ecobth/IZA_HKZ_MinWageCoA_dp6132.pdf.
- Schmitt, John (2013),.*Why Does the Minimum Wage Have No Discernible Effect on Employment?* Center for Economic and Policy Research. Available at: http://www.cepr.net/documents/publications/min-wage-2013-02.pdf
- Wicks-Lim, Jeannette (2006), *Mandated Wage Floors and the Wage Structure: New Estimates of the Ripple Effects of Minimum Wage Laws*, Working Paper Number 116, Political Economy Research Institute. Available at: http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1092&context=peri_workingpapers.

[2] Hotels are not flagged as a low-wage industry because of the approval of a higher minimum wage for hotel workers in Long Beach subsequent to the 2013 earnings data shown in this chapter.

[3] Value added is the difference between total output and the cost of intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. IMPLAN Glossary, https://implan.com/index.php?option=com_glossary&view=glossary&glossid=13&Itemid=1481 (accessed February 14, 2015).

[4] Reich, Michael, Ken Jacobs and Annette Bernhardt (2015), *The Proposed Minimum Wage Law for Los Angeles: Economic Impacts and Policy Options*, pp, 19-21, University of California, Berkeley Institute for Research on Labor and Employment, http://www.irle.berkeley.edu/research/.

Long Beach Workers Affected by $15 Minimum Wage

40,000 residents live and work in the City of Long Beach

Number of Workers Getting a Raise

Basic questions about increasing the minimum wage include: How many workers will receive a wage increase? Who are those workers? How big will the increase be?

Answering these questions about workers whose jobs are in Long Beach is much harder than answering them about workers who live in Long Beach. To produce detailed, reliable information about the workers who will be impacted we built a dynamic labor market model that integrates the following U.S. Census Bureau data products:

1. Longitudinal Employer-Household Dynamics (LEHD) Origin- Destination Employment Statistics (LODES) that provides census-tract-level data linking where workers are employed and where they live.[1]
2. American Community Survey census tract tables with detailed earnings data.
3. American Community Survey Public Use Microdata Sample (PUMS) records with person-level records containing all of the detailed information about people and housing collected by the Census Bureau.

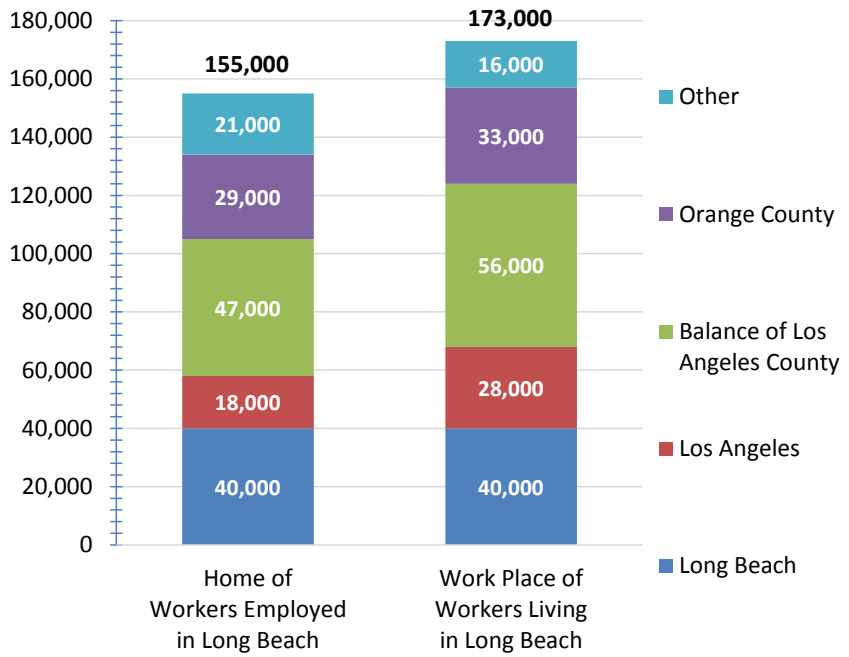
This model builds on employer payroll tax records, so *only workers in the formal economy are shown*, consequently, the resident labor force shown in this chapter is smaller than the overall resident labor force described in other chapters. Descriptions of data sources and estimation methodology are provided in the *Data Appendix*.

The model makes census-tract-by-census links between work and residence data between the 113 tracts in Long Beach and the other 2,233 tracts in Los Angeles County, the 5,711 tracts in other California counties, and tracts in 13 other states that have work-residence connections with Long Beach. The model produces detailed information about workers with jobs in Long Beach, including age, gender, ethnicity, industry, current hourly wage, poverty status, public assistance benefits, and census tract where they reside.

Overview of Workers Living and/or Employed in the City of Long Beach

The first stacked column in *Figure 5.1* shows the distribution of places of residence of the 155,000 workers employed in Long Beach's formal economy. The second stacked column

Figure 5.1 – Long Beach Formal Labor Flows by Places of Residence and Employment



Source: U.S. Census Bureau, LODES data for 2013.

shows the distribution of places of work of the 173,000 Long Beach residents employed in the formal economy.

Long Beach is home to the second largest number of workers in Los Angeles County and the fifth largest in the state, so proposed increases in the minimum wage will affect a significant share of workers in the city and the region. [2]

The minimum wage ordinance will apply to workers employed in the City of Long Beach, regardless of where they live. Roughly 133,000 residents of Long Beach work in other cities, and roughly 115,000 workers from other cities commute into Long Beach to work, as shown in *Figure 5.1*.

Three-quarters of workers employed in the City of Long Beach commute from other cities and counties (*Figure 5.1 and Table 5.1*). About 65,000 workers, or 42 percent, reside in the City of Los Angeles or elsewhere in Los Angeles County, while about 29,000 – 19 percent of workers employed in Long Beach – come from Orange County.

Long Beach's labor flows are broken out into low pay jobs ($15,000 or less annually), mid-pay jobs ($15,001-$39,999) and high paying jobs ($40,000 or more) in *Table 5.1*. **Low-wage workers living in Long Beach hold 31 percent of Long Beach's low-pay jobs that will have the largest wage increases**. In contrast, workers commuting in from other cities and counties hold almost four-fifths of Long Beach's higher-paying jobs, with only about a fifth of these jobs held by Long Beach residents. This means that **a disproportionately large share of Long Beach residents who work in the city will benefit from a higher minimum wage**.

There is a roughly equal flow of lower-wage workers into and out of Long Beach. Approximately 23,000 workers that live elsewhere are employed in low paying jobs in the City of Long Beach (*Table 5.1*), and approximately 24,000 Long Beach residents commute to low-wage jobs in other cities (*Table 5.2*).

Table 5.1 Residency of Workers Employed in Long Beach, by Income

Residency of Long Beach Workers	Total Jobs	%	Low Paying Jobs $0-$15K	%	High Paying Jobs $40K +	%
Long Beach	40,000	25%	11,000	31%	16,000	21%
Other Cities and Counties	115,000	75%	23,000	69%	57,000	79%
Total	155,000	100%	34,000	100%	73,000	100%

Source: U.S. Census Bureau, LODES data for 2013.

In contrast, approximately 57,000 workers that live elsewhere are employed in higher paying jobs located in Long Beach (*Table 5.1*), and approximately 61,000 Long Beach residents commute to higher-wage jobs outside of the city (*Table 5.2*). **The $15 minimum wage will make it feasible for more Long Beach residents to find financially sustaining work closer to home.**

54,000 workers employed in the City of Long Beach will be affected by increases in the minimum wage by 2020.

Table 5.2 Work Places of Long Beach Residents

Work Places of LB City Residents	Total Jobs	%	Low Paying Jobs $0-$15K	%	High Paying Jobs $40K +	%
Long Beach	40,000	23%	11,000	31%	16,000	20%
Other Cities and Counties	133,000	77%	24,000	69%	61,000	80%
Total	173,000	100%	33,000	100%	77,000	100%

Source: U.S. Census Bureau, LODES data for 2013.

Place of Residence and Earnings of Workers Affected by Minimum Wage Increases

The number of workers that will be affected by the increase and the additional wages they will receive as a result, is estimated in *Table 5.3*. We estimated the number of workers in each pay bracket who will benefit from each year from the incremental annual increases in the minimum wage. We also adjust for projected employment growth in Long Beach based on the industrial composition of low- and mid-pay jobs.

Altogether, over 54,000 workers employed in the City of Long Beach will be affected by increases in the minimum wage by 2020 (*Table 5.3*). This is a net increase of over 27,000 between 2016 and 2020 as the minimum wage is stepped up over five years. On average, **every $1 increase in the city's minimum wage will raise the number of affected workers by over 4,600**.

The annual growth in the number of additional workers affected will decrease over the five years. The minimum wage of $10.50 in year one will affect the wages of approximately 8,600 workers. The final minimum wage of $15 in year five will only affect an additional 2,800 workers who didn't get a pay raise in the prior four years. The large early growth and slower subsequent growth in coverage is because there are more workers in the city paid $9 to $12 dollars an hour than there are paid $12 to $14.99 an hour.

This estimate of workers affected by minimum wage increases is broken out for five groups workers employed in the City of Long Beach in *Table 5.3*—Long Beach residents, plus workers commuting in from the City of Los Angeles, the balance of Los Angeles County, Orange County, and all other places of residence. The first column shows the number of workers under the current $9.00 minimum wage, which became effective in 2014. California will implement a $10.00 minimum wage statewide on January 1, 2016, but those effects are not shown in this table. The next five columns represent the numbers affected by the phased increases from 2016 through 2020. For reference, the last column shows the number of all workers projected to be employed in Long Beach and living in each geographic area in 2020.

40% of workers who both live and work in Long Beach will benefit from a $15/hr. minimum wage.

Table 5.3 Estimated Number of Workers Employed in Long Beach Affected, by Year and Residency

Residency of Workers	$9.00 California	Year 1 $10.50	Year 2 $12.00	Year 3 $13.25	Year 4 $14.25	Year 5 $15.00	2020 Jobs in LB
Long Beach	8,520	11,063	13,140	14,888	15,903	16,769	42,098
Los Angeles	3,136	4,004	4,770	5,468	5,932	6,328	18,940
LA County, balance	7,739	10,299	12,207	13,798	15,032	15,891	50,563
Orange County	3,605	4,960	5,896	6,805	7,374	7,735	31,258
Other	3,600	4,924	5,855	6,728	7,320	7,664	22,566
Total	26,600	35,250	41,868	47,686	51,561	54,387	165,425

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

The percent of Long Beach workers from each geographic area who will be affected by each of the five annual incremental increases in the minimum wage is shown in *Table 5.4*. Over the five years of minimum wage increases, the total percentage of workers employed in Long Beach affected will more than double from 16 to 33 percent. By the fifth year, **40 percent of Long Beach residents who work in the city will get a wage increase**.

Table 5.4 Estimated Percent of Workers Employed in Long Beach Affected, by Residency

Residency of Workers	$9.00 California	Year1 $10.50	Year 2 $12.00	Year 3 $13.25	Year 4 $14.25	Year 5 $15.00
Long Beach	21%	27%	32%	36%	38%	40%
Los Angeles	17%	21%	25%	29%	31%	33%
LA County, balance	16%	21%	24%	27%	30%	31%
Orange County	12%	16%	19%	22%	24%	25%
Other	16%	22%	26%	30%	33%	34%
Total	16%	22%	26%	29%	31%	33%

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

The number of Long Beach workers receiving wage increases each year is broken out by workers' annual earnings and full- vs. part-time work status in *Table 5.5*. The largest *number* affected is 21,959 full-time workers earning $15,000 to $39,999 per year – the mid-pay range. They account for 40 percent of the total number of workers whose wages will go up, followed by 18,704 part-time workers working in low-paying jobs of less than $15,000 a year.

Table 5.5 Affected Workers by Hours Worked and Income

Work Status and Earnings Level	$9.00 California	Year1 $10.50	Year 2 $12.00	Year 3 $13.25	Year 4 $14.25	Year 5 $15.00
Full-time < $15,000	8,836	8,949	9,049	9,148	9,242	9,337
Full-time $15 - 39,999	6,609	11,263	14,803	18,099	20,353	21,959
Part-time < $15,000	10,863	13,965	15,938	17,310	18,164	18,704
Part-time $15 - 39,999	290	1,073	2,078	3,129	3,802	4,387
Total	26,600	35,250	41,868	47,686	51,561	54,387

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Size of Earnings Increase

The estimated total increase in workers' annual earnings is shown in *Figure 5.2* and *Table 5.6*. We estimate that **annual earnings of Long Beach workers will increase by $405 million** in 2020 as a result of the higher wage.

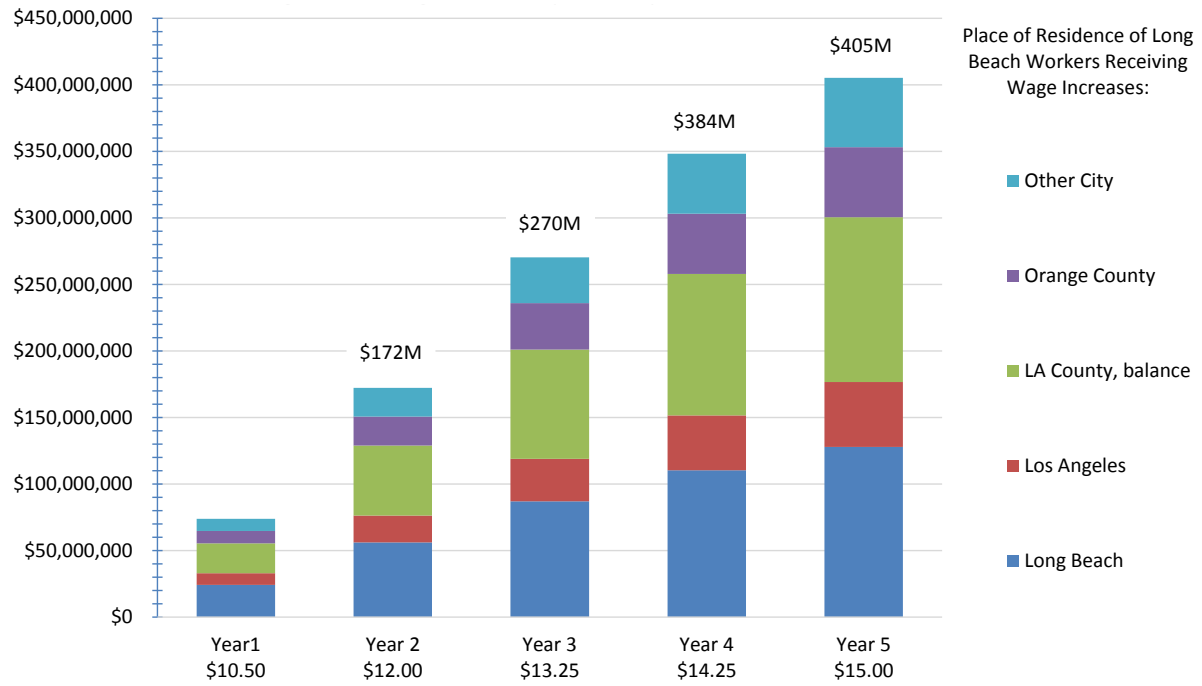
By 2020, workers employed in Long Beach will see a $405 million raise from $15/hr. minimum wage, with $128 million going to workers who both live and work in Long Beach.

Table 5.6 Estimated Increase in Earnings by Year of Implementation (in 2014 dollars)

Residency of Long Beach Workers	Year1 $10.50	Year 2 $12.00	Year 3 $13.25	Year 4 $14.25	Year 5 $15.00
Long Beach	$24,175,909	$56,052,827	$86,941,818	$110,234,510	$127,902,572
Los Angeles	$8,675,969	$20,294,480	$32,040,228	$41,379,681	$48,756,948
LA County, balance	$22,584,840	$52,593,693	$82,068,857	$106,215,617	$123,866,988
Orange County	$9,240,261	$21,761,843	$34,810,011	$45,353,396	$52,617,026
Other	$9,061,034	$21,513,648	$34,473,345	$44,951,632	$52,009,134
Total	$73,738,013	$172,216,492	$270,334,259	$348,134,836	$405,152,667

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Figure 5.2 – Total Wage Increase for Long Beach Workers by Year and Place of Residence



Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Over 74 percent of Latino workers with low wages will be affected by the wage increase by 2020.

The largest share of increased wages—$128 million—will go to workers who live in Long Beach. About 11 percent of the increase in additional earnings is attributable to the employment growth. The rest is attributable to the additional workers covered by the law. We estimate that **a $1 increase in the minimum wage will create $73 million in additional annual earnings** for workers. Over the five years of sequential wage increases, the number of additional workers affected each year will decline, but the amount of the wage increase for individual workers will grow.

Among workers broken out by full-time and part-time work status, the largest total earnings increase over the five years of incremental wage increases will be for the group of full-time workers employed in mid-paying jobs, as shown in *Table 5.7*. This is the largest group of affected workers and their earnings are estimated to increase by almost $178 million as wages grow from $30 million in the first year to $208 million in the fifth year.

Table 5.7 Estimated Increase in Annual Earnings by Hours Worked and Income

Work Status and Earnings Level	Year1 $10.50	Year 2 $12.00	Year 3 $13.25	Year 4 $14.25	Year 5 $15.00
Full-time < $15,000	$23,480,159	$46,730,171	$65,038,383	$78,381,945	$87,211,049
Full-time $15 - 39,999	$30,948,065	$79,117,069	$132,617,142	$176,072,664	$208,703,100
Part-time < $15,000	$16,876,424	$37,636,370	$55,074,589	$68,355,404	$77,383,734
Part-time $15 - 39,999	$2,433,366	$8,732,881	$17,604,146	$25,324,823	$31,854,784
Total	$73,738,013	$172,216,492	$270,334,259	$348,134,836	$405,152,667

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Characteristics of Workers Getting a Raise

Demographics

The demographic composition of workers whose wages will go up is detailed in *Table 5.8*, with breakouts by age, gender and ethnicity. The first column shows the percent of low-paid workers at or below the state's minimum wage of $9.00 in the base year–2015, and the second column shows the increase in the share of workers covered by the final wage level of $15 in the fifth year—2020. For example, in 2015, 56 percent of male workers in low-paying jobs were at or below the wage threshold set by the state's minimum wage. By 2020, 77 percent of low-paid men will have been affected by the five sequential increases in the minimum wage.

Columns 3 and 4 show these breakouts for mid-pay jobs. The last two columns breakout the share of affected workers in each demographic group. For example, 40 percent of all affected workers in low-paying jobs are between ages 16 and 25.

Among low paid workers, 89 percent of Latinos, 81 percent of European Americans, 77 percent of Asian Americans and 74 percent of African Americans will get wage increases by 2020, as shown in the second column of *Table 5.8*.

The reason why not every low-paid worker will be affected by the higher minimum wage is that some part-time workers have a high hourly wage but work so few hours that their earnings are low.

Table 5.8 Demographics of Workers Affected by a Minimum Wage Increase

	Percent of Workers in Earnings Groups				Percent of Workers in Column	
	Low-Pay Jobs <$15,000		Mid-Pay Jobs $15,001-$39,999		Low $ Jobs	Mid $ Jobs
Demographics	2015 % affected	2020 % affected	2015 % affected	2020 % affected	2020 %	2020 %
Age:						
Age 16 - 25	57%	82%	16%	65%	40%	22%
Age 26 - 35	57%	84%	11%	52%	20%	27%
Age 36 - 44	61%	80%	12%	52%	14%	21%
Age 45 - 55	56%	81%	12%	54%	16%	19%
Age 56 & over	52%	78%	12%	54%	10%	11%
Sex/Gender:						
Male	56%	77%	15%	55%	43%	50%
Female	55%	79%	12%	47%	57%	50%
Race/Ethnicity:						
Asian Am.	55%	77%	14%	53%	15%	15%
African Am.	55%	74%	13%	44%	12%	9%
Latino	64%	89%	16%	63%	42%	52%
Other	33%	47%	12%	42%	2%	2%
Euro. Amer.	54%	81%	10%	47%	29%	22%

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Over 78 percent of African American workers with low wages will be affected by the wage increase by 2020.

Industries Providing Pay Increases

The share of low- and mid-pay workers in each industry who will get a pay raise is shown in *Table 5.9*. These data incorporate projections of industry growth based on Long Beach's industry-employment trends over the past 15 years. It is important to note that these projections show higher rates of growth in low-pay jobs than in mid- and high-pay jobs, suggesting that **regulation of the minimum wage is an important policy tool for countering increased wage polarization**.

Industries with the highest rates of wage increases by 2020 for whatever number of *low-paid* workers they employ (second column in *Table 5.9*) are:

- Durable Manufacturing 91 percent
- Restaurants 89 percent
- Government 88 percent
- Retail Trade 87 percent

The industry distribution of all low- and mid-paid workers who will get a wage increase by 2020 is shown in *Figure 5.3*. **Restaurants, retail and health care account for 48 percent of all low-paid workers and 44 percent of all mid-paid workers who will receive pay raises by 2020.** Health care includes low-paid home health aides and nursing home workers. Together, these three industries account for nearly half of all pay raises resulting from a higher minimum wage.

Low-paid workers in Retail, Restaurants, Education, and Transportation & Warehousing will be among those most affected by the increased minimum wage.

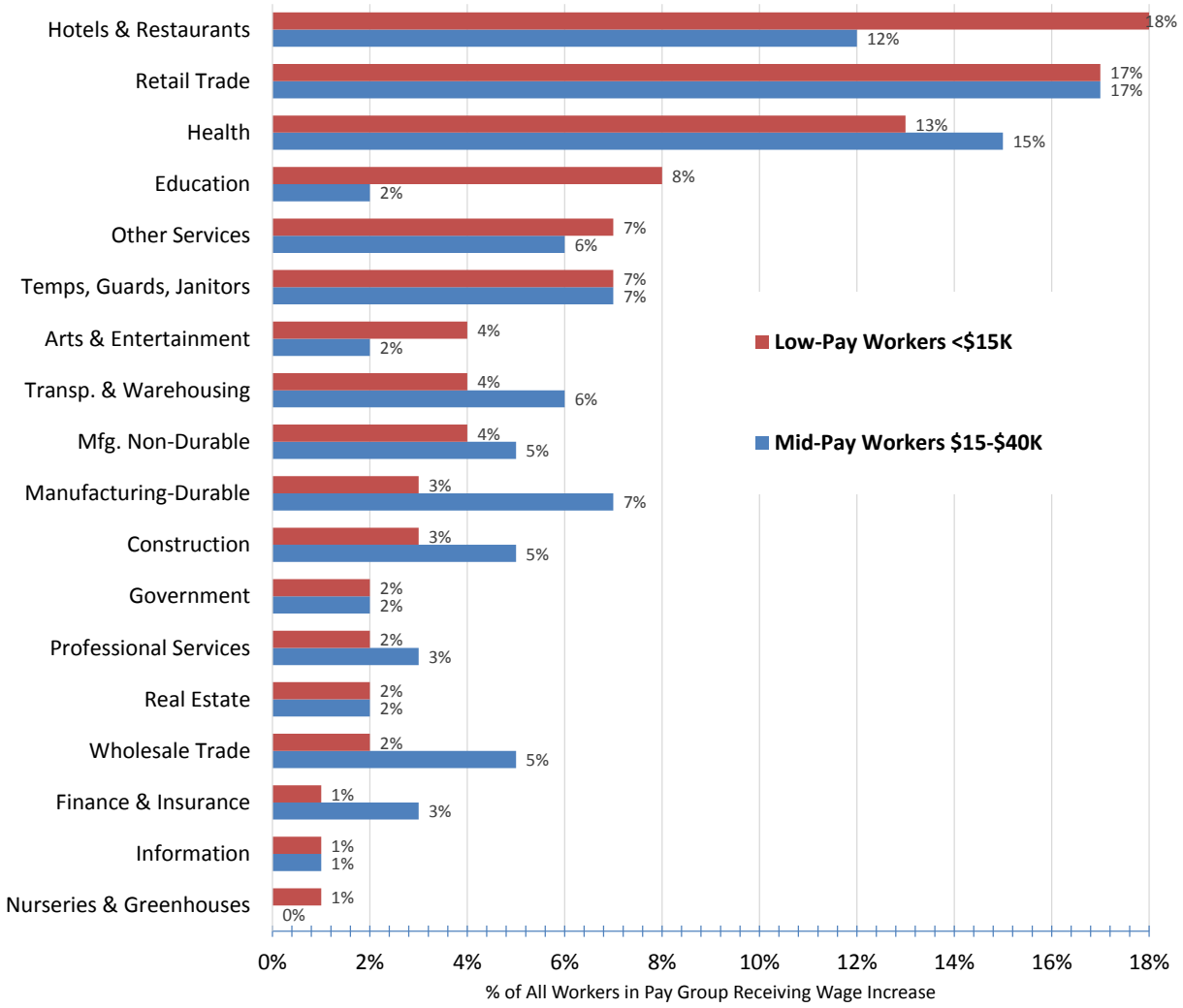
Table 5.9 Industrial Composition of Affected Workers

	Percent of Workers in Industry Pay Group Affected % of Workers in Row, by Year				Percent of All Affected Workers % of Workers in Column	
	Low $ Jobs		Mid $ Jobs		Low $ Jobs	Mid $ Jobs
Industry	2015 % affected	2020 % affected	2015 % affected	2020 % affected	2020 %	2020 %
Nurseries & Greenhouses	51%	82%	3%	94%	1%	0%
Construction	51%	68%	10%	45%	3%	5%
Mfg. Non-Durable	67%	80%	20%	55%	4%	5%
Manufacturing-Durable	80%	91%	7%	49%	3%	7%
Wholesale Trade	51%	83%	15%	54%	2%	5%
Retail Trade	64%	87%	11%	61%	17%	17%
Transp. & Warehousing	44%	82%	12%	43%	4%	6%
Information	45%	73%	3%	30%	1%	1%
Finance & Insurance	42%	54%	9%	49%	1%	3%
Real Estate	50%	72%	10%	36%	2%	2%
Professional Services	38%	64%	11%	40%	2%	3%
Temps, Guards, Janitors	64%	79%	15%	58%	7%	7%
Education	39%	76%	2%	18%	8%	2%
Health	60%	82%	11%	50%	13%	15%
Arts & Entertainment	62%	84%	7%	59%	4%	2%
Hotels & Restaurants	63%	89%	16%	60%	18%	12%
Other Services	42%	72%	15%	61%	7%	6%
Government	69%	88%	3%	41%	2%	2%

Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Some industries such as durable manufacturing and government that show high percentages of their low-paid workers getting raises in *Table 5.9* account for only a small share of the overall labor force getting a pay raise shown in *Figure 5.3*. This is because they employ relatively few low-paid workers.

Figure 5.3 – Industry Distribution of Low- and Mid-Pay Workers Receiving Wage Increases by 2020



Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

The *number of affected workers* in each industry (the size of the block) and the *rate of change in minimum wage coverage from 2016 to 2020* (the block's coloring on a scale from blue, for small change, to red, for large change.) is shown by the "tree maps" in *Figures 5.4* and *5.5*.

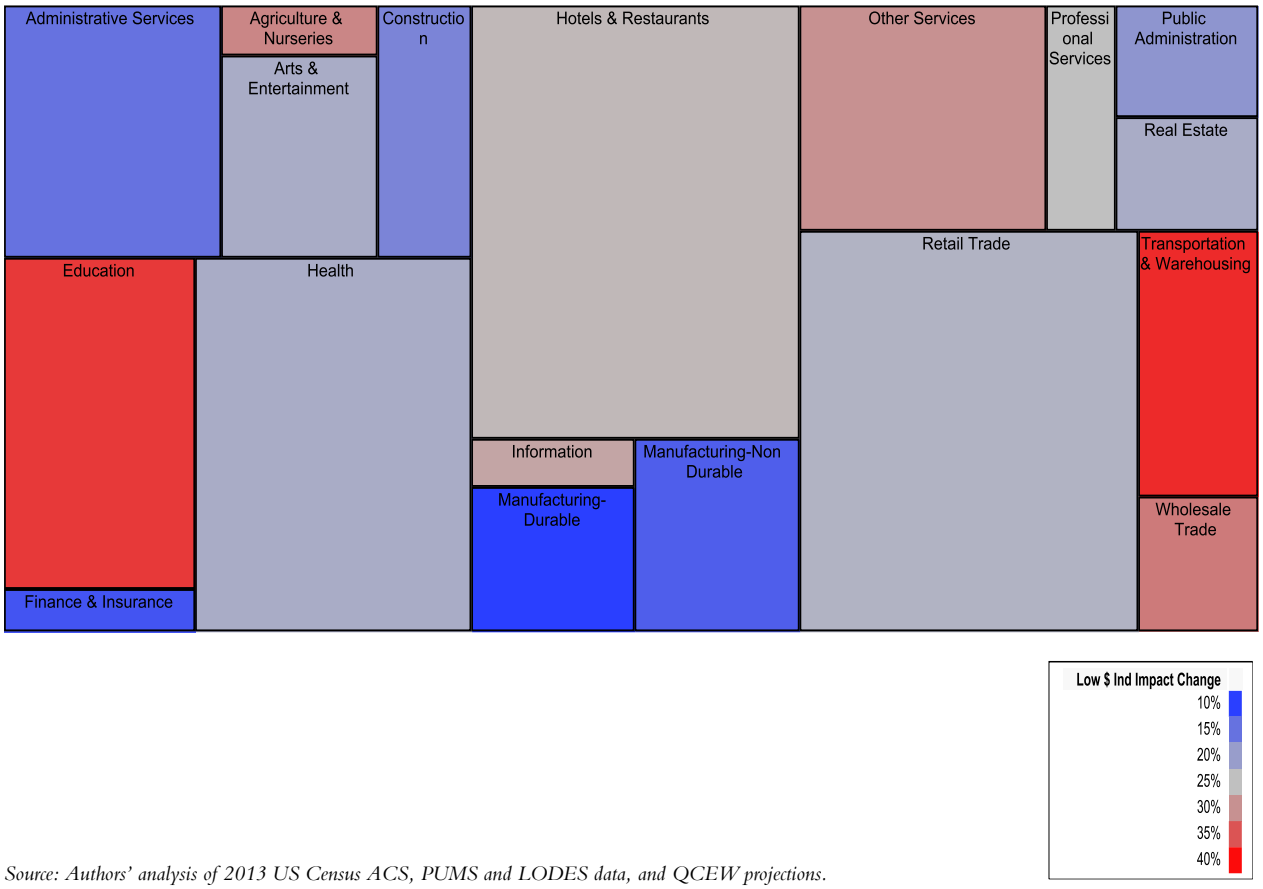
Restaurants, retail and health care have the most *low-paid* workers who will be affected, as shown in *Figure 5.4*. The health care sector includes low-wage industries such as home health care and residential nursing care.

Education stands out as the industry with the highest rate of increased minimum wage coverage for low-paid workers, with raises for classified workers such as bus drivers, cafeteria workers and teachers' assistants. Transportation and warehousing, an important component of the Port of Long Beach, will also experience significant increased coverage. Durable goods manufacturing, finance and insurance, and information stand at the low end of impacts, with not many workers affected and not much change in the number who will be covered.

Restaurants, retail and health care have the most low-paid workers who will be affected

Among *mid-paid* workers shown in *Figure 5.5*, the industries with the most affected workers are again retail, restaurants and health care. The highest rate of change is in retail trade, a large industry, and arts and entertainment, a small industry. There will be a moderate rate of coverage growth over the five annual increases in the minimum wage

Figure 5.4 - Workers in Low-Paid Jobs Affected by Minimum Wage Increases, by Industry



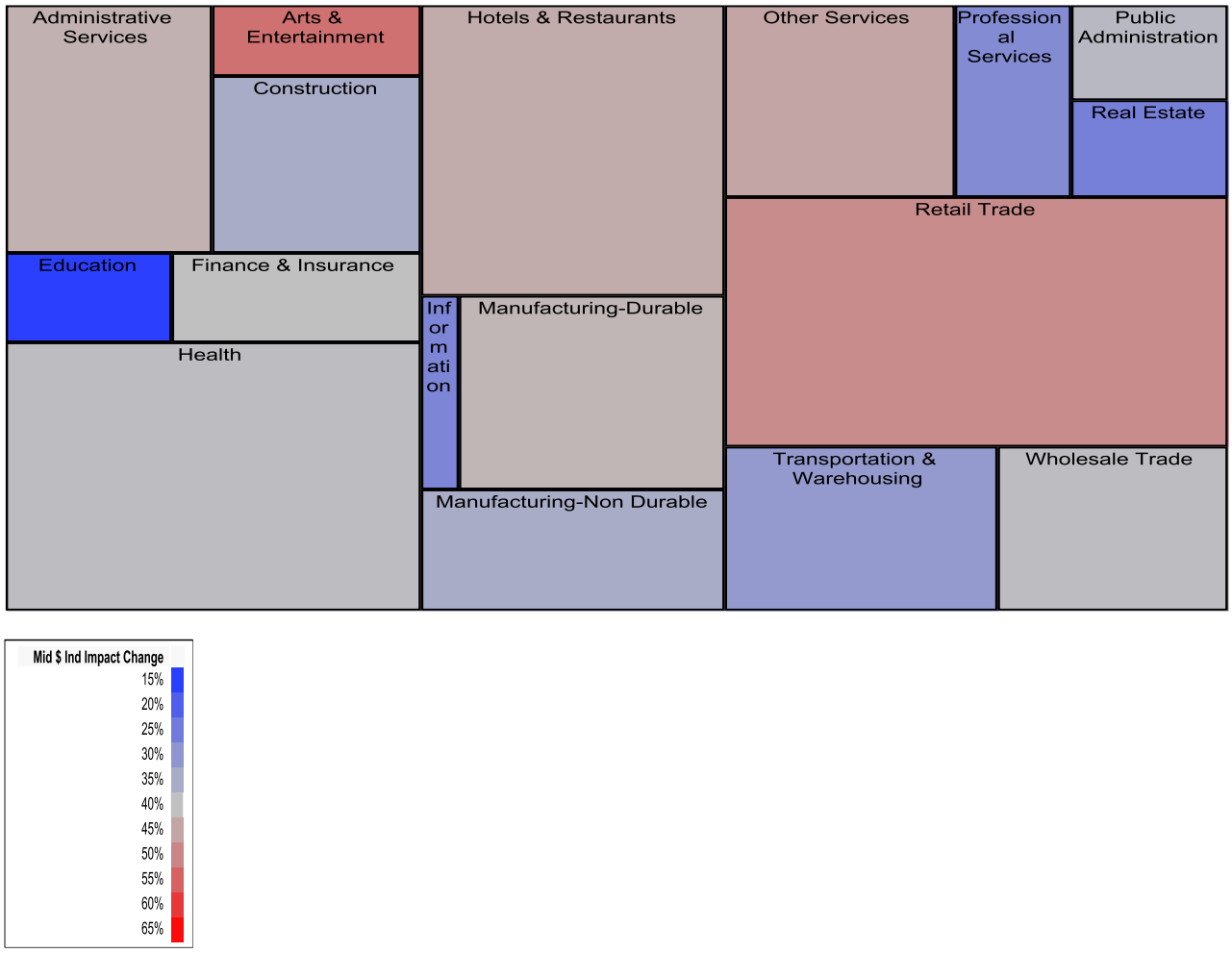
Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

among other large affected industries such as administrative services, hotels and restaurants, and other services, which includes personal and repair services.

There will be the least growth in minimum wage coverage among moderate wage jobs in construction, non-durable manufacturing, transportation and warehousing, and education. Wholesale trade and durable manufacturing rank in the middle as far as the number and rate of growth in jobs affected by minimum wage increases.

Comparing *Figures 5.4* and *5.5,* we see that for some industries the changes caused by increases in the minimum wage will affect their workforce asymmetrically. For example, workers employed in the education and transportation and warehousing industries will be highly affected in low-wage jobs but less so in moderate-wage jobs. The reverse is true for arts and entertainment and durable manufacturing.

Figure 5.5 - Workers in Mid-Paid Jobs Affected by Minimum Wage Increases, by Industry



Source: Authors' analysis of 2013 LODES, ACS and PUMS data and Quarterly Census of Employment and Wages (QCEW) projections

Reductions in Poverty and Public Assistance Costs

Reductions in Long Beach Workers Living in Poverty after a $15 Minimum Wage

Just under 16,000 workers out of 155,000 total workers employed in in Long Beach's formal economy the City of Long Beach (10.3 percent) are estimated to currently have family incomes under the poverty threshold,[3] as shown in *Table 5.10*. The added income from a $15 minimum wage will help over 6,500 of these workers as well as their families rise out of poverty by 2020.[4]

The poverty rate among workers will be reduced by almost half – to 5.7 percent, as shown in *Figure 5.6*. This estimate includes only workers in the formal economy, but a city minimum wage ordinance will also apply to workers employed in the informal economy, lifting a substantially larger number of workers out of poverty.

Some workers and their families will remain in poverty due to jobs with part-time hours or because of the size of their families.

Added income from a $15 minimum wage will help over 6,500 workers as well as their families rise out of poverty by 2020.

The largest reduction in poverty among ethnic groups of workers employed in Long Beach will be among Latinos, with 3,258 fewer worker households below the poverty threshold, a 6.4 percentage drop from 13.2 to 6.8 percent. African American workers in Long Beach will experience the next largest decrease, a 5.5 percentage drop from 13.2 to 7.7 percent. Asian American workers will experience a 3.4 percentage drop from 8.3 to 4.9 percent. And European American workers will experience a 3.1 percentage drop, from 7.3 to 4.2 percent of workers in poverty.

Table 5.10 Estimated Reductions in Numbers of Workers Employed in Long Beach and Living in Poverty with a $15 Minimum Wage, by 2020

Employed LB City	All Workers, 2013	Workers Living in Poverty, 2013	% Living in Poverty, 2013	All Workers, 2020	Workers Living in Poverty, 2020	% Living in Poverty, 2020
Latino	55,000	7,276	13.2%	59,000	4,018	6.8%
Euro. American	55,000	4,041	7.3%	58,000	2,443	4.2%
African American	17,000	2,248	13.2%	18,000	1,377	7.7%
Asian American	24,000	1,988	8.3%	26,000	1,268	4.9%
Other	4,000	431	10.8%	4,000	284	7.1%
Total	155,000	15,983	10.3%	165,000	9,390	5.7%

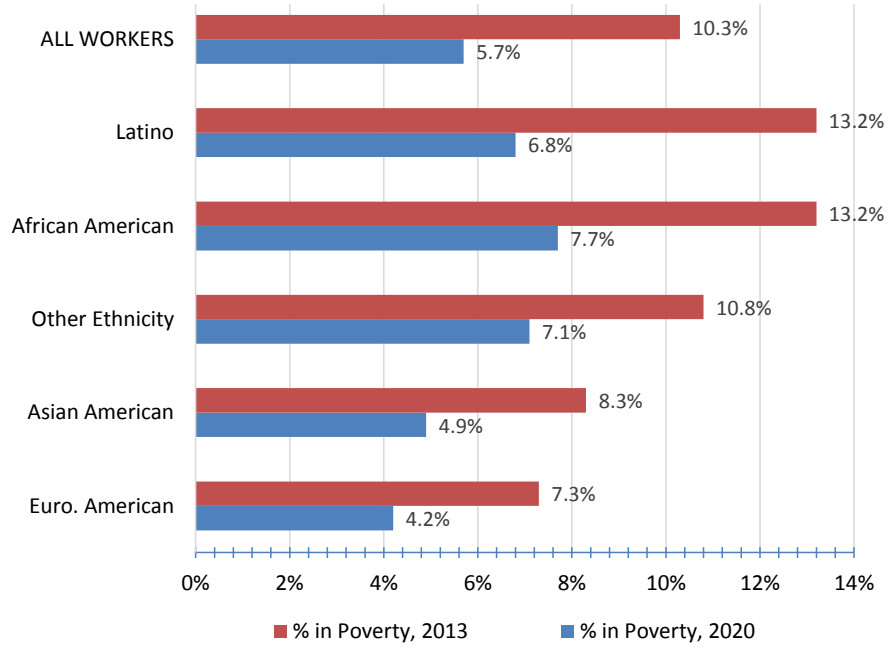
Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections. Note: Total current employment 155,000 matches earlier Table 5.1.

A total of 14,600 people will be lifted out of poverty including 5,900 children.

These significant reductions in workers employed in Long Beach and living in poverty as the result of a $15 minimum wage will also affect all other members of their households, who are not counted in *Table 5.10.*

The 6,500 workers who are lifted out of poverty by the higher minimum wage each represent 1.3 additional family members.[5] Forty one percent of the members of these households are children. This means that **a total of 14,600 people will be lifted out of poverty including 5,900 children**.

Figure 5.6 – Workers' Poverty Rate Before and After Wage Increase by Ethnicity



Source: Authors' analysis of 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Reductions in Public Assistance Costs for Long Beach Workers after a $15 Minimum Wage

Los Angeles County public assistance programs cover a large population and the working poor make up a significant share of public aid recipients. In 2013, there were over 2.65 million persons receiving at least one type of aid[6]. This population includes 1.77 million food assistance (CalFresh) recipients.

The estimated reduction in public assistance participation for CalFresh, Medi-Cal and cash aid programs is shown in *Table 5.11*.[7] We show the proportion of each gender-ethnicity-work status sub-group among workers who receive public assistance and will be affected by the minimum wage increase in Long Beach.

The largest ethnic sub-group is *Latino* workers, making 47 percent of the public assistance population affected by minimum wage increases, followed *by European Americans* (26 percent) *Asian Americans* (14 percent) *African Americans* 11 percent, and *Other* ethnicities (2 percent).

African American female workers with part-time jobs have the highest participation rate in the *CalFresh* program (47 percent), which is estimated to drop to 10.8 percent by 2020.

Asian American male workers in part-time jobs have the highest participation rate in the *Medi-Cal* program (44 percent), which is estimated to drop to 1.5 percent by 2020.

Male workers of Other ethnicities in full-time jobs have the highest participation in *cash aid* programs (29 percent), which is estimated to drop to a rate too small to measure by 2020.

A total annual savings of $26M in public assistance costs will be achieved at $15/hr.

Table 5.11 Estimated Reduction in Public Assistance Participation between 2015 and 2020

Gender-Ethnicity-Work Status	% of All Affected (Column %)	CalFresh Participation Rate % 2015	CalFresh % Impacted by 2020	Medi-Cal Participation Rate 2015	Medi-Cal % Impacted by 2020	Cash Aid Participation Rate 2015	Cash Aid % Impacted by 2020
Asian Amer. Male Full Time	2.4%	17.2%	4.4%	20.7%	2.9%	0.9%	0.9%
Asian Amer. Male Part Time	3.9%	24.3%	4.3%	44.0%	1.5%	0.0%	0.0%
Asian Amer. Female Full Time	3.1%	20.2%	3.2%	29.3%	4.2%	4.2%	0.0%
Asian Amer. Female Part Time	4.3%	9.8%	1.5%	14.5%	6.7%	3.5%	0.0%
African Amer. Male Full Time	2.0%	35.2%	11.8%	28.4%	4.6%	6.3%	2.4%
African Amer. Male Part Time	3.1%	20.2%	14.8%	25.7%	19.4%	3.3%	7.0%
African Amer. Female Full Time	2.4%	40.7%	3.6%	37.0%	14.2%	11.5%	2.3%
African Amer. Female Pt. Time	3.4%	47.0%	10.8%	31.9%	0.0%	8.9%	4.0%
Latino Male Full Time	7.8%	24.8%	7.2%	25.0%	10.5%	6.8%	1.1%
Latino Male Part Time	14.3%	21.6%	4.7%	26.3%	2.7%	2.0%	1.4%
Latino Female Full Time	10.9%	26.9%	9.2%	31.4%	14.1%	7.0%	1.6%
Latino Female Part Time	14.3%	21.8%	6.7%	31.0%	17.2%	4.5%	2.7%
Other Male Full Time	0.4%	39.4%	9.2%	23.1%	26.0%	29.4%	0.0%
Other Male Part Time	0.7%	9.2%	0.0%		21.7%	0.0%	0.0%
Other Female Full Time	0.5%	19.4%	0.0%	21.5%	2.8%	17.1%	3.9%
Other Female Part Time	0.7%	17.2%	0.0%	22.2%	0.0%	11.3%	0.0%
Euro. Amer. Male Full Time	5.6%	5.1%	3.3%	9.3%	9.1%	1.6%	0.0%
Euro. Amer. Male Part Time	6.4%	3.4%	2.4%	8.0%	5.2%	0.0%	0.0%
Euro. Amer. Female Full Time	7.4%	7.4%	2.2%	9.7%	3.9%	4.1%	0.6%
Euro. Amer. Female Part Time	6.4%	2.0%	1.5%	9.7%	0.9%	2.0%	0.9%

Source: Authors' analysis of US Census ACS PUMS and LODES data. Note: Percent impact columns are taken from City of Los Angeles data because the small sample size for Long Beach did not yield robust public assistance participation rates for 2020.

Aggregate reductions in public assistance costs are shown in *Table 5.12*. The numbers are derived by applying average public assistance payment amounts in Los Angeles County to the change in public assistance participation rates shown in in *Table 5.11*. The last column

shows the cost reduction estimated to be achieved by each sub-group as a percent of the estimated total reduction in public assistance expenditures.

We estimate a total of $12.6 million reduction in *CalFresh* payments by the end of full implementation of the proposed minimum wage law. Within this total, Latino workers will experience the largest decrease, $7.8 million, followed by African American workers with $2.3 million.

Due to the increased minimum wage in the City of Long Beach, we estimate a reduction in *Cal-Works medical assistance* payments of approximately $10.5 million. Latino workers will experience the largest decrease, $6.6 million, followed by European American workers.

We estimate that there will be a $3 million in reduction in *cash aid* payments.

The greatest reduction in public assistance expenditures will be among Latino female workers, followed by Latino males, African American females, and African American males.

Table 5.12: Estimated Reduction in Public Assistance Payments in 2020

Gender-Ethnicity-Work Status	CalFresh Decrease	Medi-Cal Decrease	Cash Aid Decrease	Total Public Aid Decrease	Percent Decrease
Asian Amer.-Male-Full Time	$276,040	$87,307	$0	$363,348	1.4%
Asian Amer.-Male-Part Time	$402,552	$67,515	$0	$470,067	1.8%
Asian Amer.-Female-Full Time	$212,481	$140,849	$99,955	$453,285	1.7%
Asian Amer.-Female-Part Time	$133,257	$300,925	$78,172	$512,354	2.0%
African Amer.-Male-Full Time	$430,081	$108,283	$53,935	$592,299	2.3%
African Amer.-Male-Part Time	$862,425	$757,973	$0	$1,620,398	6.2%
African Amer.-Female-Full Time	$209,795	$560,522	$364,606	$1,134,922	4.3%
African Amer.-Female-Pt. Time	$857,661	$0	$594,910	$1,452,571	5.6%
Latino-Male-Full Time	$1,468,607	$1,110,480	$353,542	$2,932,629	11.2%
Latino-Male-Part Time	$1,609,228	$481,335	$93,028	$2,183,590	8.3%
Latino-Female-Full Time	$2,513,177	$1,896,732	$547,894	$4,957,802	18.9%
Latino-Female-Part Time	$2,242,213	$3,058,400	$414,112	$5,714,725	21.8%
Other-Male-Full Time	$78,174	$121,765	$27,502	$227,442	0.9%
Other-Male-Part Time	$0	$235,215	$0	$235,215	0.9%
Other-Female-Full Time	$0	$12,621	$49,857	$62,478	0.2%
Other-Female-Part Time	$0	$0	$122,091	$122,091	0.5%
Euro. Amer.-Male-Full Time	$451,438	$703,106	$57,825	$1,212,369	4.6%
Euro. Amer.-Male-Part Time	$335,034	$409,003	$0	$744,037	2.8%
Euro. Amer.-Female-Full Time	$369,428	$333,609	$129,260	$832,298	3.2%
Euro. Amer.-Female-Part Time	$201,821	$70,943	$66,253	$339,016	1.3%
Total	$12,653,412	$10,456,581	$3,052,942	$26,162,935	

Source: Authors' analysis of US Census ACS PUMS and LODES data

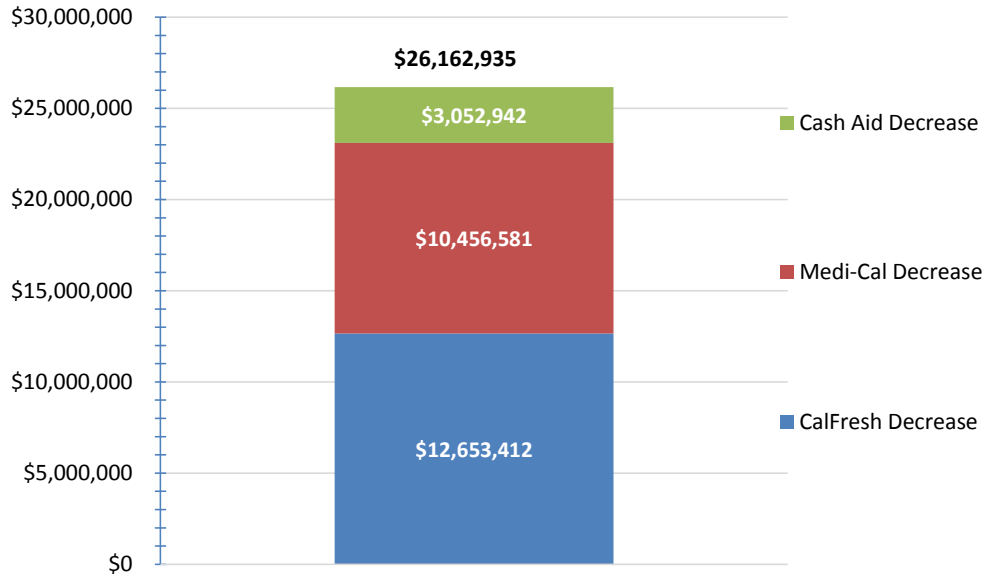
Over all, we estimate a total **annual reduction of $26 million in public assistance Costs by the fifth year**, as shown in *Table 5.13* and *Figure 5.7*. The total estimated savings of $26 million is not cumulative savings but savings in the fifth year. There will be gradual increases in the reduction in public assistance payments each year. The estimated **cumulative savings of $78 million over the first five years**.

Table 5.13: Estimated Cumulative Reduction in Public Assistance Payments from 2015 to 2020

	Year1 $10.25	Year 2 $11.75	Year 3 $13.25	Year 4 $14.25	Year 5 $15.25
Annual Reductions	$5,200,000	$10,400,000	$15,600,000	$20,800,000	$26,000,000
Cumulative Reduction	$5,200,000	$15,600,000	$31,200,000	$52,000,000	$78,000,000

Source: Authors' analysis of US Census ACS PUMS and LODES data. Note: Percent impact columns were adopted from City of Los Angeles data because of the small sample size of City of Long Beach data do not yield robust enough numbers for public assistance participation rates in 2020.

Figure 5.7 – Annual Reduction in Public Assistance Payments to Long Beach Workers by 2020



Source: Authors' analysis of US Census ACS PUMS and LODES data.

Conclusion

Over 54,000 workers employed in Long Beach's formal economy will benefit from increases in the minimum wage by 2020. Every $1 increase in the city's minimum wage will raise the number of affected workers by over 4,600 and create $73 million in additional annual earnings for workers.

Annual earnings of Long Beach workers will increase by $405 million in 2020 as a result of the higher wage. The largest share of increased wages—$128 million—will go to workers who live in Long Beach.

Low-wage workers living in Long Beach hold 31 percent of Long Beach's low-pay jobs that will have the largest wage increases. This means that a disproportionately large share of Long Beach residents who work in the city will benefit from a higher minimum wage - 40 percent of Long Beach residents who work in the city will get a wage increase.

Restaurants, retail and health care account for 48 percent of all low-paid workers and 44 percent of all mid-paid workers who will receive pay raises by 2020. Most workers who will benefit from the higher minimum wage are employed in consumer-oriented businesses that are concentrated in higher income neighborhoods where customers are better able to absorb the cost increases that result from raising the wage floor.

The poverty rate among workers will be reduced by almost half – from 10.3 to 5.7 percent. The 6,500 workers who are lifted out of poverty by the higher minimum wage each represent 1.3 additional family members. This means that a total of 14,600 people will be lifted out of poverty, including 5,900 children.

Public assistance costs for Long Beach workers will go down by $26 a year.

Long Beach's resident labor force includes 11,700 workers who now commute to low- and mid-wage jobs in the City of Los Angeles, where they will soon benefit from a $15 minimum wage. Long Beach has an important regional role in raising the wage floor for its labor force, including workers living within the city and workers commuting in from other cities.

End Notes

[1] LODES data is for primary jobs, leaving out secondary jobs held by workers. This produces a count of jobs that closely matches the count of workers. LODES data is built on employer payroll tax reports and thus includes only jobs in the formal economy. As many as 20 percent of workers may be employed informally, resulting in a gap between the employment count in this chapter and the count in earlier chapters that used Census Bureau household survey data from the American Community Survey that includes both formal and informal workers.

[2] Robert Habans made important intellectual contributions to this chapter through his work on a previous minimum wage report, *Los Angeles Rising*. A portion of the material that he authored for the *Los Angeles Rising* report has been carried over into this chapter.

[3] U.S. Census Bureau. 2015. Poverty Thresholds for 2014 by Size of Family and Number of Related Children Under 18 Years. http://www.census.gov/hhes/www/poverty/data/threshld/

Table: Poverty Thresholds for 2014 by Size of Family and Number of Related Children Under 18 Years

	Related children under 18 years								
Size of family unit	None	One	Two	Three	Four	Five	Six	Seven	Eight +
One person									
Under 65 years.....	12,316								
65 years and over.....	11,354								
Two people.....									
Householder < 65 yrs	15,853	16,317							
Householder 65+ yrs	14,309	16,256							
Three people.....	18,518	19,055	19,073						
Four people.....	24,418	24,817	24,008	24,091					
Five people.....	29,447	29,875	28,960	28,252	27,820				
Six people.....	33,869	34,004	33,303	32,631	31,633	31,041			
Seven people.....	38,971	39,214	38,375	37,791	36,701	35,431	34,036		
Eight people.....	43,586	43,970	43,179	42,485	41,501	40,252	38,953	38,622	
Nine people or more...	52,430	52,685	51,984	51,396	50,430	49,101	47,899	47,601	45,768

Source: U.S. Census Bureau.

[4] This estimate of workers in poverty takes into account a growing labor force in the city—increasing to 165,000 workers by 2020, based on methods established earlier in this chapter.

[5] The number of additional household members is adjusted to account for multiple workers per household. There is an average of 1.327 workers per household in poverty.

[6] County of Los Angeles, Department of Public Social Services, *Statistical Report, December 2013*.

[7] We have estimated how the Long Beach minimum wage law will affect the public assistance spending for three large programs—medical assistance (Medi-Cal), food assistance (CalFresh, formerly known as food stamps, and later SNAP) and cash aid (CalWORKs and General Relief programs). We use PUMS data to estimate program participation and average aid amounts in 2015, before minimum wage increases begin, and in 2020, after the final increment of increases. Then, we estimate the reduction in participation rates and apply these numbers to our estimates of workers affected by the proposed minimum wage law based on US Census LODES data. We build all our estimations by gender, ethnicity and work status—full-time vs. part-time to reflect significant differences among groups. A description of the estimation methodology is provided in the *Data Appendix*.

Stimulus from Increased Earnings

Economic Boost to the Economy

There is twice as much stimulus to the local economy from each $1 low-income households receive as there is from a $1 received by the top 10 percent.

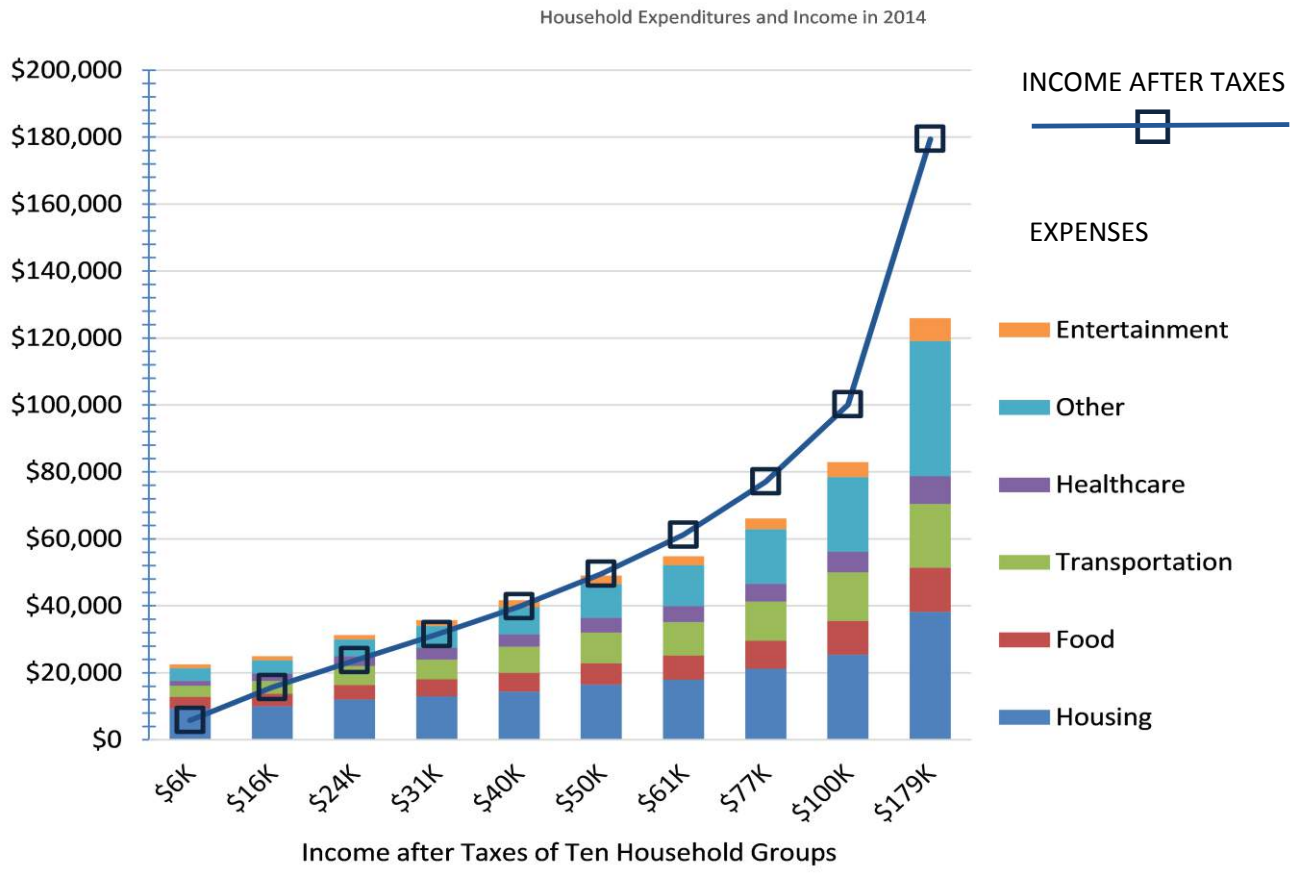
The impacts of a $15 minimum wage will sustain not just the workers and families who directly benefit from the raise, but also local businesses whose sales grow because of their increased household spending. Workers who receive the infusion of extra income, $128 million for residents of Long Beach and $405 million for the region by 2020, will have more money to spend on basic needs such as groceries, health care, and car repair.

The local economic multipliers from increased worker income and expenditures are the stimulus piece of overall economic impacts. The other piece is partial offsetting reductions in non-payroll expenditures by some businesses and possible closure of some businesses that do not adjust their business model to pay higher wages or that are in weak markets. There is strong evidence that the stimulus effect will outweigh any adverse effects and lead to net economic growth, but the likelihood of economic crosscurrents makes it prudent to carry out the monitoring recommended in this report so as to know immediately if there are unintended consequences and to have tools for safeguarding the economy.

Household Spending Boosts L.A. Economy

Families with lower incomes, such as low-wage workers, typically have pressing needs and quickly spend all of their earnings and incur debt to pay for housing, food and other basic needs, as shown in *Figure 6.1*. This figure shows expenses and after-tax income for households broken out by income into ten equal size groups. Because it is after-tax

Figure 6.1 – Annual Expenditures of Low, Moderate, and Upper Income Households, U.S., 2014



Source: Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, Table 1100, Consumer Expenditure Survey, 2014. Data is for the United States.

income it shows available money after paying taxes as well as money low-income households receive Earned Income Tax Credit payments.

Households in the bottom 40 percent of the income distribution – the first four columns in *Figure 6.1* – typically accumulate debt. Consequently, what income they have is spent immediately and creates an immediate economic stimulus. Housing is by far the greatest expense for low income families. Paying for the roof over their heads takes up over half of income for households with incomes below $40,000 a year. After paying for their daily expenses such as housing, food, and transportation, there typically is nothing left over for other expenses such as health care and education without going into debt.

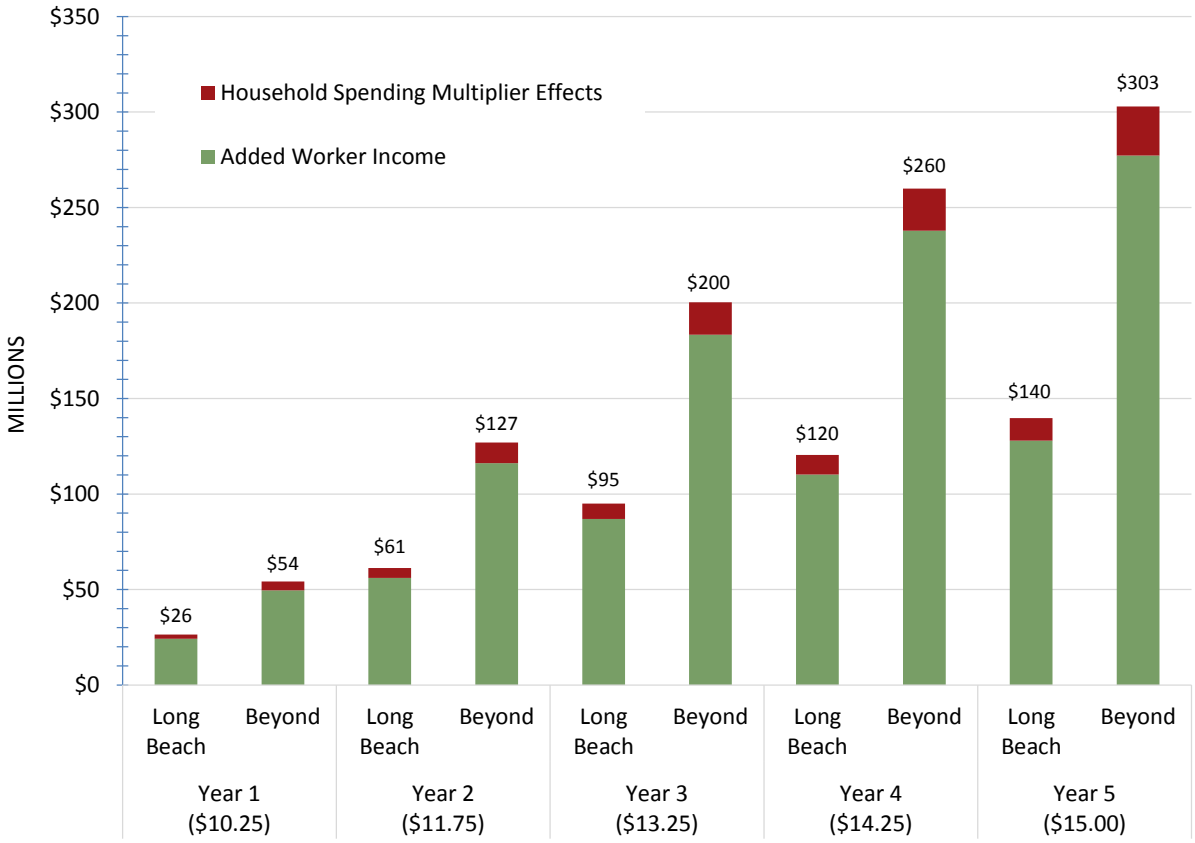
In contrast, households in the top 10 percent of the income distribution (income before taxes averages $230K and after taxes $179K) take in more money than they spend and save what's leftover, thereby circulating money more slowly in the economy. These households, which include most shareholders in corporations that employ minimum wage workers, set aside 30 percent of their income for savings and retirement. Much of the money is saved in national and global investments that are far removed from Long Beach's economy. Because households with incomes under $40,000 spend money quickly, **there is twice as much stimulus to the local economy from each dollar low-income households receive as there is from a dollar received by the top 10 percent.** Additional information about these multiplier effects is provided in the *Data Appendix*.

The $15 minimum wage in 2020 will result in $442 million in increased sales for the region, with $140 million staying within Long Beach.

Economic Stimulus from $15 Minimum Wage

We calculate the ripple effects of the minimum wage by using an input-output model of Los Angeles County's economy.[1] The model takes into account all the nodes along the

Figure 6.2 - Added Worker Income from Annual Wage Increases and Stimulus from Household Spending



Source: IMPLAN version 3.1 software with IMPLAN data for Los Angeles County in 2013.

The $15/hr. minimum wage will sustain an estimated 3,186 new jobs through expenditures of increased earnings across the region.

supply chain that a product or service passes through from its point of production to consumption. In addition, the model calculates how much of the sales (output)[2] and employee compensation stays in the local economy and how much flows to other areas.

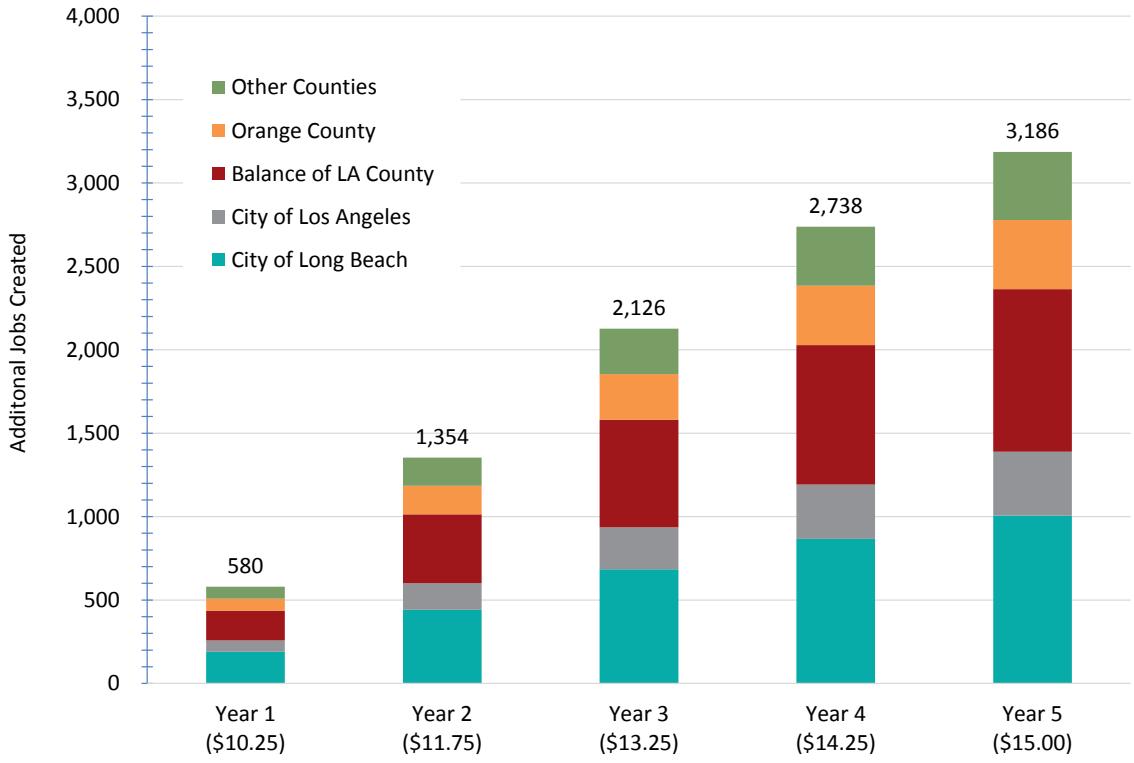
We estimate that the $15 minimum wage in 2020 will result in $442 million in increased sales for the region, with $140 million staying within Long Beach., as shown in *Figure 6.2*. This includes $37.5 million in spending from multiplier effects on top of the increased wage. **For every $1 increase in wages received by households, output in Los Angeles County rises by $1.12.** The largest share of the increased spending will go to housing providers (for rent or mortgage payments), almost 20 percent. Another 10 percent goes towards health care, a cost that many Long Beach families struggle to afford.

The biggest boost in local spending by worker households will go to consumer-oriented businesses that require face-to-face interactions. Housing, health care, restaurants and retail are place-based businesses that serve a client base that purchases goods and services within the vicinity of where workers live, as discussed in the *Geographic Distribution of Impacts* chapter in this report. Thirty-two percent of the increased household spending will benefit local establishments that serve Long Beach residents. This added revenue will boost Long Beach businesses, including those in neighborhoods that until now have had limited purchasing power.

This increased buying power will be augmented by the pay increases received by another 11,700 low wage Long Beach residents who work in the City of Los Angeles and will benefit from the $15 minimum wage enacted by there. This cross-city movement of workers is described in the next chapter.

Long Beach's $15 minimum wage will sustain an estimated 3,186 new jobs through expenditures of increased earnings across the region as shown in *Figure*

Figure 6.3 - Additional Employment Supported by Minimum Wage Increases



Source: IMPLAN version 3.1 software with IMPLAN data for Los Angeles County in 2013.

6.3. The plurality of jobs created will be in the City of Long Beach, where industries that respond to increased household spending will add an estimated 1,006 positions. This includes real estate, restaurants, hospitals, and retail stores.

The region will benefit from increased employment starting with the first year the minimum wage increase is implemented. More than 580 jobs will be created when the minimum wage is raised to $10.25. The multiplier impacts will increase the over five years that the wage floor rises. By 2020, not only will the city enjoy an estimated 1,006 more jobs, but Los Angeles County overall will benefit from 2,363 new jobs. Added household spending tied to Long Beach's minimum wage increase will support an estimated 414 additional jobs in Orange County, and 409 additional jobs in other counties.

Increased sales and employment are projected to generate over $70 million a year in increased public revenue by 2020. State and local governments will receive $28.4 million and the federal government $37.5 million. Social safety net programs such as Social Security, State Disability Insurance, Worker's Compensation and Unemployment Insurance as well as the general budgets of local, state and federal government will receive this infusion of new funds to meet the needs of Long Beach residents, the state and the nation.

Increased sales and employment are projected to generate over $70 million a year in increased public revenue by 2020.

Conclusion

The $405 million pay increase for over 54,000 low-wage workers employed in Long Beach will result in $442 million in increased sales for the region, with $139 million staying within the city.

One of the causes of the stimulus is that dollars will go into the pockets of low-income households who spend the income quickly because they have pressing needs for basic necessities. Each dollar they receive creates twice as much local economic stimulus as a dollar received by households in the top ten percent income bracket.

The economic stimulus from the $15 an hour minimum wage will create an estimated 3,186 new jobs, 1,006 in Long Beach. It will also generate over $70 million a year in increased public revenue by 2020.

In addition, the 11,700 Long Beach residents who commute to low- and mid-wage jobs in the City of Los Angeles will receive the same wage increases and generate the same economic stimulus with the dollars they bring home. This will raise the economic stimulus within Long Beach to over 125 percent of what will result from the city's action alone, or over $174 million a year in increased sales.

End Notes

[1] The model uses IMPLAN version 3.1 software and 2013 data for Los Angeles County. The model is derived from U.S. Bureau of Economic Analysis benchmark input-output tables.

[2] Gross output is similar to total sales. The formal definition is sales or receipts and other operating income, plus inventory change.

Geography of Opportunity

Geographic Distribution of Impacts

The neighborhoods of Long Beach will experience different levels of effects from the increased minimum wage, depending upon the numbers and characteristics of affected workers who reside, work, and shop in them. The effects of minimum wage increases will spill over into surrounding areas as non-resident workers commute from jobs within the city to homes outside the city. Using census tract estimates, this chapter presents maps and tables to describe the neighborhood-level geographic distribution of impacts from minimum wage increases, including: [1]

- Communities that will receive most of the benefits of the increased minimum wage through the greater spending power of Long Beach's resident workers.
- Where increased prices and higher labor costs may be felt.

Why Do Neighborhoods Matter for a Long Beach Minimum Wage?

Although local governments shape the labor market through policies, regulations, subsidies, direct services, and infrastructure, labor markets do not neatly conform to municipal or county boundaries. Markets for many inputs of economic activity – including labor – extend to the scale of the urban region, especially in the sprawling, diverse, and integrated Southern California metropolitan area.

While labor markets are regional in scope, the smaller landscapes of everyday interactions at the neighborhood-level also matter. The neighborhood-level effects of boosting household income are strongly felt in areas with limited purchasing power and employment opportunities, in a manner analogous to regional multiplier effects. Low-income workers who benefit from a minimum wage increase are much more likely to spend their additional income than are higher-income individuals, who tend to save or invest more of their money. Much of this **growth in spending will be felt in everyday purchases at local retail stores, restaurants and other businesses**. In this manner, the minimum wage will act as a local economic stimulus in communities where low-wage workers reside.

Growth in spending will be felt in everyday purchases at local retail stores, restaurants and other businesses.

The majority of each additional dollar earned is spent at local businesses in and around the worker's neighborhood of residence. The remaining portion "leaks" out to surrounding areas as workers' households also make purchases by driving to regional shopping centers or making purchases on-line. Increased local purchasing by worker households can help reduce the uneven access to goods, services, and job opportunities across Long Beach neighborhoods.

Mapping the Distribution of Impacts on Industries

The reason for establishing and periodically raising the minimum wage is to alleviate deprivation and poverty among lower-income individuals and households. As they earn more income from minimum wage increases, this also benefits the communities where affected workers live, boosting the aggregate wealth of their neighborhoods and sales at local businesses where worker households buy things. The infusion of more dollars into lower-income neighborhoods enables nearby businesses to carry better quality items, as well as hire more and better-paid workers, and may increase demand for new businesses—all indirect effects of minimum wage increases as a job creator.

Restaurants, retail stores and other businesses that serve local consumers employ the highest numbers of low-wage workers and account for the vast majority of those impacted by increases in the minimum wage.[2] But they are located unevenly across the city, meaning that the effects of minimum wage increases also vary by neighborhood. Factors influencing the location of consumer-oriented businesses include:

1. Consumer buying power of higher-income neighborhoods.
2. Residential and business concentrations.
3. Major transportation corridors with large, diverse bases of economic activity.

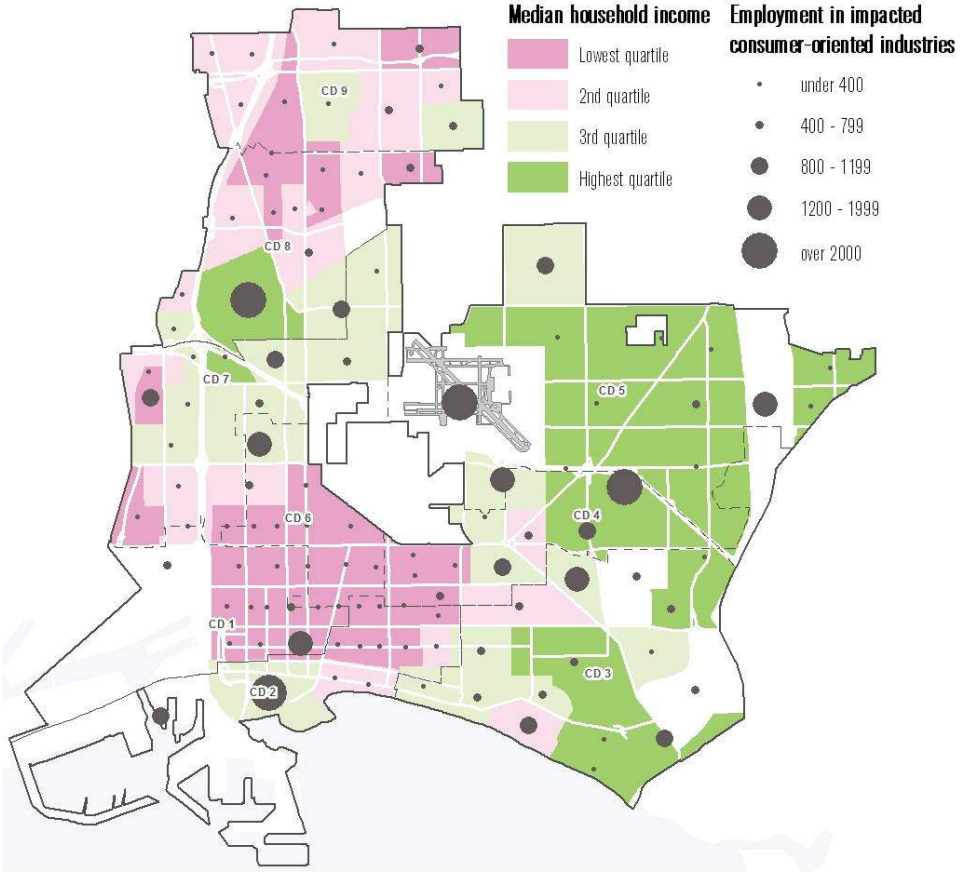
Any cost of increases resulting from the minimum wage will be borne predominantly by consumers in higher-income neighborhoods, while the employees of those businesses will take their earnings home to their lower-income households and neighborhoods (*Figure 7.1)*. In the City of Long Beach, 57 percent of resident households are located in census tracts in the bottom half of the median income range, but only 36 percent of jobs in consumer-oriented business are located in those neighborhoods. The other 64 percent are in neighborhoods that are home to Long Beach's higher income households. These areas have considerable spending power and will stand to bear the brunt of price increases if restaurants and other firms pass labor costs on to consumers.

Any cost of increases resulting from the minimum wage will be borne predominantly by consumers in higher-income neighborhoods.

Visualizing a $15 Minimum Wage Increase in Long Beach Neighborhoods by 2020

A higher minimum wage in the City of Long Beach will result in greater economic inclusion and development for its lower-income neighborhoods. Using our census-tract level dataset that links workers' place of work and residence, we now allocate the

Figure 7.1 - Employment in Impacted Consumer-oriented Industries, by Place of Work and Median Household Incomes by Quartile



Sources: Author analysis of California Employment Development Department "Quarterly Census of Employment and Wages" data for the City of Long Beach; US Census American Community Survey SF-3 5-Year Estimates (2009-2013), Variable S1903 Median Income in the Past 12 Months by census tract.

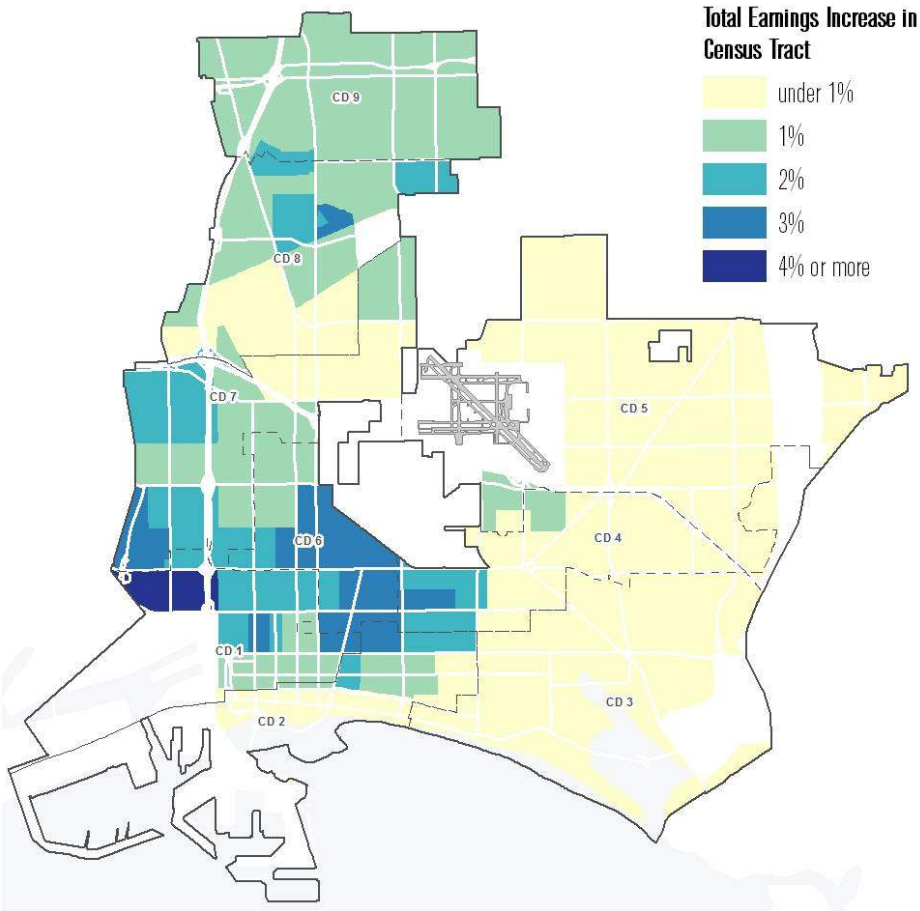
The strongest impacts of the minimum wage increase will be felt in Long Beach's lower-income neighborhoods that are home to workers receiving more pay.

projected additional earnings due to a minimum wage increase to the census tracts where affected workers live (*Figures 7.2* and *7.3*). The percent increase map (*Figure 7.2*) depicts amount of earnings increase that workers' entire home neighborhood (census tract) will experience, since the denominator is those census tracts' current aggregate income.

The earnings boost will be widespread throughout the city, but will bring an infusion of spending power into its neighborhoods. As noted earlier, some affected workers live outside the City of Long Beach, and their earnings boost will 'leak' to neighborhoods outside the city. There will also be offsetting increases in buying power not shown in *Figure 7.2* from 11,700 low-wage Long Beach residents who work in Los Angeles and will bring home pay increases as a result of the $15 minimum wage Los Angeles enacted. **The strongest impacts of the minimum wage increase will be felt in Long Beach's lower-income neighborhoods that are home to workers receiving more pay.** Assuming that most affected workers continue to reside in their current Long Beach neighborhoods, the multiplier effects of their household spending will have a transformative effect.

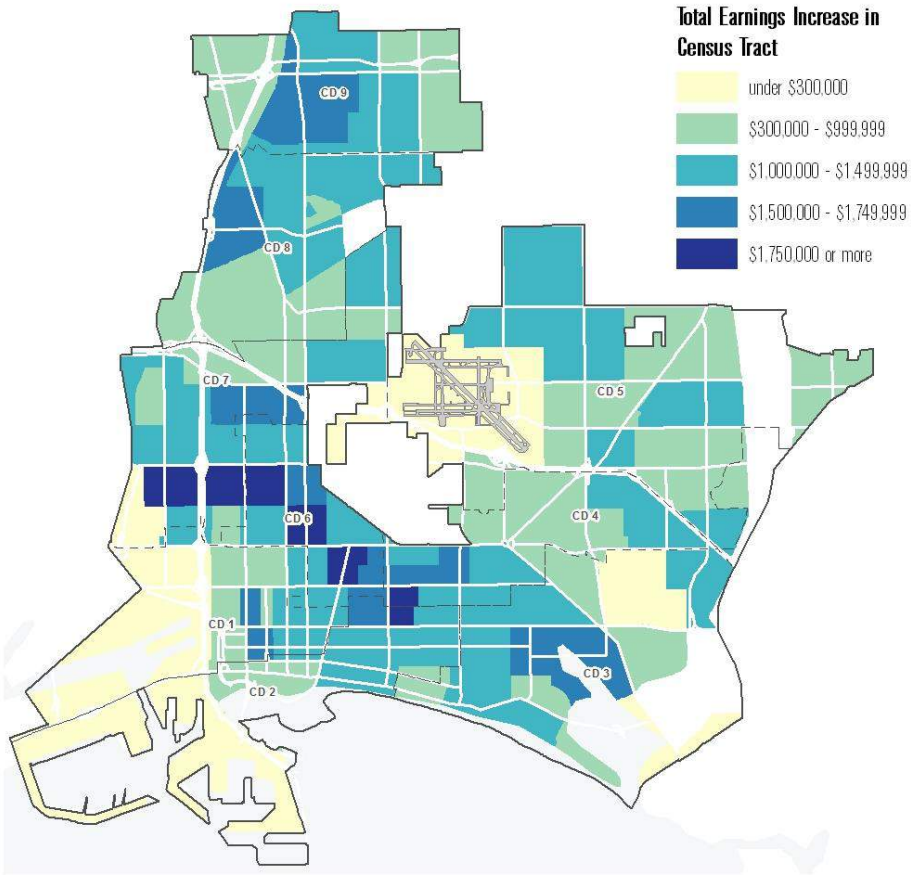
1. In some parts of Long Beach, low-wage jobs account for a disproportionately large share of employment among the resident labor force, even though a relatively small number of establishments that employ workers in low-wage jobs

Figure 7.2 – Estimates of Aggregate Tract-level Earnings Increases from a $15 Minimum Wage in 2020, Percent



Sources: Author analysis of Longitudinal Employer-Household Dynamics origin-destination and home area files (2013) and ACS 5-year estimates (2009-2013). Estimated raise from a $15 minimum wage is the numerator, ACS variable B19313 (Aggregate Income in the Past 12 Months, Population 15 years and over) is the denominator.

Figure 7.3 - Estimates of Aggregate Tract-level Earnings Increases from a $15 Minimum Wage in 2020, Dollar Amounts



Sources: Author analysis of Longitudinal Employer-Household Dynamics origin-destination and home area files (2013) and ACS 5-year estimates (2009-2013).

are actually located in those neighborhoods. However, these **lower-income neighborhoods stand to benefit most from an increase in the spending power of their residents**, especially in neighborhoods markets, personal services and restaurants that draw on highly localized market areas. As a result, consumption-oriented businesses in lower-income neighborhoods may play a sentinel role for identifying costs and benefits of the minimum wage increase.

2. The majority of potential adverse impacts upon consumer-oriented businesses—possibly including price increases and in some instances reductions in hours—will likely occur in neighborhoods with large, diverse concentrations of businesses and, in most cases, in higher-income residential areas of the city. These factors will likely carry the majority of affected businesses through a period of adjustment to the increased minimum wage.

3. Effects of the earnings increase will radiate throughout Long Beach's diverse neighborhood economies—as well as beyond the city's borders. Though the infusion of earnings income and concomitant household spending will be diffuse, many residents of the lower-income sections of the city that send low-wage workers to various employment centers will carry their higher earnings back to the neighborhoods where they live. Particularly in poorer neighborhoods, these dollars will generate additional demand, potentially closing existing gaps in nearby job opportunities and retail demand across the city's neighborhoods.

Lower-income neighborhoods stand to benefit most from an increase in the spending power of their residents.

4. For these reasons, a rising wage floor will shift the landscape of opportunity across the neighborhoods and employment concentrations in Long Beach. In light of the existing geography of low-wage work, some of the benefits will be manifest as increased demand for consumption-oriented goods in areas of the city with weak markets and scarce job opportunities. Meanwhile, many of the potential costs to businesses and consumers will occur in areas relatively resilient to such adjustments, due to higher incomes. The minimum wage increase will help transform Long Beach into a more sustainable economy.

Baseline Analysis of Labor Market Flows between Long Beach and Surrounding Cities

Long Beach will be a more attractive and competitive employment destination for the most productive workers.

Long Beach is part of a much larger, deeply integrated, regional economy that spans at least two counties and hundreds of cities. Its labor market area – where Long Beach resident workers can find and change jobs within a reasonable commuting distance from their homes – extends well beyond its own boundaries and is regional in scope. Because of this, some of the effects from the minimum wage increase will extend far beyond the municipal boundaries of Long Beach, likely altering flows of labor between the city and neighboring municipalities. **Long Beach will be a more attractive and competitive employment destination for the most productive workers** in each job class that employs lower-wage workers. Below, we examine trends in flows of workers during the baseline periods of 2008 and 2013, both to examine the current character of regional labor market integration before the minimum wage increase goes into effect and to illustrate the possibility for monitoring the effects of the minimum wage after its implementation.

Job Flows: City of Long Beach Resident Workers Commuting to Other Cities, 2008 and 2013

The job destinations of Long Beach residents who commute to work outside of the city are shown in *Table 7.1*, broken out by income thresholds as well as by change during the baseline period. The first three columns show the number of Long Beach resident workers employed in other cities, and the last three columns reveal the change in number of workers between 2008 and 2013. We show these measures for all jobs, as well as low- and mid-earning jobs. The table shows a selected number of cities where significant numbers of Long Beach residents go to work. Overall, we do not observe a large change during the base period. There was a net decline of 11 percent in the number of workers commuting to other cities. Two trends stand out: a decline in those commuting to jobs in Orange County (4,716 fewer jobs) and to all lower-wage jobs (7,946 fewer jobs, or 48 percent less).

Labor flows between Long Beach and neighboring cities shifted considerably from 2008 to 2013, in part due to overall job losses caused by the Great Recession. Nonetheless, the trend remains a net outflow of workers who live in the City of Long Beach to neighboring areas. In a typical year, roughly 1,600 more Long Beach residents commuted out to jobs in the cities listed in *Table 7.1*, excluding Orange County and the City of Los Angeles, than commuted into Long Beach from those cities. Although many of the cities shown in *Table 7.1* were employing fewer Long Beach residents in lower- and mid-earning jobs in 2013 than in 2008, the increases were largely attributed to high-paying jobs (this category is not shown in *Table 7.1*).

Table 7.1 Work Places of Residents of the City of Long Beach, by Income Thresholds and Change in Employment between 2008 and 2013

City	Total Jobs 2013	Low $ Jobs 2013	Mid $ Jobs 2013	Change Total Jobs	Change Low $ Jobs	Change Mid $ Jobs
Orange County	31,831	5,415	11,432	-4,716	-2,700	-2,057
Bellflower	1,903	722	673	601	369	197
Beverly Hills	422	58	154	-134	-49	-37
Burbank	1,189	319	365	-447	-456	-35
Carson	4,653	693	1,934	-452	-335	-329
Cerritos	2,241	439	849	-681	-373	-310
Commerce	1,918	243	826	-421	-152	-221
Compton	3,488	464	1,582	-925	-201	-742
Culver	871	188	318	-118	-131	39
Downey	1,909	402	643	-303	-112	-142
El Segundo	1,974	104	316	217	-30	-55
Gardena	1,004	175	485	-142	-76	-73
Glendale	695	137	251	-154	-96	-53
Inglewood	673	139	291	-68	-44	-32
Lakewood	2,455	799	958	-1,049	-444	-340
La Mirada	559	105	181	-186	-58	-146
Los Angeles	25,439	3,643	8,020	989	-1,931	-673
Lynwood	654	99	236	-114	-31	-34
Norwalk	1,016	243	333	148	-27	12
Paramount	1,463	262	610	-226	-107	-99
Pasadena	863	144	258	-273	-117	-108
Redondo Beach	850	143	246	-316	-60	-13
Santa Clarita	326	73	143	-229	-83	-99
Santa Fe Springs	1,751	182	656	-319	-89	-182
Santa Monica	867	135	281	-195	-107	-105
Signal Hill	2,179	387	825	-185	-137	-222
Torrance	5,511	784	2,010	-681	-369	-350

Source: Authors' analysis of 2008, 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

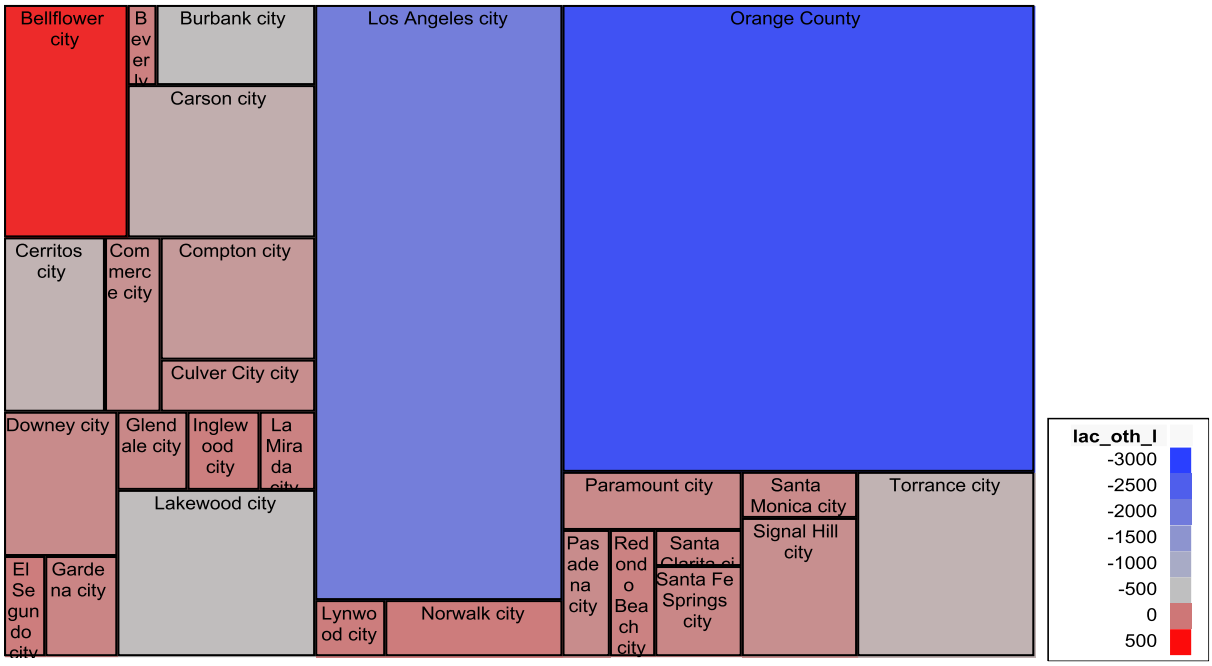
11,700 Long Beach residents commute to low- and mid-wage jobs in the City of Los Angeles, where they will benefit from a $15 minimum wage.

It is important to note that 11,663 Long Beach residents commute to low- and mid-wage jobs in the City of Los Angeles, where they will benefit from a $15 minimum wage.

The commuting flows to cities where lower-earning residents of Long Beach work are shown in *Figure 7.4*. The sizes of the tiles reflect the relative *number* of low-wage residents of Long Beach who work in each receiving city and the color reflects the percentage *change in employment* between 2008 and 2013 for total jobs.

Orange County, the largest commuting destination for low-earning Long Beach residents, showed a decrease of 2,700 jobs from 2008 to 2013. The City of Los Angeles, where the second largest number of low-earning Long Beach residents commute to work, also dropped, by 1,931 jobs. The largest increase was among Long Beach residents commuting to work in the City of Bellflower, an increase of 369 jobs.

Figure 7.4 - Top Low-earnings Job Destinations for Long Beach City Workers Sized by Total Low Earnings Jobs and Colored by Change in Low Paid Employment between 2008 & 2013



Source: Authors' analysis of 2008, 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Job Flows: Long Beach Workers Commuting in from Other Cities, 2008 and 2013

While considerable variation exists among the flows of Long Beach residents commuting to neighboring cities during the 2008-2013 period, the counter flow of workers employed in Long Beach who commute in from surrounding cities has stayed strong: over 75,000 total workers commuting in, with a net loss of only 3,890 commuters in this period.

Excluding the major labor flows between Long Beach and Los Angeles and Orange County, an average of 1,380 workers commuted into Long Beach from each of the cities shown in *Table 7.2*, and an average of 1,660 Long Beach residents commuted out to each of the cities listed in *Table 7.1,* again excluding Los Angeles and Orange County.

Although a few cities showed net increases in workers from Long Beach, these increases were attributed to over 4,800 high-paying jobs. As depicted in *Figure 7.5*, for low-paying jobs, we observe a random pattern of job changes among different cities and an average change of approximately zero. Thus, we do not observe any baseline trend for low- and mid-paying jobs that will be affected by higher minimum wages. The dynamics after implementation should be monitored with this finding in mind.

With the prospect of obtaining higher earnings within their home city, low-wage jobs seekers may be able to concentrate their job search within Long Beach.

This examination of the baseline period from 2008 to 2013 suggests that while the City of Long Beach is an attractive labor market for mid- and high-paying jobs, many resident workers commute outside of the city to find these jobs. For low-paying jobs, exchanges between the City of Long Beach and surrounding municipalities are more balanced. Hence, we expect that higher minimum wage levels will nudge the pattern for flows of low-earnings workers closer to the pattern observed for mid- and high-earnings workers. **With the prospect of obtaining higher earnings within their home city, low-wage jobs seekers may be able to concentrate their job search within Long Beach**. Eventually, low-wage workers with higher levels of productivity will rise to the front of hiring queues. The attendant shift in labor supply toward the Long Beach market will pressure neighboring cities to increase their minimum wage levels or risk of losing their most productive labor force to Long Beach.

Table 7.2 Home Origins of Workers Employed in the City of Long Beach, by Income Thresholds and the Change in Employment between 2008 and 2013

City	Total Jobs 2013	Low $ Jobs 2013	Mid $ Jobs 2013	Change Total Jobs	Change Low $ Jobs	Change Mid $ Jobs
Orange County	28,420	4,764	6,843	554	-1,248	-231
Bellflower	2,375	567	889	-226	-83	-85
Carson	3,148	660	946	-294	-403	-155
Cerritos	1,356	221	313	-244	-132	-46
Compton	2,230	633	936	-371	-159	-249
Downey	1,770	323	592	-111	-129	-159
Gardena	751	169	255	-94	-57	-43
Glendale	370	89	124	-80	-41	-28
Hawthorne	625	146	252	-97	-48	-57
Inglewood	689	162	280	-161	-65	-90
Lakewood	5,554	1,010	1,417	-652	-532	-425
La Mirada	597	92	163	68	-20	5
Lomita	889	144	124	-22	-164	-56
Los Angeles	16,447	3,826	5,330	-1,670	-1,806	-1,304
Lynwood	818	179	406	-34	-71	17
Norwalk	1,597	315	588	-140	-98	-119
Paramount	1,146	292	499	-259	-89	-132
Pico Rivera	498	96	188	-21	-17	-18
Rancho Palos Verdes	884	111	136	136	-29	7
Redondo Beach	582	78	89	-172	-36	-33
Santa Clarita	524	108	158	74	-11	10
Signal Hill	689	146	265	-117	-92	-3
South Gate	1,031	229	433	-31	-46	-59
Torrance	2,300	348	516	74	-156	24

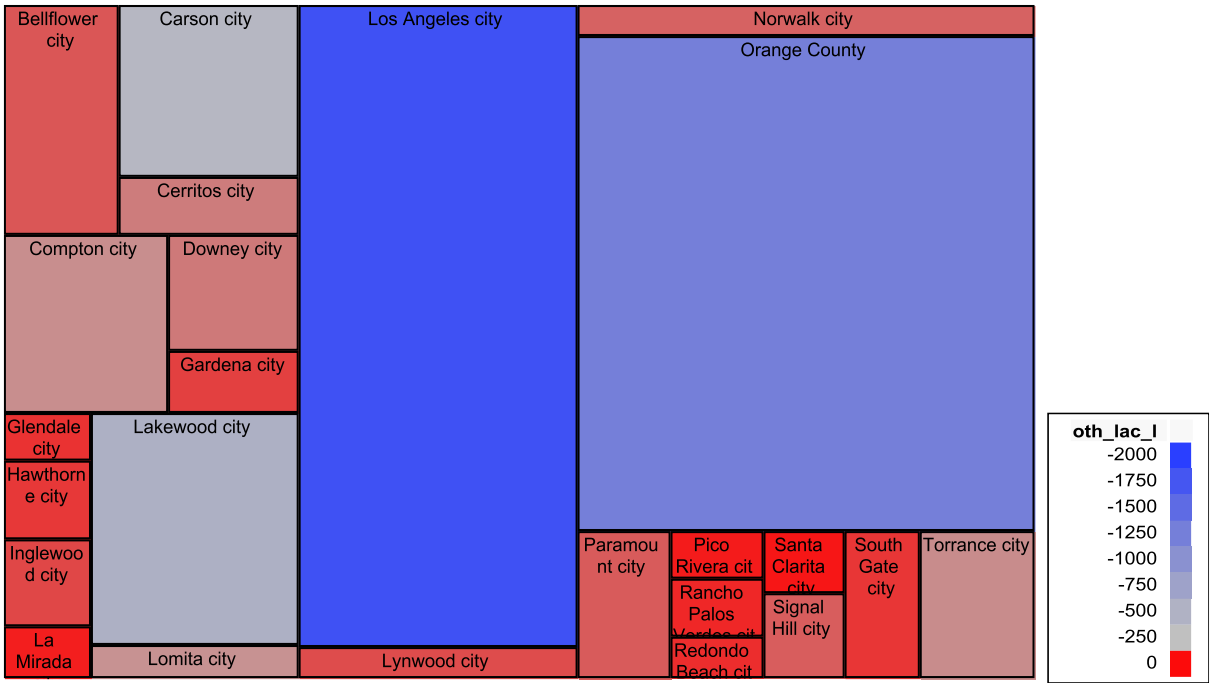
Source: Authors' analysis of 2008, 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

The labor force that finds jobs in Long Beach is the second largest in Los Angeles County, larger than neighboring municipalities aside from the City of Los Angeles. This means that Long Beach's actions to raise its minimum wage are likely to influence wage levels beyond its borders as businesses compete to attract and retain competent workers. This is especially the case now that minimum wage increases are being enacted in the neighboring City of Los Angeles and unincorporated Los Angeles County has adopted similar increases. There is a strong prospect that higher wages will strengthen the city's capacity to attract the most capable workers, pressuring neighboring businesses and cities to raise wage levels to remain competitive.

In summary, this baseline analysis accentuates the various ways that the Long Beach labor market area is deeply integrated with surrounding cities across the region. There are two additional implications for the minimum wage increase worth noting. First, adaptations to the minimum wage in the form of reduced flows of low-wage workers out of Long Beach should be monitored after implementation. Second, the minimum wage will be most effective as a regional—rather than a single-city—strategy.

Long Beach's actions to raise its minimum wage are likely to influence wage levels beyond its borders as businesses compete to attract and retain competent workers.

Figure 7.5 - Home Origins of Workers from Other Cities Working in Low-earnings Jobs in the City of Long Beach Sized by Low Paid Jobs and Colored by Change in Low-earnings Employment between 2008 & 2013



Source: Authors' analysis of 2008, 2013 US Census ACS, PUMS and LODES data, and QCEW projections.

Conclusion

The strongest impacts of the cash infusion from raising the minimum wage in Long Beach will be felt in Long Beach's lower-income neighborhoods, with total earned income increasing by as much as 4 percent in neighborhoods with the most low-wage workers.

Most workers who will benefit from the higher minimum wage are employed in consumer-oriented businesses such as retail, restaurants, hotels, and personal services that are concentrated in higher income neighborhoods where customers are better able to absorb the cost increases that result from raising the wage floor.

Some of the effects from the minimum wage increase will extend far beyond the municipal boundaries of Long Beach, likely altering flows of labor between the city and neighboring municipalities. Long Beach will be a more attractive and competitive employment destination for the most productive workers in each job class that employs lower-wage workers. The attendant shift in labor supply toward the Long Beach market will pressure neighboring cities to increase their minimum wage levels or risk of losing their most productive labor force to Long Beach.

It is important to note that 11,700 Long Beach residents now commute to low- and mid-wage jobs in the City of Los Angeles, where they will soon benefit from a $15 minimum wage. This will generate an additional infusion of earnings and buying power into Long Beach's low income neighborhoods.

End Notes

[1] For data sources reliant on samples, such as ACS estimates, sample sizes decrease with small areas, increasing the margins of error. Other indicators are derived from the Longitudinal Employer-Household Dynamics program of the Census Bureau, a source which builds randomness into the data to protect confidentiality. Notwithstanding these limitations for the confidence of small-area estimates, these sources still provide reliable indicators for examining the overall distribution of key factors, provided that estimation errors are consistent across space.

[2] We define "consumer-oriented businesses" as those in the following NAICS categories: All Retail (44-45), Retail Bakeries (311811), Temps, Guards and Janitors (561), Home Health Care Services (6216), Child Care Day Services (6244), Residential Nursing (623), Hotels (721), Restaurants and Bars (722), and Personal and Repair Services (81).

Long Beach Data Dashboard

Tools for Monitoring Impacts of a Minimum Wage Increase

Tools for monitoring the effects of minimum wage increases on the economy will enable City of Long Beach elected officials, city staff, residents, and business owners to implement minimum wage with confidence that any unintended impacts will be identified and managed. We recommend that the city monitor the impacts of the increase in the minimum wage by comparing annual changes in Long Beach's economic performance to selected reference regions in the following data benchmarks – comparisons we refer to as the "Data Dashboard":

- Business sales
- Employment
- Wages

The Data Dashboard provides benchmarks showing how the City of Long Beach performs in business sales, employment, and wages relative to the balance of Los Angeles County and the State of California.[1] The Dashboard uses public data from the U.S. Census Bureau, U.S. Bureau of Labor Statistics, California Employment Development Department, and California Board of Equalization.

The $15 minimum wage is being implemented in five annual increments, taking full effect in 2020. This allows time to use the Data Dashboard to compare Long Beach trends to trends in other geographic areas to ensure that there are not unintended consequences.

Long Beach *Business Revenue* Baseline

Taxable sales volume provides direct evidence about how well the retail and restaurant economy is adapting to increased labor costs. These are the largest employers of low wage workers, so sales tax trends will be an immediate indicator of possible unintended consequences from raising the minimum wage.

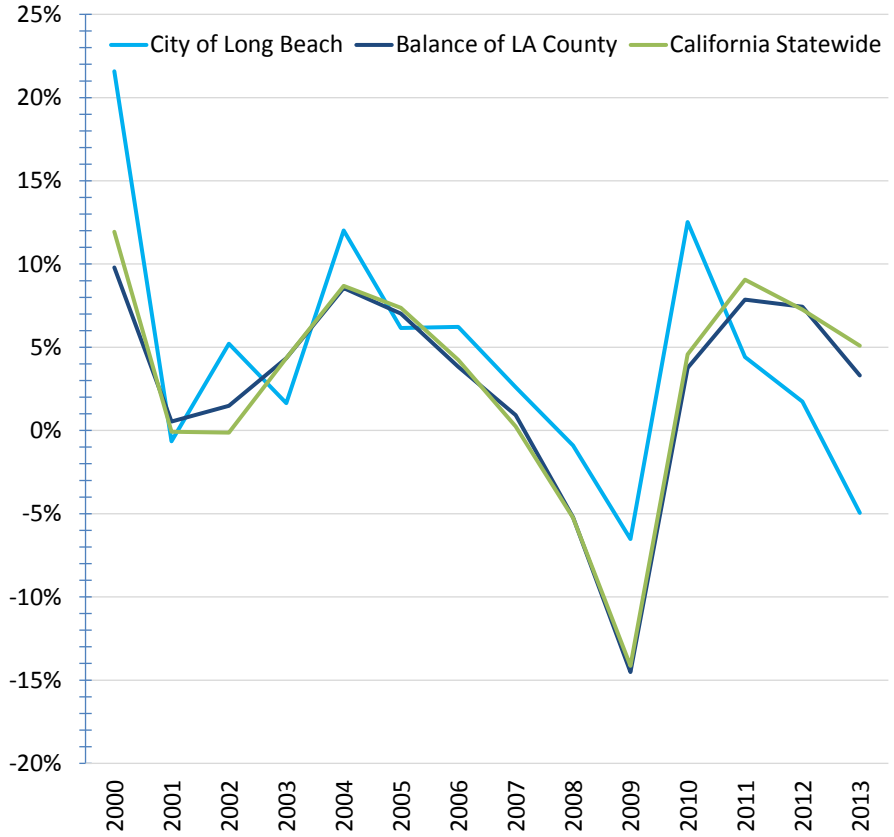
The higher minimum wage will change the rules of business for all retail outlets, restaurants and bars. If there are no secondary effects, the outcome will be a slight increase in prices and a corresponding increase in sales tax revenue. The more likely outcome is that store, restaurant and bar owners will adapt their business model to pay higher labor costs, some that are not adaptive or have marginal sales may close, and new stores, restaurants and bars will open in working class neighborhoods where there is increased buying power, creating net sales growth.

We recommend monitoring the following Data Dashboard indicator about changes the city's taxable sales:

1. How much revenue is business generating?
    - Recommended method: review taxable sales for Long Beach by industry
    - Recommended data source: California Board of Equalization, Taxable Sales in California (Sales & Use Tax), annual
    - Breakouts by business types[2] for taxable sales
    - Recommended comparison regions:
        - Balance of Los Angeles County
        - State of California

Baseline trends data for taxable sales in Long Beach are shown in *Figure 8.1*, alongside the comparison regions. Annual percentage changes in taxable sales over the past 13 years are generally similar to those in the balance of the county and the state. The largest negative variance between Long Beach and the balance of Los Angeles County and the State of California has ranged from -4.6 percent in 2011 to -10.0 percent in 2013 (*Table 8.1*).

Figure 8.1 - Percent Annual Change in Taxable Sales, All Industries



Source: California Board of Equalization. 1999-2013. Taxable Sales in California (Sales & Use Tax).

Use a negative variance of -5.7% between Long Beach and the comparison regions in annual sales tax revenue change as a *tripwire* that would call for further study of impacts.

We recommend that the city use a negative variance of -5.7 percent between Long Beach and the comparison regions in annual sales tax revenue change as a *tripwire* that would call for further study of impacts from the minimum wage on the local economy.

Table 8.1: Variation in Annual Change in Sales Tax Revenue between the City of Long Beach and Other Regions

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
City of Long Beach	-0.6%	5.2	1.6	12.0	6.2	6.2	2.6	-0.9	-6.5	12.5	4.4	1.7	-4.9
Balance of Los Angeles County	0.5%	1.5	4.3	8.5	7.0	3.8	0.9	-5.2	-14.5	3.8	7.9	7.4	3.3
State of California	-0.1%	-0.1	4.3	8.7	7.4	4.2	0.2	-5.2	-14.1	4.6	9.1	7.3	5.1
Difference LB vs. LA Co.	-1.2%	3.7	-2.7	3.5	-0.9	2.4	1.7	4.3	8.0	8.8	-3.5	-5.7	-8.3
Difference LB vs. State of CA	-0.6%	5.3	-2.7	3.3	-1.2	2.0	2.3	4.3	7.6	8.0	-4.6	-5.5	-10.0
LB Maximum Negative Variance	-1.2%	-	-2.7	-	-1.2	-	-	-	-	-	-4.6	-5.7	-10.0

Source: California Board of Equalization. 1999-2013. Taxable Sales in California (Sales & Use Tax).

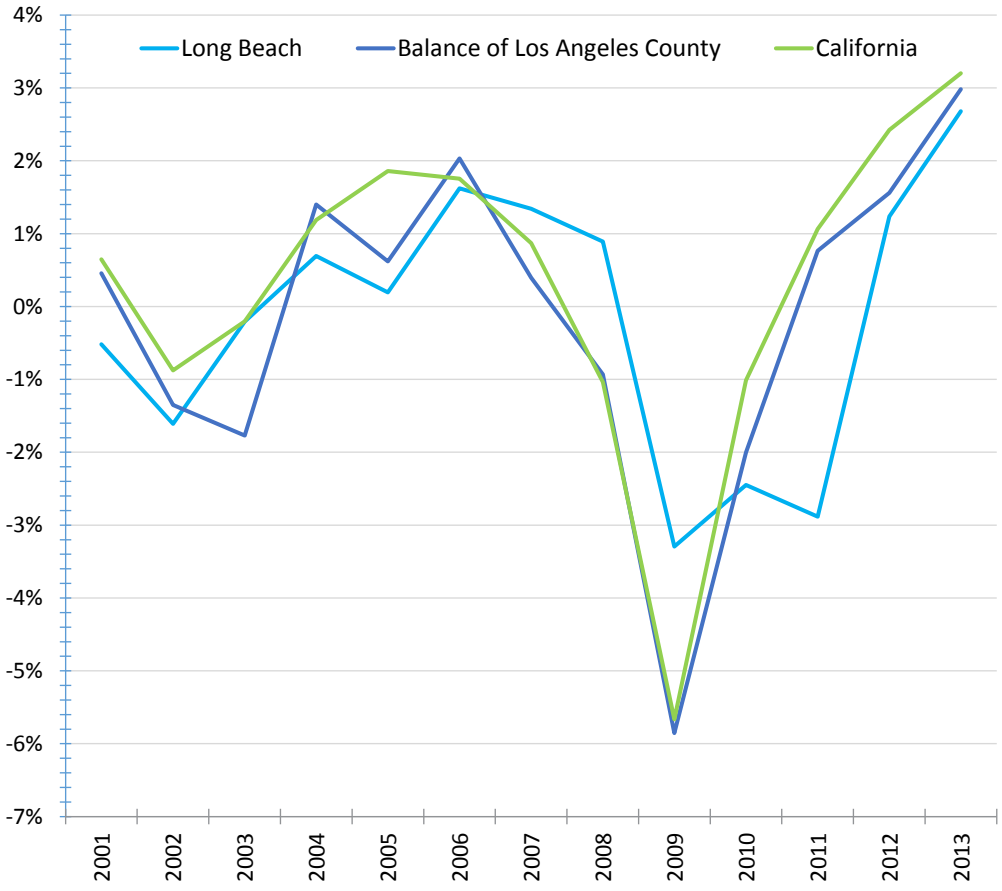
Long Beach *Employment* Baseline

A second core metric of the city's economy is employment. Sustaining and increasing employment levels over time is of paramount importance to Long Beach, and—barring periodic recessions—is a reasonable expectation amid a phased-in minimum wage increase. We recommend monitoring the following Data Dashboard indicators about employment:

1. Is Employment Growing or Shrinking?
    - » Recommended method: total employment, all industries, including self-employment, with possible breakout by industry sector
    - » Recommended data sources: U.S. Census Bureau County Business Patterns zip code data
    - » Recommended comparison regions:
        - o Balance of Los Angeles County
        - o State of California
2. Are People Working More or Less?
    - » Recommended method: weeks and hours worked for employed persons, workers per family, and share of workers who are self-employed
    - » Recommended source: U.S. Census Bureau, American Community Survey, annual, U.S. Bureau of Labor Statistics, Nonemployer Statistics
    - » Recommended comparison regions:
        - o Balance of Los Angeles County
        - o State of California

Use a negative variance of -3.9% between Long Beach and the comparison regions in annual employment change as a *tripwire* that would call for further study of impacts.

Figure 8.2 - Percent Annual Employment Change, All Industries



Source: California Employment Development Department-Labor Market Information Division. 2000-2013. Quarterly Census of Employment and Wages (QCEW) records.

Table 8.2: Variation in Annual Employment Change between the City of Long Beach and Other Regions

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
City of Long Beach	-0.5%	-1.6%	-0.2%	0.7%	0.2%	1.6%	1.3%	0.9%	-3.3%	-2.4%	-2.9%	1.2%	2.7%
Balance of Los Angeles County	0.5%	-1.4%	-1.8%	1.4%	0.6%	2.0%	0.4%	-0.9%	-5.9%	-2.0%	0.8%	1.6%	3.0%
State of California	0.6%	-0.9%	-0.2%	1.2%	1.9%	1.8%	0.9%	-1.0%	-5.7%	-1.0%	1.1%	2.4%	3.2%
Difference LB vs. LA Co.	-1.0%	-0.3%	1.6%	-0.7%	-0.4%	-0.4%	0.9%	1.8%	2.6%	-0.4%	-3.6%	-0.3%	-0.3%
Difference LB vs. State of CA	-1.2%	-0.7%	0.0%	-0.5%	-1.7%	-0.1%	0.5%	1.9%	2.4%	-1.4%	-3.9%	-1.2%	-0.5%
LB Maximum Negative Variance	-1.2%	-0.7%	0.0%	-0.7%	-1.7%	-0.4%	0.5%	1.8%	2.4%	-1.4%	-3.9%	-1.2%	-0.5%

Source: California Employment Development Department-Labor Market Information Division. 2000-2013. Quarterly Census of Employment and Wages (QCEW) records.

Annual percentage changes in employment in the City of Long Beach have generally followed the balance of Los Angeles County and the State of California, especially preceding the great recession (*Figure 8.2*). Data in that chart are displayed in *Table 8.2*, where the first three rows are percentage change in annual employment for Long Beach, the balance of the county, and the state. The fourth and fifth rows calculate the difference between Long Beach and the two comparison regions; the sixth row displays the maximum negative deviation for Long Beach from these peers.

The largest negative variance in annual employment change between the City of Long Beach and the balance of the county and the state over the past 13 years was -3.9 percent in 2011. We recommend that the city use a negative variance of -3.9 between Long Beach and the comparison regions percent in annual employment revenue change as a *tripwire* that would call for further study of impacts from the minimum wage on the local economy.

Long Beach Today: *Wage* Baselines before the Minimum Wage Increase

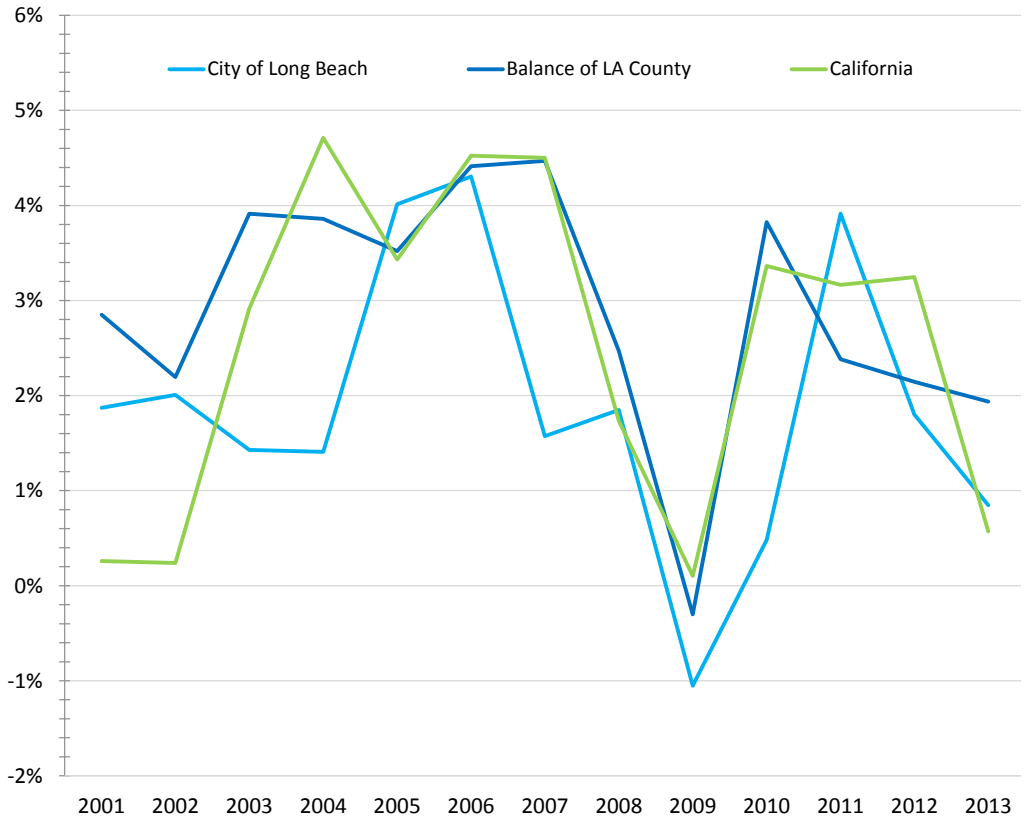
Along with employment levels, another core metric of the city's economy and its workers' well-being is wages. Although the proposed minimum wage ordinance itself should boost average wages across the City of Long Beach, it is important to validate this expectation.

We recommend monitoring the following Data Dashboard elements about wages:

1. How Much Are People Earning?
    - Recommended method: annual average, for all industries and broken out by industry sector
    - U.S. Census Bureau County Business Patterns; U.S. Census, American Community Survey
    - Recommended comparison regions:
        - Balance of Los Angeles County
        - State of California

Use a negative variance of -3.3% between Long Beach and the comparison regions in annual wage change as a *tripwire* that would call for further study of impacts.

Figure 8.3 – Annual Average Wages Change, All Industries



Source: California Employment Development Department-Labor Market Information Division. 2000-2013. Quarterly Census of Employment and Wages (QCEW) records.

Average wages change more dramatically year to year than employment or taxable sales (*Figure 8.3*). Part of the reason for this is that average wages for workers are computed by dividing total payroll by total employment, which introduces two sources of variability

Table 8.3: Variation in Annual Average Wage Change between the City of Long Beach and Other Regions

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
City of Long Beach	1.9%	2.0	-3.5	6.6	4.0	4.3	1.6	1.8	-1.1	0.5	3.9	1.8	0.8
Balance of Los Angeles County	2.8%	2.2	3.9	3.9	3.5	4.4	4.5	2.5	-0.3	3.8	2.4	2.1	1.9
State of California	0.3%	0.2	2.9	4.7	3.4	4.5	4.5	1.7	0.1	3.4	3.2	3.2	0.6
Difference LB vs. LA Co.	-1.0%	-0.2	-7.4	2.7	0.5	-0.1	-2.9	-0.6	-0.8	-3.3	1.5	-0.3	-1.1
Difference LB vs. State of CA	-1.6%	-1.8	6.4	-1.9	-0.6	0.2	2.9	-0.1	1.2	2.9	-0.7	1.4	-0.3
LB Maximum Negative Variance	-1.6%	-1.8	-2.5	-1.9	-0.6	-0.1	-2.9	-0.6	-0.8	-3.3	-0.7	-0.3	-1.1

Source: California Employment Development Department-Labor Market Information Division. 2000-2013. Quarterly Census of Employment and Wages, including public (county) and confidential establishment-level data ES-202 (City of Long Beach) data series. Note: City of Long Beach and balance of LA County made estimates for 2012 and 2013 based on 2011 county-level trends, in the absence of establishment-level data.

into this benchmark. Long Beach nonetheless still roughly follows the trends of the two comparison regions. The largest negative variances in annual average wage change between the City of Long Beach and the balance of Los Angeles County and State of California was -3.3 percent in 2010 (*Table 8.3*).[3]

We recommend that the city use a negative variance of -3.3 percent between Long Beach and the comparison regions in annual wage change as a *tripwire* that would call for further study of impacts from the minimum wage on the local economy.

Comparisons between the City of Long Beach and neighboring cities within the county provide further insights, in addition to the county aggregate analysis featured above. This analysis may reveal upward pressure on the city's immediate neighbors as the minimum wage ordinance is implemented. Furthermore, multi-year trends in disaggregated industry and sector data can reveal wage differences across industries, not otherwise revealed in data on all industries combined.

Caution when Using Fine Grain Data

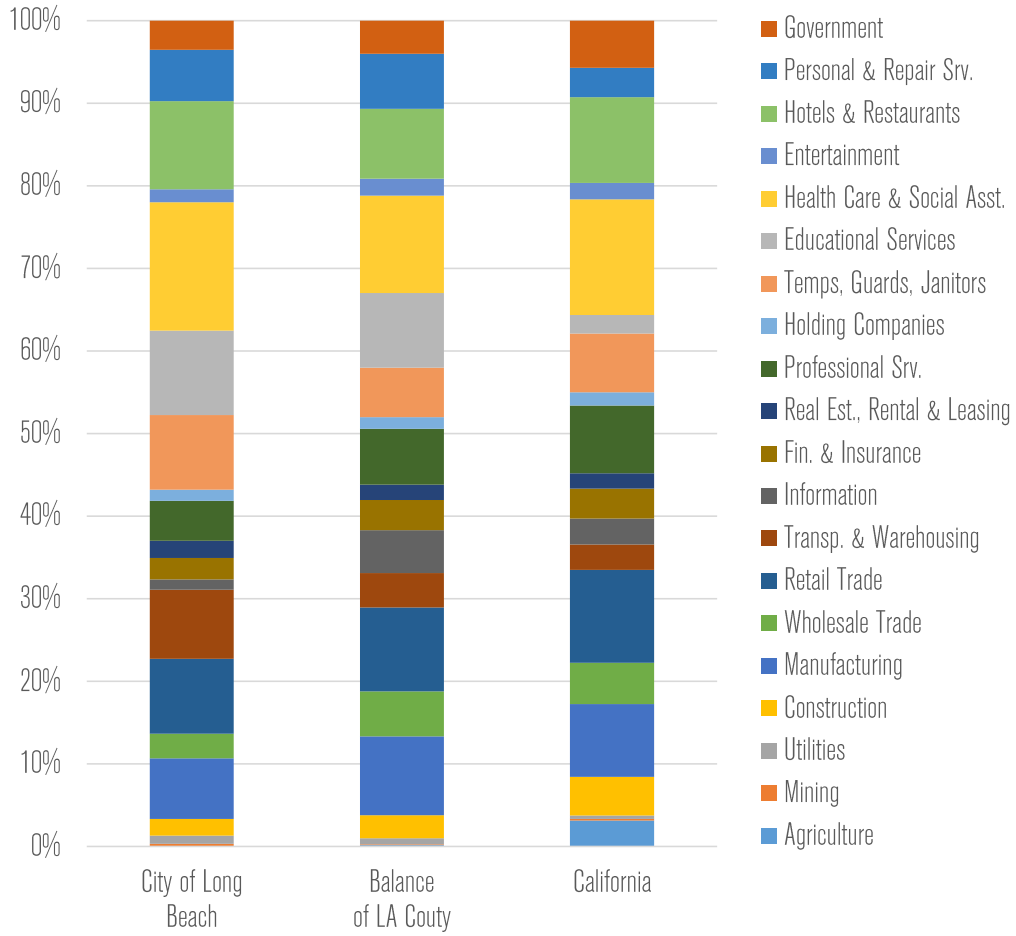
Long Beach has fewer employers and workers than the balance of the county or California, making it more likely that there will be "noise" in the data. An anomaly in how a single large employer submits payroll or sales tax data for a particular year can cause a large jump in the data. Multi-year trends provide clearer evidence of true variance between regions, particularly when looking at sub-city data for a particular industry sector.

Differences in the Industrial Composition of Los Angeles and Comparison Regions

The economies of the balance of Los Angeles County and the State of California closely resemble that of the City of Long Beach since 2000, compared to other regions we studied, including Orange County, the City of San Diego, San Diego County, and the nine-county San Francisco Bay region. But Long Beach has no exact twin: its mix of employment broken out by industry is slightly different from the balance of the county and the state (*Figure 8.4*), which appear to be the best points of comparison for the city.

Differences between the city and the two comparison regions include Agricultural employment, which is minimal within Los Angeles County while it remains significant statewide (three percent). Construction, Manufacturing and Retail are a smaller share of employment in the City of Long Beach than in the balance of the county and the state, while the city has a greater share of employment in Transportation and Warehousing, Education and Health Care services. The city has a lower share of public sector employment than the state (three and six percent, respectively), while the balance of the county has only four percent. These variations in industry sector-level employment can cause differences in business cycle timing between the three areas, since slowdowns often originate in specific industries before later affecting the overall economy.

Figure 8.4 - Employment by Industry for the City of Long Beach, Balance of County and State



Source: Source: California Employment Development Department-Labor Market Information Division. 2000-2013. Quarterly Census of Employment and Wages, including public (county) and confidential establishment-level data ES-202 (City of Long Beach) data series.

Time Lag in Data Dashboard Elements

We recommend annual reporting intervals. Public agencies responsible for the economic data cited in this section typically produce it annually, quarterly or monthly, and release it after some time lag due to the data collection process and subsequent data cleaning and adjustments (*Figure 8.5*). Building off of baseline data presented in this report, each subsequent data release can offer an additional window into the effects of a minimum wage ordinance, allowing City of Long Beach officials to track the effects of this important policy. These annual reports will be most informative in years three through five, when the complete array of recommended data is available.

Figure 8.5 - Chronology and Sources of Data Dashboard Elements

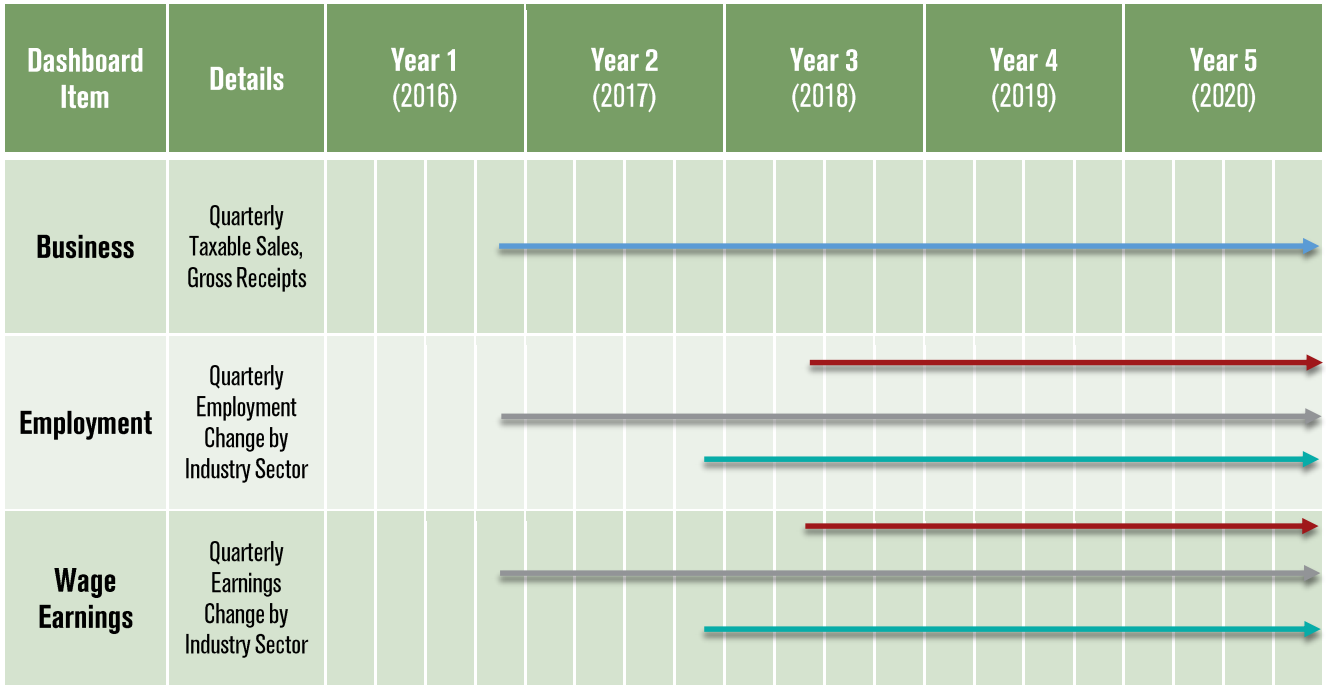


Table notes: The Legend for data sources in Figure 6.5:

- CA Board of Equalization, *Taxable Sales in California (Sales & Use Tax)*
- CA Employment Development Department, *Quarterly Census of Employment and Wages*
- U.S. Census Bureau, *American Community Survey*
- U.S. Census Bureau, *County Business Patterns*

End Notes

[1] For our Data Dashboard elements, we benchmark annual changes in the City of Long Beach against two similar regions. Our analysis of similarity between the City of Long Beach and other geographic areas in the state revealed the city's strongest association with the balance of Los Angeles County and the state of California.

[2] California Board of Equalization. 1999-2012. Taxable Sales in California (Sales & Use Tax). Da-ta for large cities are broken out into the following types of retail and food services:

- Home Furnishings and Appliance Stores
- Bldg. Material and Garden Equip. and Supplies
- Food and Beverage Stores
- Motor Vehicle and Parts Dealers
- Gasoline Stations
- Clothing and Clothing Accessories Stores
- General Merchandise Stores
- Food Services and Drinking Places
- Other Retail Group
- All Other Outlets

[3] Large negative variance between wage change in Long Beach and the comparison regions was also found in 2003, but a review of the data found that this was attributable to an anomaly in payroll data.

Data Appendix

Guide to Data Appendix Sections

Chapter II: **Methodology for Using the American Community Survey 2009-2013 Public Use Microdata Sample**

Chapter VI: **Methodology for Labor Flow Modeling**

Economic Multiplier Effects from Dollars Received by Households at Different Income Levels

Methodology for Estimates of Affected Workers, Size of Earnings Increases, Reductions in Poverty, and Geographic Distribution of Impacts

Chapter II: Methodology for Using the American Community Survey 2009-2013 Public Use Microdata Sample

The American Community Survey (ACS) Public Use Microdata Sample (PUMS) provides detailed information about workers based on place of residence. The 2009 to 2013 data set provides a five percent sample of the population, with 22,666 weighted records for residents of the City of Long Beach. These records include demographic details and information about hours and weeks worked, class of worker, occupation, industry, and earnings. This provides the most detailed information available estimating the hourly wages of workers and for understanding the attributes of low-wage workers.

The critical limitation of this data is that it is based on where workers live, not where they work. This is a major limitation since more than half of the workers with jobs in the city do not live in the city. The overall data strategy for this report was to:

- Use ACS PUMS data to understand the attributes of workers.
- Use the Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) to identify the size, place of residence and broad characteristics of the labor force employed in the City of Los Angeles (methodology for building this data set is described later).
- Use common data variables in ACS PUMS and LODES data to extrapolate detailed worker attributes shown in ACS PUMS records onto the labor force shown in LODES data.

Filtering that was applied to ACS PUMS data to narrow the records as closely as possible to workers who both live and work in the city, and thus are most representative of the city's labor force was as follows:

- Public Use Microdata Area (PUMA) place of residence within the City of Long Beach.
- Age – no filters. There are only a small number of workers younger than 18 in the labor force but many workers over 65 years of age. Older workers have above-average earnings, so age filters have the effect of skewing earnings downwards.
- Weeks and hours worked – no filters. There are both low- and high-hours outliers, but excluding outliers has the effect of skewing earnings downwards.
- Hourly wage – no filters. There are both low- and high-wage outliers, but excluding outliers has the effect of skewing earnings downwards.
- Class of worker – the sample was limited to workers with wage and salary earnings. Roughly five percent of workers have both wage and self-employment earnings. Hours worked were reduced to reflect the ratio of wage and salary earnings to self-employment earnings.
- Amount of earnings – workers with less than $500 in wage and salary earnings in the year were excluded in order to exclude workers with extremely marginal labor force connections who were likely to skew earnings data downwards.

Chapter VI: Methodology for Labor Flow Modeling

In this appendix, we document our methodology to estimate the number of workers affected by the proposed minimum wage law, as well as the estimated increase in earnings. The appendix includes sections on data sources, comparison of the two main data sources used and the process for estimating the number of workers affected and the increase in earnings. This appendix also describes the demographic and job characteristics covered in the labor flow chapters of the report as well as the estimation of reduction in poverty and public assistance costs.

Data Sources and Sample Definition

We use two main data sources provided by Census Bureau in our study. These are the Longitudinal Employment-Household Dynamics (LEHD) Origin- Destination Employment Statistics (LODES) and the American Community survey (ACS) 5-year estimates. Two files are complementary data products that can be used to conduct economic, demographic and geographical analysis. [1] A detailed description of PUMS, the main data product of ACS is presented elsewhere in this Appendix.

We use the 2009-2013 PUMS data with different coverages in different analysis as noted below. In addition to PUMS, we also use ACS 2013 (5-year estimates) B20005 detailed tables which provide cross-tabs of earnings in the past 12 months for each ethnicity level we used—Asian, Black, Latino, Other and White by sex and work experience at the census tract level. Work experience refers to worked full-time, year round and other, where other represents the part-time workers. Earnings are available in 20 brackets starting with $1 to $2,499. We use the bottom 13 brackets which correspond to low and mid earning levels of the LODES data as elaborated below.

The LODES data provides three data files that we used. The main one is the Origin-Destination (OD) data that provides detailed counts of where workers live, where workers work, and the origins and destinations trips to work at the census tract and block level. These counts are derived from a variety of both public and confidential data sources, including unemployment insurance records. To protect confidentiality, noise infusion is applied to workplace totals, and synthetic data methods are applied to residential locations. As a result of the fuzziness built into the data, its reliability is limited for very small geographies, like the census block, the lowest unit for which the data is available. However, when aggregated to larger areas, like census tracts, the aggregated counts become more accurate by reducing the variance of small-area counts. We use tract-level counts throughout the analysis. These data provide three earnings breakdowns that we use as follows: *Low earning jobs*—jobs with earnings $1,250 per month or less; *mid-earning jobs*—jobs with earnings $1251 to $3333 per month, and *high-earning jobs*—jobs with earnings greater than $3333 per month.

Origin-destination data sets do not include more detailed information on workers. We get the labor flow between census tracts and the number of workers by three earning levels as noted. In order to derive the gender, ethnicity and industry information, we use the Residence Area Characteristics (RAC) data which provides jobs by home census tract. RAC data provides separate data files for each earning level showing the number of jobs by gender, ethnicity and two digit NAICS industry sector.

[1] For a comparison of ACS and LODES data products, see Graham, Matthew R., Kutzbach, Mark j., McKenzie, Brian. 2014. Design Comparison of LODES and ACS Commuting Data Products. Census Bureau.

The most recent available LODES data products include 2013 counts of jobs. It is important to emphasize that the LODES data provides counts of "jobs" rather than individuals or households. We use data for primary jobs which closely approximates the number of workers.

The main advantage of LODES data relative to the ACS data is the sample definition. ACS does not allow us to identify workers by work location at the city level. The smallest geographic area is the county (place of work PUMA). Roughly three-quarters of those who work in the city commute from other municipalities. This would not pose much of a problem if the earnings and composition of workers living outside are similar to the city resident workers. In the comparison we show in this report of the earnings distributions of the lower-paid two groups we note a startling discrepancy: while resident workers possess more than half of the city's low earning jobs, workers from other areas occupy more than 60 percent of the high-earning jobs in the city. In other words, while city resident workers are employed in lower wage jobs, workers are coming from other localities for higher paid jobs. Moreover, as illustrated in *Table III-1*, the compositions of the worker populations in the PUMS and LODES data are different because the former includes workers in the informal economy.

We show in *Table III-1* that, the composition of workers in the PUMS data is significantly different than the demographics of workers in the LODES Workplace Area Characteristic (WAC) data. The difference is most evident for low paid workers. PUMS data includes workers working in the informal economy and consequently it represents higher number of younger and Latino workers than shown by LODES.

Table III-1. Demographic Composition of Workers in LODES and PUMS Data Sets.

Demographics	All Workers		Low Paid workers		Mid Paid Workers	
	PUMS	LODES-WAC	PUMS	LODES-WAC	PUMS	LODES-WAC
Age						
18-29	29%	21%	48%	32%	29%	27%
30-54	57%	59%	40%	48%	58%	55%
55 and Over	14%	20%	12%	20%	13%	18%
Gender						
Male	54%	50%	48%	46%	56%	54%
Female	46%	50%	52%	54%	44%	46%
Ethnicity						
Asian	13%	16%	10%	13%	11%	15%
Black	8%	11%	8%	12%	8%	11%
Latino	45%	35%	56%	35%	56%	47%
Other	2%	2%	2%	3%	2%	2%
White	32%	36%	24%	43%	23%	25%

These differences confirm that PUMS is not a good candidate to be the primary data source in assessing the impact of the minimum wage increases. On the one hand, we cannot make the assumption that the wage distribution and demographic composition of those who work in the city (not all of whom live in the city) is the same as the wage distribution of those who work in the county—which is provided by PUMS. On the other hand, we study the impact of the minimum wage increases in the formal economy and PUMS workers include who work in the informal economy which would require non-trivial adjustments.

Because of these limitations, we use LODES data as the primary data source and PUMS data to complement it in certain areas as described below. Using LODES data at the census tract level not only provides accurate results relying on work of place job counts at the tract level, it also provides us to present a more accurate spatial representation of the data.

The Methodology of Estimating the Number of Affected workers and Size of Earnings Increases

First we estimate the number of workers working in the city in each home census tract and then simulate the tract level wage distribution right before the proposed minimum wage law would go into effect, and finally estimate the number of workers affected by the increase and their additional earnings.

We start our method by processing the 2013 LODES California origin-destination data for all employment. We identify all home census tracts in the city and county with resident workers working in Long Beach. For other counties, for simplicity, we use county level data rather than census tract level. Numbers of smaller counties are aggregated into a residual category. We only use the job counts for low and mid earning jobs. The final data show approximately 155,000 workers employed in the city's formal economy. The data is comprised of 16 other county counts and 2,333 census tracts counts in Los Angeles County.

The next step is to allocate these workers in identified counties and census tracts to earning brackets to estimate the number of workers affected by minimum wage increases. We prepare the LODES data in 10 different classes for the two earning classes—low and mid earning jobs. These classes are 2gender and 5 ethnicity categories. Then, each census tract count is divided into 20 cells making it very granular. Since LODES does not provide the cross-tabulation of gender and ethnicity, we assume that gender distribution is even among 5 ethnic groups.

We allocate job counts by these 20 strata to the ACS B-20005 detail table data which is described above. ACS tables provide the wage distribution of all workers working in a given census tract by the same strata. However, we face two caveats in this process. First, ACS data also provides the data by work status—full-time and part-time while LODES data does not. Second, ACS data includes self-employed which need to be removed.

We used PUMS data to make the self-employment adjustment. This step is necessary, self-employed persons earn lower wages and would introduce a bias to the wage distribution if included. LODES data only includes workers with wages and salaries. We use PUMS data to derive the percent self-employed by gender, ethnicity, work status and 13 earning brackets. We estimate the self-employment proportions at the PUMA level for all workers with the exception of other counties where count level rates are estimated. Then, we apply these proportions to ACS data to remove the self-employed from each census tract. We also use PUMS data to derive the proportions of workers employed full-time and part-time by gender and ethnicity and earnings bracket at the PUMA level.

Next, using the estimated work status proportions, we allocate the jobs derived from the LODES data by gender and ethnicity. We distribute the low earning jobs to the bottom 7 brackets and mid earning jobs to the next 6 brackets of the ACS data in each census tract. This process gives us job counts of workers working in the city by 20 strata--2 gender, 2 work status and 5 ethnicity categories for 13 earning brackets.

After simulating the wage distribution in each census tract by the 20 strata, our final step is to estimate how many workers in these tracts will be affected by the minimum wage

increases for each yearly phase-in step. This process requires the knowledge of hourly wage and ACS data only provides the earning ranges of these workers. We use PUMS data to accomplish this final task.

We include all workers who earned more than $500, live in the city and work in the county. Then, we derive the same 13 earning brackets ACS provides. Hourly wage variable is not readily available in the PUMS data and need to be estimated as described elsewhere in this Appendix. It is computed by dividing annual earnings by the product of weeks worked last year and hours worked per week. This computation is subject to measurement error as recognized by researchers. We observe many workers with hourly wages below the statutory minimum wage level. We assume that these are low-wage workers and the measurement error is attributed to reporting of weeks and hours worked.

After computing the hourly wage variable, wages are adjusted by inflation rate to derive real minimum wage levels for each year between 2015 and 202020. The base period is 2009 with the minimum wage level of $9. This process is also described elsewhere in this Appendix. After deriving these thresholds, the next step is to estimate what percent of workers in a given earnings bracket will be affected by the minimum wage increase. In other words, what percent of the workers earn less than the minimum age in a given year? This step is necessary because we observe workers in low earning brackets with wage levels above minimum wage for working part-time. We also observe workers in higher brackets with wages around minimum wage because of working long hours. Moreover, in middle brackets, we may have workers earning below and above the next minimum wage threshold.

We present these percentages in *Table III-2*. We observe that, among part-time workers the percent of workers to be affected tapers off after the bracket $12,500-$15,000 in 2016—the first phased-in year. The proportions of workers who will be impacted in lower brackets are in the 50-70 percent range. These numbers increase significantly in 2020—the last phase-in year. The tapering off point moves to around $20,000 and the range of proportions for lower brackets rises to 50-80 percent.

We observe a larger shift for full-time workers. While in 2016, we estimate that almost all workers below $20,000 annual earnings will be affected, this threshold increases to almost $30,000 in 2020. *Table III-2* shows these proportions at the summary level. We estimate and use percent affected at the gender, ethnicity and work status levels separately for higher accuracy.

Table III-2. Percent of Workers to be affected by Minimum Wage Increases by Work Status in 2015 and 2019.

Work/ Year	$0- $2.5	$2.5- $5	$5- $7.5	$7.5- $10	$10- $12.5	$12.5- $15	$15- $17.5	$17.5- $20	$20- $22.5	$22.5 -$25	$25- $30	$30- $35	$35- $40
PT-2015	70%	56%	63%	61%	50%	45%	21%	6%	3%	2%	1%	0%	0%
FT-2015	50%	92%	96%	98%	99%	100%	99%	93%	39%	11%	6%	3%	1%
PT-2019	80%	72%	74%	77%	72%	71%	61%	50%	31%	19%	7%	3%	1%
FT-2019	62%	94%	97%	99%	99%	100%	100%	99%	99%	99%	81%	14%	7%

After estimating the percent affected by 20 strata we use, the final step is to estimate the number of workers to be affected in each census tract. We derive these numbers by applying these proportions to the number of workers identified in the earlier step by linking LODES jobs to ACS wage distribution. We make these derivations for each year of the implementation of the proposed minimum wage law between 2016 and 2020.

After estimating the number of workers that will be affected by the phase-in increases, we estimate the additional wages they would receive as a result of higher wage levels. We

estimate additional earnings by using median annual working hours we derive from the PUMS data by gender, ethnicity and work status for each earnings bracket.

We do not apply any adjustment for wage growth other than the proposed increases in minimum wage levels. However, we apply a final adjustment to our estimates of the number of workers affected, to account for the employment growth in the city during this period. We make this adjustment, first for the period of 2012-2014 since LODES data is from 2013. Then we make projections from 2014 to 2020 for the implementation years.

We observe that, based on the ES 202 data between 2000 and 2011, the employment growth in the low-wage industries are higher than the overall employment growth. Rather than labeling industries as low wage and high-wage sectors and apply their growth rates to city workers, we use the growth rates of industries where low and mid wage city workers work.

We use LODES WAC data to derive the distribution of industries where city workers work in low and mid wage jobs—by 2 digit NAICS sector codes. We make one adjustment by splitting the manufacturing industry into durable and non-durable sectors and assuming that low and mid wage earners from LODES work primarily in non-durable manufacturing. After deriving the distribution of workers by industry, we get the weighted average of the growth rates of this distribution. This way the composite growth rate reflects the growth where these workers work. We estimate that, based on the QCEW 2001-2011 growth rates by industry, the employment growth in the city for low and mid wage earners was 8.8 percent between 2012 and 2014. Then, we project a uniform .065 percent annual growth for the next five years base on the historical trend of the weighted average we derived. For the total employment growth in the city, we use the average for all industries and estimated a 5.8 percent growth between 2012 and 2015 and .032 percent annual increase for the next five years.

We do not make any adjustments for potential positive or negative changes in employment due to the minimum wage increase.

Demographic and Job Characteristics of Workers Affected by the Minimum Wage Increase

We use both LODES and PUMS data to present the characteristics of workers affected by the proposed minimum wage law. Gender and ethnicity distributions are derived from the 2013 LODES data. We use PUMS data to get the age distribution as well as the work status—part-time vs. full-time work. We also used the PUMS data to show the industry distribution of workers to be affected.

Estimating the Reduction in Public Spending

We use PUMS data to estimate the reduction in public spending as a result of minimum wage increase. We assessed the impact on three public assistance programs. These programs are—Cal Fresh—formerly known as Food Stamps; cash aid which covers CalWORKs (TANF) aid to families and General Relief aid to individuals; and Medi-Cal program providing medical assistance to Californians.

The value of Cal-Fresh benefits depends on the size of your eligible household and other eligibility factors. PUMS data only shows if a person received this benefit or not. It does not show the value of the aid. Hence, we use average Cal-Fresh benefits by household size available Los Angeles County Department of Social Services where the average benefit is $194 for one person and $511 for three persons. Since, Cal-Fresh payments are made to a

family, not to individuals, we make an adjustment for two-worker families to remove duplicate payments.

Similarly, PUMS data merely shows a flag for Medi-Cal eligibility and does not provide the amount of benefits. We used average annual Medi-Cal spending amounts for 2011 available from the California Health Care Almanac.[2] The source shows that, in California the average annual spending is $2,174 for adults and $1,636 for children. We estimate medical assistance payments based on the number of adults and children in a household with a worker to be affected by the minimum wage increase.

Actual cash aid amounts are available from the PUMS data and we use these amounts to estimate the reduction in cash aid.

To estimate the impact of public spending, first we derive the participation rates for all three programs in 2014, before the implementation of the law. These rates give us a baseline rate of participation for workers earning minimum wage. Then, we derive the participation rates for those workers who make in the range of $14 to $15. We assume that, after five years, when the minimum wage increases to $15 the public program participation will resemble this group. These rates are our estimates for 2020 for all workers who will be affected by the minimum wage increase. Then we used the difference in participation rates as the rate of decline in program benefits and estimated the total value of reduction in public spending by multiplying the reduction by benefit values described above.

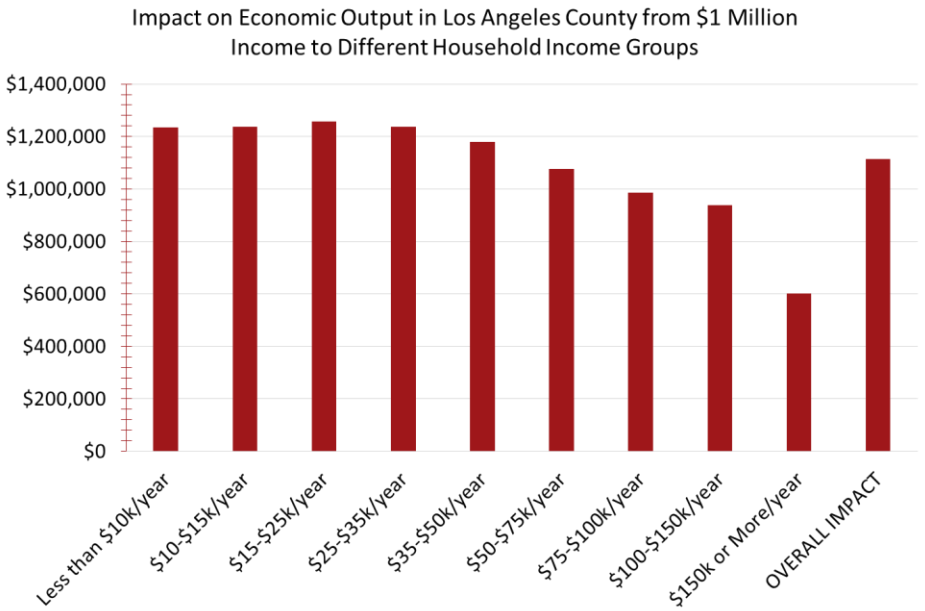
[2] California Health Care Almanac, May 2013, Health Care Foundation.

Chapter VII: Economic Multiplier Effects from Dollars Received by Households at Different Income Levels

The economic model of Los Angeles County provided by IMPLAN software and data for 2013 was used to simulate the effect on economic output in the county when households at different income levels receive $1,000,000. Because households with incomes under $35,000 spend money quickly, there is twice as much stimulus to the local economy from each additional dollar they receive as there is from additional dollars received by households with incomes over $150,000. These simulation results are shown below in table and chart form.

Table III-3: Economic Output Generated by $1,000,000 in Household Income

Household Income Group	% of Workers Paid <$15 in Household Income Group	Impact on Economic Output in LA County of $1M Income
Less than $10k/year	2.96%	$1,235,670
$10-$15k/year	4.62%	$1,238,116
$15-$25k/year	14.44%	$1,257,142
$25-$35k/year	15.11%	$1,237,700
$35-$50k/year	18.38%	$1,178,911
$50-$75k/year	20.95%	$1,075,883
$75-$100k/year	10.69%	$984,801
$100-$150k/year	8.38%	$937,686
$150k or More/year	4.47%	$600,701
OVERALL IMPACT	11.51%	$1,115,111



Chapter VIII: Methodology for Estimates of Affected Workers, Size of Earnings Increases, Reductions in Poverty, and Geographic Distribution of Impacts

To estimate the number of workers impacted by a $15 minimum wage, we use data which identify the home locations (census tracts, statewide) of workers with jobs in the City of Long Beach, using the 2013 Longitudinal Employer-Household Dynamics (LEHD) Origin- Destination Employment Statistics (LODES). Then we allocate the workers identified in these data to the earnings distribution of workers by gender and ethnicity using census tract earnings distributions available from the 2013 ACS Summary File tables. Finally, using the 2013 ACS Public Use Microdata Sample (PUMS) file to derive the percentage of workers impacted by increases in minimum wage thresholds, we estimate the number of workers affected.

We use census tracts as our unit of analysis in order to maintain data reliability and attain geographic disaggregation. The combined database we utilize overcomes limitations of its individual parts:

- The U.S. Census Bureau's American Community Survey is the richest source of information about individual workers, but it is based on where workers live, not where they work.
    - ACS Summary File data are reliable estimates of the resident workforce and is reliable at the level of Census tracts – areas averaging about 4,000 inhabitants each. These data presented in detailed tables whose variables are chosen by the Census Bureau.
    - ACS Public Use Microdata Sample (PUMS) data individual and household records of responses to the American Community Survey. This sample-based dataset includes weights so that it can represent the entire population, and is available for Public Use Microdata Areas (PUMAs) that contain at least 100,000 inhabitants each.
- The U.S. Census Bureau's LEHD Origin-Destination Employment Statistics (LODES) Origin-Destination (OD) data, jobs totals are associated with both a home Census Block and a work Census Block. LODES data counts jobs, not people, but LODES 'primary jobs' is a proxy for total number of employed workers. (A 'primary job' is the highest paying job for an individual worker.) LODES does not include self-employed works, nor does it capture those employed in the informal economy.
- U.S. Census Bureau's County Business Patterns (CBP) is an annual series that provides subnational economic data by industry. This series includes the number of establishments, employment during the week of March, first quarter payroll, and annual payroll in the formal economy. Geographic scale: U.S., States, Counties and ZIP Codes
- U.S. Department of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) data captures employment and wages reported by employers covering 98 percent of U.S. jobs in the formal economy. Geographic scale: state and county levels by industry; confidential data available at the establishment level.

This combined database allows us to analyze the earnings distribution in each home census tract of workers employed in the City of Long Beach, the gender and ethnicity of low- and mid-earning workers, industry of employment, and their work status (full or part-time). Because there are significant employment and earnings differences by gender, ethnicity, and workers full-time and part-time status, keeping these details in mind makes our estimation process more accurate.

For Estimated Reductions in Poverty, the number of workers comes from 2013 U.S. Census Bureau's LEHD Origin-Destination Employment Statistics (LODES) Origin-Destination (OD) data. Poverty estimates are from 2013 U.S. Census Bureau's American Community Survey (ACS) Public Use Microdata Sample (PUMS) data. Adjustment factors are based on the ratio of impacted workers (by ethnicity) from LODES to PUMS data, with PUMS data showing higher numbers due to inclusion of workers employed in the informal economy. Our analysis assumes that poverty rates by ethnicity are the same for workers living and work in the City of Long Beach.

We derive the numbers of workers employed in 2020 from workers employed in 2020, based upon industry-specific growth rates used throughout this report.

To maintain consistency, all cartographic visualizations present data at the census tract level. Additional sources of publically available geospatial data provided layers used in the analysis and design of the maps: Census Tiger/line files, City of Long Beach Department of City Planning, and the County of Los Angeles GIS data portal. All maps were produced using ESRI ArcGIS. Additional explanation for map figures in Chapter VIII is described below.

- **Employment in Impacted Consumer-oriented Industries, by Place of Work and Median Household Incomes by Quartile:** Median household income data was derived from the American Community Survey 2009-2013 ACS 5-year estimates (Table S1903). Employment counts were derived from Economic Roundtable's QCEW database of establishments covered by unemployment insurance and geocoded to addresses.

- **Estimates of Aggregate Tract-level Earnings Increases from a $15 Minimum Wage in 2020:** These maps depict the estimated size of earnings increases associated with a $15 minimum wage, using census tract-level database that combines US Census Longitudinal Employer-Household Dynamics origin-destination and home area files (2013) and US Census American Community Survey 5-year estimates (2009-2013).

  We normalized the estimated earnings increase by converting it into a percentage of baseline aggregate earnings levels. Estimated raise from a $15 minimum wage is the numerator, 2013 ACS variable B19313 (*Aggregate Income in the Past 12 Months, Population 15 years and over*) is the denominator. Tract-level earnings include the aggregate earnings of all workers who reside within the census tract. The map thus depicts the total estimated earnings increase per tract as a percentage of current earnings.