

**An Illustration of the Impact on the Santa Clara County Economy  
of Repealing the Prevailing Wage Policy of the City of San Jose.**

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By

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**Kevin Duncan** is Professor and Senior Economist, Healy Center for Business and Economic Research, Hasan School of Business, Colorado State University-Pueblo where he specializes in labor and regional economics. He received his Ph.D. from the University of Utah in 1987 and his B.A. from the University of California, Riverside in 1981. Duncan is the author of approximately 50 academic papers and applied regional projects and is the winner of several honors and awards including the Provost's Award for Excellence in Teaching, the Provost's Award for Excellence in Research, the Outstanding Faculty Member Award for the Hasan School of Business, the Enterprise Rent-A-Car Student Choice Award for Excellence in Teaching, as well as the Dean's Advisory Council Award for Outstanding Faculty Member. He is a nationally recognized expert on prevailing wage laws, has published in the leading international journal on construction economics, and has provided expert testimony to the Colorado and Hawaii state legislatures on policy related to construction labor markets. He has also provided data and analysis to the Legislative Auditors Office during the review of Minnesota's prevailing wage law. He is also a nationally recognized expert on economic impact analysis and has authored numerous studies that examine the impact of the California pharmaceutical industry, America's Cup Races in San Diego, Colorado State Fair, CSU-Pueblo, project labor and local hire agreements (in California, Colorado, and Hawaii), the installation and operation of wind energy towers, the nonprofit sector, as well as the impact of the proposed Colorado Amendment 61. He has served on the Advisory Board for Economic Impact Analysis of the Colorado Nonprofit Association. He teaches regional economics where his students learn economic impact analysis.

The author thanks Scott Littlehale, Louise Auerhahn and Alex Lantsberg for providing some of the information used in this report. All errors are the sole responsibility of the author.

## Table of Contents

Executive Summary	Page 4
Introduction	Page 15
The Basics of Regional Economic Growth And the Role of Prevailing Wage Laws	Page 15
IMPLAN Input-Output Software	Page 19
A Case Study of New Library Construction	Page 21
Economic Impact of San Jose Libraries	Page 30
Economic Impact of San Jose Capital Improvement Projects	Page 33
Contribution to the Santa Clara County Economy of Prevailing Wage Requirements on Federal, State and County Public Building Construction	Page 40
Economic Impact of Changes in the Distribution of Income	Page 43
Review of Research on Prevailing Wage Laws and Construction Costs	Page 44
References	Page 50

## Executive Summary

This study illustrates the impact of the repeal of municipal prevailing wage policies on the Santa Clara County economy. The economic impact is based on the higher percentage of work that is completed by local construction labor when the wage policy applies to municipal capital projects. For example, information from library projects in Gilroy, Palo Alto, and San Jose indicates that 39 percent of the subcontractors employed on prevailing wage projects are located in Santa Clara County. Only 23 percent of subcontractors are located in Santa Clara County for projects that are not covered by the wage policy. Additionally, data from carpenter subcontractors suggests that local subcontractors use 60 percent county-resident construction workers while nonlocal subcontractors use only 20 percent local construction labor.<sup>1</sup> Combining this information with other data tells us that aggregate construction worker income that remains in the county decreases from \$1 to \$9 (varying based on project size) for each \$100 of project value when projects are not covered by prevailing wage policies. This leakage of income ripples through the Santa Clara County economy and is associated with reduced spending and employment in the local retail and service sectors. Consequently, municipal prevailing wage policies contribute to regional economic development by reducing the flow of income and spending out of the county economy.

Several scenarios are used to illustrate the impact of prevailing wage policies on the local economy. For example, the impact is estimated for library projects in Gilroy and San Jose *if* these projects were not built under prevailing wage policies. Other estimates consider the impact *if* the wage policy applied to uncovered projects. The information on the percent of local work from library projects is extrapolated to measure the impact of other capital building projects. Research indicates that repealing prevailing wage policies reduces the income of all construction workers in the affected jurisdiction. The economic impact on the county economy of a change in local construction worker income is also illustrated. The study concludes with a review of the research examining the effect of prevailing wage policies on construction costs. The following provides a summary of the issues mentioned above. Specifics can be found in the body of the report.

**Economic Impacts for Gilroy and Palo Alto Libraries:** The current Gilroy Public Library and the Mitchell Park Library and Community Center (in Palo Alto) are about the same size, have similar contract values, and were started during the same stage of the current business cycle. The Gilroy project was covered by a prevailing wage policy and has a contract value of about \$17 million and a square foot cost of \$326. Eighteen of the thirty-three listed subcontractors and the general contractor on this project had Santa Clara County business addresses. The Mitchell Park Library and Community Center in Palo Alto is not covered by a prevailing wage policy, has a contract value of about \$24 million, and a square foot cost of \$430.

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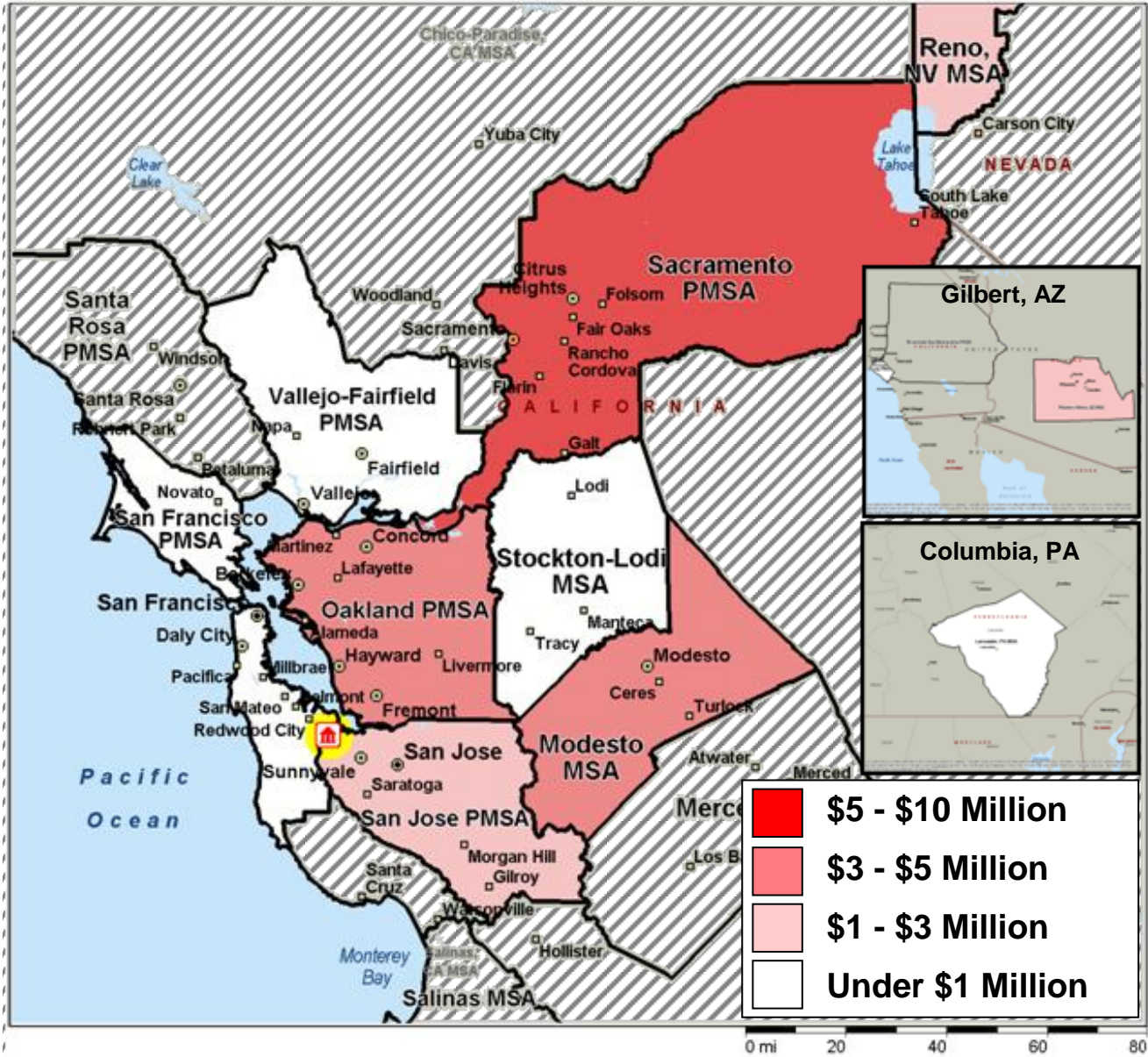
<sup>1</sup> Carpenters are the dominant craft employed on the type of projects used in this study. For example, data from 10 library renovations in San Francisco indicate that 32 percent of the total project hours were completed by carpenters and dry wall installers (29 percent for carpenters and 3 percent for drywall workers). Laborers represented 30 percent of the total hours for these projects. Electricians represent 8 percent of total hours with plumbers, roofers, sheet metal and iron workers each at 4 percent of total hours, or less. Also, signatory carpenter contractors are more representative of the nonunion side of the local construction labor market with respect to local hiring and use of travelers. Other union trades such as electricians and plumbers have more strict rules regarding the use of local hiring halls, regardless of the location of the subcontractor. But, since public works projects involve a mix of union and nonunion contractors it is important to use data that is representative of this mix.

Only one of the thirty-three listed subcontractors on the Mitchell Park Library project had a Santa Clara County business address. The rest of the subcontractors were from out of the county (none came from neighboring San Mateo County).

The following maps display the dispersion of subcontractor contributions to the value of the library projects by business address. Municipal prevailing wage requirements make it less attractive for out-of-county, low-wage subcontractors to travel to work in Santa Clara County. So, relatively more of the work on prevailing wage projects is completed by local subcontractors. Prevailing wage policies reduce the leakage of municipal public works expenditures from the county economy and should be thought of as built-in economic development policy.

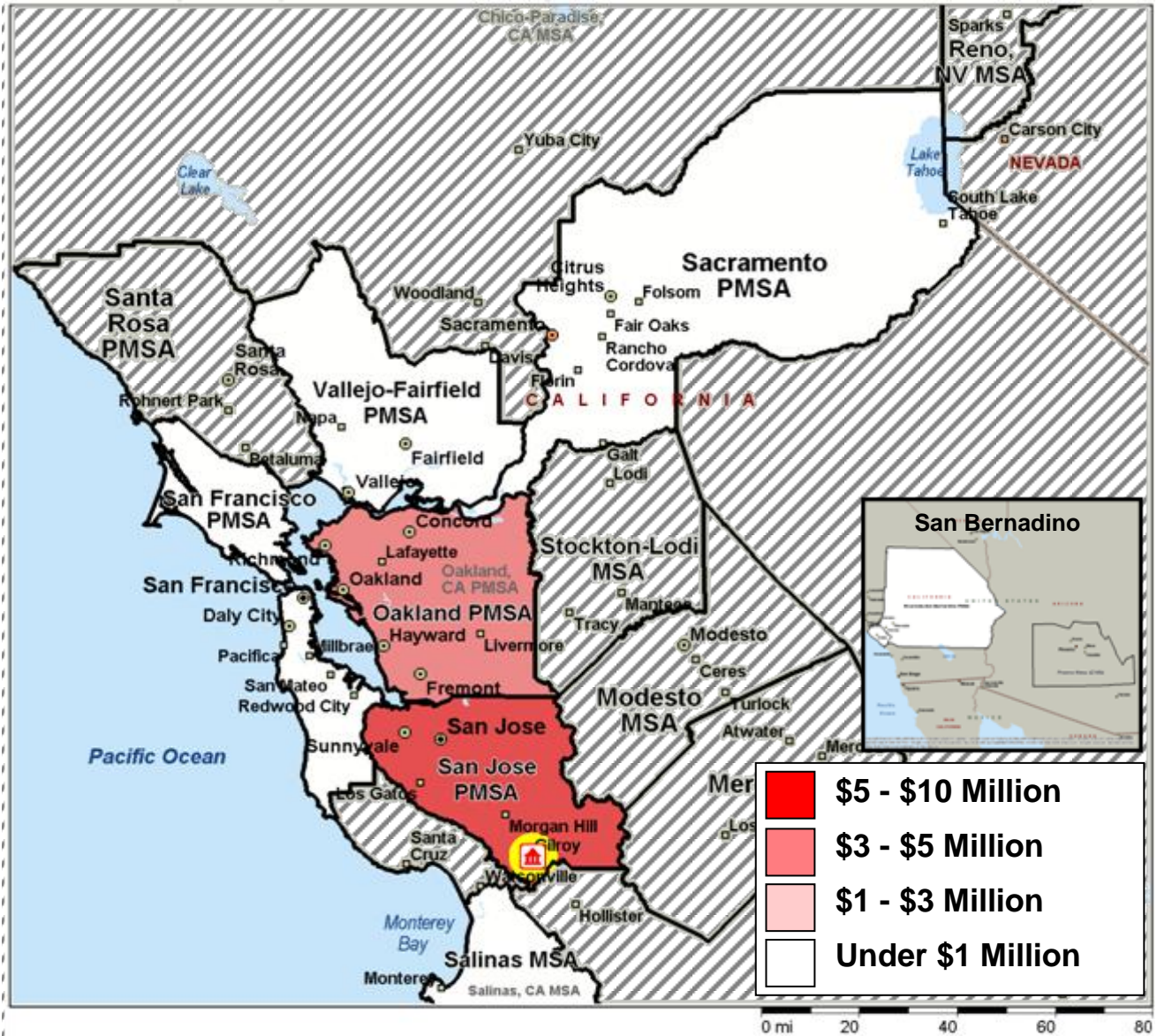
# Where the Work Goes When Prevailing Wages Do Not Apply

## Geographic Dispersion of Contractors Receiving Funds for Construction of Palo Alto Mitchell Park Library (Non-Prevailing Wage)



# Where the Work Goes When Prevailing Wages Apply

## Geographic Dispersion of Contractors Receiving Funds for Construction of Gilroy Library (Prevailing Wage)



The economic impact analysis *if* the Gilroy Public Library had been built without a prevailing wage policy indicates that about \$1.6 million in construction worker compensation and about 17 construction jobs would leave the county economy. Spending in the local retail and service sectors would decrease by approximately \$823,000 with the loss of about 5 jobs in these sectors. The total economic impact is an approximate \$2.4 million decrease in local economic activity and the loss of 22 local jobs. The decrease in county property tax revenue would be approximately \$21,000. The decrease in sales tax revenue that remains in the county is approximately \$6,000. The total tax revenue loss for the county is about \$27,000.

**Table E-1: Impact on the Santa Clara County Economy if the Gilroy Public Library was Constructed without Prevailing Wage Requirements**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$1,554,000
Induced Decrease in Spending in the County:	-\$823,000
Combined Economic Impact:	-\$2,377,000
Direct Job Loss:	-17 Construction Jobs
Secondary Job Loss:	-5 Local Retail and Service Sector Jobs
Total Employment Decrease:	-22 Jobs in the County
County Property Tax Revenue Decrease:	-\$21,400
County Sales Tax Revenue Decrease:	-\$6,100
Total County Tax Revenue Decrease:	-\$27,500

Sources: IMPLAN, Quarterly Census of Employment and Wages.

The economic impact analysis *if* the Mitchell Park library had been built with a prevailing wage policy indicates that approximately \$2.2 million in construction worker income and about 24 construction jobs would be redirected into the county economy. Spending in the local retail and service sectors would increase by about \$1.2 million with the creation of about 7 jobs in these sectors. The total economic impact if the Palo Alto library project had been built under prevailing wage standards is an approximate \$3.3 million increase in local economic activity and 31 more jobs in the county. The increase in county property tax revenue is approximately \$30,000. The increase in sales tax revenue that remains in the county is approximately \$8,000. The increase in total county tax revenue if prevailing wage requirements applied to this project is about \$38,000.



**Table E-2: Impact on the Santa Clara County Economy if the Mitchell Park Library and Community Center in Palo Alto was Constructed with Prevailing Wage Requirements**

Economic Impact Category	Economic Impact
Direct Income Increase in the County:	\$2,193,000
Induced Increase in Spending in the County:	\$1,162,000
Combined Economic Impact:	\$3,335,000
Direct Job Increase:	24 Construction Jobs
Secondary Job Increase:	7 Local Retail and Service Sector Jobs
Total Employment Increase:	31 Jobs in the County
County Property Tax Revenue Increase:	\$30,200
County Sales Tax Revenue Increase:	\$8,600
Total County Tax Revenue Increase:	\$38,800

Sources: IMPLAN, Quarterly Census of Employment and Wages.

**Impact of San Jose Capital Improvement Projects (Municipal Buildings):** To illustrate the impact of repeal of the City of San Jose’s prevailing wage policy on the Santa Clara economy, municipal building projects from the City’s capital improvement budget are used. Two periods are selected. The current 2010-2011 through 2014-2015 planned projects measure the impact during a period of slow economic recovery. The 2007-2008 through 2011-2012 budget period measures the impact of planned projects before last recession. Municipal building projects represented about 60 percent (\$1.2 billion) of the 2007-2012 budgeted capital improvement projects. Municipal building projects represent approximately 15 percent (about \$128 million) of the 2010-2015 budgeted capital improvement projects.

The results for the 2007-2012 improvements indicate that *if* these building projects had not been built under the City’s prevailing wage policy, construction worker income in the county would have decreased by approximately \$107 million and spending in the local retail and service sectors would also decrease by approximately \$57 million. The total impact is approximately \$164 million, or about 0.1 percent of county GDP. Local construction employment would decrease by about 1,160 jobs and approximately 355 local retail and service jobs would also be lost. The total job loss is about 1,500. This is about 0.2 percent of total county employment. With the reduction in local economic activity county property tax revenue decreases by approximately \$1.5 million and county sales tax revenue decreases by about \$421,000. The total loss in county tax revenue if the prevailing wage law did not apply to municipal building projects planned for the 2007-2012 period would be approximately \$1.9 million. Sales taxes collected by the City of San Jose would decrease by about \$181,000.

**Table E-3: Impact on the Santa Clara County Economy if the San Jose 2007-2012 Budgeted Capital Improvement Projects were Built without the Prevailing Wage Policy (Includes Municipal Building projects only, comprising 60% of total CIP value)**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$106,897,000
Induced Decrease in Spending in the County:	-\$56,621,000
Combined Economic Impact:	-\$163,518,000
Direct Job Loss:	-1,155 Construction Jobs
Secondary Job Loss:	-355 Local Retail and Service Sector Jobs
Total Employment Decrease:	-1,510 Jobs in the County
County Property Tax Revenue Decrease:	-\$1,483,000
County Sales Tax Revenue Decrease:	-\$421,000
Total County Tax Revenue Decrease:	-\$1,904,000
Reduction in Sales Taxes Collected by the City of San Jose	-\$181,000

Sources: IMPLAN, Quarterly Census of Employment and Wages.

The economic impact of repealing the prevailing wage standard would be spread across the local economy with industries not directly related to construction experiencing substantial impacts. The reduction in economic activity would decrease home values in the county (as suggested by the reduction in imputed rents for owner-occupied dwellings). With the reduced economic activity, real estate transactions would also decrease and the local real estate industry could expect to lose about \$4 million in revenue and 23 jobs. The health care sector in the county would experience a decrease in revenue of approximately \$8.9 million and a decrease in employment of 57 workers. The broadly defined Santa Clara County food service and retail sectors would experience a decrease in revenue of approximately \$6.7 million and an employment decrease of about 88 workers.

**Table E-4: Impact on the Santa Clara County Economy if the San Jose 2007-2012 Budgeted Capital Improvement Projects were Built without the Prevailing Wage Policy: Impact on Industry-Level Revenue and Employment**  
(Includes Municipal Building projects only, comprising 60% of total CIP value)

Santa Clara County Industry	Revenue Loss by Industry	Job Loss by Industry
Total	-\$56,621,017	-355
Imputed rental activity for owner-occupied dwellings	-\$8,877,570	0
Real estate establishments	-\$4,119,799	-23
Private hospitals	-\$3,914,528	-19
Offices of physicians- dentists	-\$3,405,486	-23
Food services and drinking places	-\$2,963,211	-42
Wholesale trade businesses	-\$2,560,573	-8
Nondepository credit intermediation and related institutions	-\$1,584,886	-2
Monetary authorities and depository credit institutions	-\$1,544,013	-5
Telecommunications	-\$1,388,240	-3
Private junior colleges- colleges- universities	-\$1,366,550	-11
Legal services	-\$1,043,742	-4
Retail Stores - Food and beverage	-\$1,018,925	-13
Electric power generation- transmission	-\$913,723	-1
Medical and diagnostic labs and outpatient analysis	-\$888,802	-5
Other state and local government enterprises	-\$817,404	-3
Insurance carriers	-\$786,213	-2
Retail Nonstores - Direct and electronics	-\$770,220	-4
Securities- commodity contracts- investments-	-\$764,162	-9
Nursing and residential care facilities	-\$688,578	-10
Retail Stores - General merchandise	-\$637,519	-10
Retail Stores - Motor vehicle and parts	-\$536,467	-6
Retail Stores - Clothing and clothing accessories	-\$528,399	-8
Services to buildings and dwellings	-\$491,450	-7
Religious organizations	-\$467,923	-3
Data processing- hosting- ISP- web search providers	-\$449,606	-1
Amusement parks- arcades- and gambling industries	-\$446,390	-4
Funds- trusts- and other financial vehicles	-\$440,862	-1
Automotive repair and maintenance- except car sales	-\$403,455	-4
Other personal services	-\$374,769	-1
Retail Stores - Health and personal care	-\$368,636	-5

Source: IMPLAN

The 2010-2015 CIP projects were approved in the midst of a recession-induced budget crisis. Hence, the impacts for these capital projects are low because of this extremely conservative CIP budget. Additionally, the reported impacts are based on municipal building projects that represent 15 percent of total CIP expenditures. The remaining 85 percent of projects would have a different, but substantial impact. The results of the impact for the 2010-2015 budgeted capital building improvements indicates that approximately 80 local construction jobs and about \$7.4 million in local construction worker income would leave the county if these municipal building projects were not covered under the prevailing wage policy. Spending in the local retail and service sectors would decrease by approximately \$3.9 million with the loss of an additional 25 jobs in these sectors. The total impact is a decrease in economic activity of

approximately \$11.3 million and the loss of about 105 jobs. With reduced economic activity, county property tax revenue would decrease by about \$102,000 and the portion of sales tax revenue that remains in the county would decrease by \$29,000. The total tax revenue loss in the county would be approximately \$131,000. Sales taxes collected by the City of San Jose would decrease by about \$12,000.

**Table E-5: Impact on the Santa Clara County Economy if the San Jose 2010-2015 Budgeted Capital Improvement Projects were Built without Prevailing Wages (Includes Municipal Building projects only, comprising 15% of total CIP value)**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$7,407,000
Induced Decrease in Spending in the County:	-\$3,923,000
Combined Economic Impact:	-\$11,330,000
Direct Job Loss:	-80 Construction Jobs
Secondary Job Loss:	-25 Local Retail and Service Sector Jobs
Total Employment Decrease:	-105 Jobs in the County
County Property Tax Revenue Decrease:	-\$102,100
County Sales Tax Revenue Decrease:	-\$29,100
Total County Tax Revenue Decrease:	-\$131,200
Reduction in Sales Taxes Collected by the City of San Jose	-\$12,500

Sources: IMPLAN, Quarterly Census of Employment and Wages.

**Economic Impact of San Jose Library Projects:** The economic impact analysis *if* recent City of San Jose library projects had not been built under the City’s prevailing wage policy indicates a total reduction in county economic activity of approximately \$11 million. The sixteen library projects, built between 2003 and 2009, have a total contract value of \$177 million (2010 dollars). The economic impact represents about 6 percent of the combined value of these projects. The loss in construction worker income is approximately \$7.2 million with the loss of 79 construction jobs. Spending in the local retail and service sectors would decrease by about \$3.8 million with employment in these industries falling by about 24 jobs. The total employment impact is 103 local jobs. The decrease in county property tax revenue is approximately \$100,000. The decrease in sales tax revenue that is collected by the county is about \$28,500. So, the total tax impact if these projects had been built without prevailing wage requirements is approximately \$128,000. Sales taxes collected by the City of San Jose would decrease by about \$12,000.

**Table E-6: Impact on the Santa Clara County Economy if the Recent San Jose Public Library Projects were Constructed without Prevailing Wage Requirements**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$7,202,000
Induced Decrease in Spending in the County:	-\$3,815,000
Combined Economic Impact:	-\$11,017,000
Direct Job Loss:	-79 Construction Jobs
Secondary Job Loss:	-24 Local Retail and Service Sector Jobs
Total Employment Decrease:	-103 Jobs in the County
County Property Tax Revenue Decrease:	-\$99,300
County Sales Tax Revenue Decrease:	-\$28,400
Total County Tax Revenue Decrease:	-\$127,700
Reduction in Sales Taxes Collected by the City of San Jose	-\$12,200

Sources: IMPLAN, Quarterly Census of Employment and Wages.

**Economic Impact of Changes in the Distribution of Income:** Prevailing wage laws support the income of all construction workers within a jurisdiction. Findings from academic studies indicate that construction worker income decreases by an amount ranging from 2 to 8 percent when state-level prevailing wage laws are repealed or weakened. If repeal of prevailing wage laws reduces construction worker income, the income of other construction resource owners (contractors for example) must go up, if construction costs remain the same. The preponderance of recent academic studies indicates that construction costs are not related to prevailing wage legislation (this research is summarized in the following section). The impact of this redistribution of income on the county economy can be measured. Data from the Bureau of Labor Statistics for a broad cross-section of construction worker occupations for the San Jose-Sunnyvale-Santa Clara metropolitan statistical area indicates that most workers fall within the \$50,000 to \$75,000 income range. It is assumed the general contractors, subcontractors, and other construction resource owners or suppliers fall in the +\$150,000 income range. When \$1,000 in income from the \$50,000 to \$75,000 income range is shifted to the +\$150,000 category, local economic activity decreases by \$53 (or 5.3 percent of the amount of income that is redistributed upward). This makes sense because of the higher spending leakage from the local economy for high income earners who pay more in state and federal taxes and who are more likely to save and not spend. Those in the middle income bracket are more likely to spend their income on local goods and services. To the extent that municipal prevailing wage laws support the incomes of all construction workers in the county, these laws also support more local spending. Repeal of this legislation would likely shift income upward; the net effect of this shift would be to reduce local spending as well as local economic activity.

**Review of the Research on Prevailing Wage Laws and Construction Costs:** The preponderance of the most recent academic studies, using the best methods and data, indicate that prevailing wage laws are not associated with higher construction costs. The latest research confirms that the efficiency of construction is higher on prevailing wage projects, suggesting that more productive labor is used, or other productivity-enhancing measures are taken on these projects to maintain stable construction costs. These results, drawn from studies in the U.S. and Canada, are consistent with a recent study that examines construction cost differences among five northern California cities (including Palo Alto and San Jose). The study by Peter Philips and Jae Whan Kim (2009) of these northern California cities suggests that municipal prevailing wage policies do not affect the bid process or outcome in ways that increase construction costs. For example, the results do not support the view that wage policies discourage bidding by nonunion contractors, reduce the number of bidders, or prevent nonunion contractors from winning bids on prevailing wage projects. Additionally, these authors fail to find statistically significant differences between the winning bid and two measures of project costs (the engineer's estimate and the median bid). This suggests that prevailing wage laws of northern California cities are not associated with higher construction costs.

## **Introduction**

On October 11, 1988, the City of San Jose adopted a prevailing wage policy that applied to public works projects funded in whole or in part by the City. The policy applies to projects with a contract value of over \$1,000 and requires general prevailing wages as defined by the California Labor Code. The purpose of the policy is to ensure equitable and sufficient wages, protect local job opportunities, and to stimulate the local economy.<sup>2</sup>

The purpose of this report is to estimate the economic impact if the City of San Jose were to repeal the municipal prevailing wage policy. Recent public works projects from Santa Clara County and the City of San Jose are used to measure the change in local economic activity if the policy is repealed. The method used in this study and impact results are presented below. The findings illustrate how the City's prevailing wage policy complements other local economic development policies by protecting local jobs and directing public works expenditures into the local economy.

## **The Basics of Regional Economic Growth and the Role of Prevailing Wage Laws**

It is helpful to think of a regional economy as an expandable barrel. The barrel will expand or shrink depending on the flow of dollars into or out of the local economy. This simple idea is the basis of many local economic development efforts. For example, the purpose of attracting employers to the area is to produce locally a product or service that is sold outside the region. This type of activity increases the flow of dollars into the local economy. It is also important to reduce the leakage of dollars from the local economy. This is largely the economic development function of the local retail and service sectors. If these sectors are well-developed,

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<sup>2</sup> See: <http://www.sanjoseca.gov/purchasing/prevwage.asp>

local consumers can make local purchases and avoid spending funds outside the local economy. By reducing spending leakages the ‘barrel’ of the local economy is able to expand as dollars flow into the region.

Municipal prevailing wage laws contribute to local economic development in two ways. First, the higher wages paid to local construction workers stimulate spending in the local economy. Second, and perhaps more importantly, prevailing wage laws help reduce the leakage of dollars by directing public construction expenditures into the local economy. For example, recent data from ten San Jose, one Gilroy, and four Palo Alto public library projects indicate that 38.7 percent of the subcontractors working on San Jose or Gilroy library projects are located in Santa Clara County. On the other hand, only 23.2 percent of the subcontractors who worked on library projects funded by the City of Palo Alto are located in Santa Clara County. The cities of San Jose and Gilroy require prevailing wage standards on municipally-funded projects, while the City of Palo Alto does not. Furthermore, local subcontractors are more likely to employ local construction workers. For example, data from carpenter subcontractors indicate that when a local subcontractor is employed on a local job, 60 percent of the work on the project is completed by county-resident construction workers. When nonlocal subcontractors are employed on a project only 20 percent of the work is completed by construction workers who reside in the county where the project is located.<sup>3</sup>

Scott Littlehale, Senior Research Analyst for the Northern California Carpenters Regional Council, developed a method whereby the subcontractor and library data described above can be combined to obtain a measure of construction labor income that remains in the

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<sup>3</sup> Detailed hours and wage data from recent library projects in San Francisco indicated that 36 percent of the total construction labor work hours are completed by employees of carpenter subcontractors. This is the highest percent for any of the trades and suggests the data for these subcontractors is representative for these types of projects.



county when prevailing wage laws apply to a project. For example, the data from San Jose and Gilroy indicate that a library covered by a prevailing wage policy utilizes 38.7 percent local subcontractors. Local carpenter subcontractors utilize 60 percent local labor, so the overall local labor utilization rate for local and nonlocal subcontractors for a covered library project is 35 percent ( $\{0.387 \text{ local subs} \times 0.60 \text{ local labor}\} + \{0.613 \text{ nonlocal subs} \times 0.20 \text{ local labor}\} = 0.35$ ). On the other hand, if local subcontractor utilization is 23.2 percent on an uncovered library project and nonlocal subcontractors use 20 percent local labor, the overall local labor utilization among local and nonlocal subcontractors on projects that are not covered by a prevailing wage requirement is 29 percent ( $\{0.232 \text{ local subs} \times 0.60 \text{ local labor}\} + \{0.768 \text{ nonlocal subs} \times .2 \text{ local labor}\} = 0.29$ ). Therefore, municipal prevailing wage laws in Santa Clara County add 6 percent (35% – 29%) to the local labor utilization on library projects.

Data from recent library projects in San Francisco indicate that approximately 33 percent of the construction costs of these prevailing wage projects consist of construction worker wages and benefits.<sup>4</sup> So, if municipal prevailing wage standards increase local labor utilization by 6 percent, and if labor costs represent 33 percent of library project total costs, 2 percent ( $0.06 \times 0.33$ ) of the total contract value of a project represents the local income attributed to the prevailing wage law. This estimate is based on a mix of library projects ranging from approximately \$1 million to \$24 million. Since nonlocal subcontractors have different motivations to bid on and travel to small or large projects, the percentage described above is recalculated for large and small projects. For example, on uncovered library projects in Palo Alto that cost less than \$10 million at the bid date, the rate of local subcontractor utilization rises from 23 percent to 32 percent. This means that for projects with a cost of less than \$10 million,

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<sup>4</sup> All of the San Francisco library projects are renovations as are most of the projects used in this study.

1 percent of a prevailing wage project's contract value represents labor income that remains in the county. This percent decreases because more of the work is completed locally on smaller projects, regardless of prevailing wage standards. However, on larger projects (with a value over \$10 million at the bid date), 9 percent of the total contract value of a project represents the local income attributed to the prevailing wage law. While 2 percent is the average total contract value for a prevailing wage project that remains in the county in the form of construction worker income, 1 percent is applied to projects with a value less than \$10 million and 9 percent for projects with a value greater than \$10 million. These ranges are applied to the economic impact analysis for the library projects discussed above. These ranges are also extrapolated to examine the other municipal building projects discussed in this report. These calculations provide the basis for examining the economic impact of prevailing wage laws on the Santa Clara County economy by measuring the income and spending leakage that occurs when this policy is not in effect.

The estimate of the percent of project value that remains in the county when the prevailing wage policy applies is largely based on data from carpenter subcontractors. There are several reasons why these data are appropriate. First, carpenters are the dominant craft employed on the type of projects used in this study. For example, data from 10 library renovations in San Francisco indicate that 32 percent of the total project hours were completed by carpenters and drywall installers (29 percent for carpenters and 3 percent for drywall workers). Laborers represented 30 percent of the total hours for these projects. Electricians represent 8 percent of total hours with plumbers, roofers, sheet metal and iron workers each at 4 percent of total hours, or less. Also, signatory carpenter contractors are more representative of the nonunion side of the local construction labor market with respect to local hiring and use of travelers. Other union

trades such as electricians and plumbers have stricter rules regarding the use of local hiring halls, regardless of the location of the subcontractor. But, since public works projects involve a mix of union and nonunion contractors it is important to use data that is representative of this mix.

The economic impact of prevailing wage laws is measured in two steps. The first step is to calculate the income that leaks out of Santa Clara County on projects that are not covered by prevailing wage policies. The second step involves the measurement of the ripple, or multiplier, effect that is induced by the leakage of income from the county. With a decrease in county income, spending in the local retail and service sector will also decrease. Consequently, revenue and employment will fall for those involved in these local industries. The total economic impact of projects that are not covered by prevailing wage laws is the loss of local income and the subsequent reduction in local spending. The IMPLAN software is widely used in economic impact analysis and is used here to measure the ripple effects associated with changes in local income when municipal projects are, or are not, covered by prevailing wage laws. This software is described in more detail in the following section.

## **IMPLAN Input-Output Software**

The IMPLAN model is widely used by federal, state, and local agencies in economic impact analysis. For example, the software is used by the Bureau of Economic Analysis, the Federal Reserve System, several departments of the State of California (finance, transportation, and water resources), the San Jose Convention and Visitors Bureau, and the Santa Clara Valley Transportation Authority.<sup>5</sup> This economic impact study uses the IMPLAN software and data for Santa Clara County to estimate the effect of municipal prevailing wage laws on the local

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<sup>5</sup> See the following for a more complete list of IMPLAN clients:  
[http://implan.com/V4/index.php?option=com\\_content&view=article&id=64&Itemid=25](http://implan.com/V4/index.php?option=com_content&view=article&id=64&Itemid=25)

economy. Specifically, these data and software are used to estimate the impact of a change in labor income on the level of economic activity, employment, and local sales and property taxes in Santa Clara County. IMPLAN (IMPact analysis for PLANning) was originally developed by the U.S. Department of Agriculture to assist the Forest Service with land and resource management planning. The Minnesota IMPLAN Group (MIG) started work on the model and data in the mid-1980s at the University of Minnesota. The software was privatized in 1993 and made available for public use. The software contains an input-output model with data available at the zip-code, county, state, and national levels.

Input-output analysis measures the inter-industry relationships within an economy. Specifically, input-output analysis is a means of measuring the monetary, or market, transactions between businesses and between businesses and consumers. This framework allows for the examination of a change in one sector on the entire economy. In this way, input-output analysis is able to measure the multiplier, or ripple, effect as an initial change in one industry stimulates further changes in transactions between other businesses and households. In addition to capturing market transactions within an economy, IMPLAN also measures social accounting, or non-market flows, such as tax payments by individuals and businesses, government transfers, and transfers between individuals. The benefit of these social accounts is the estimation of federal, state, and local taxes associated with an economic impact. Specifically, IMPLAN provides estimates of total state and local taxes from employee compensation, indirect business taxes (sales, property, etc.), households (income, property, motor vehicle, etc.) and corporations (dividends and profits). The IMPLAN tax estimates are combined with information and data from the California State Board of Equalization and the City of San Jose Budget Office to provide estimates of the portion of sales tax revenue that is retained in the county and the city.

Since expenditures on public works are on-going (not one-time events) it is appropriate to include the estimate of county property tax revenue in the impact. All results are reported in 2010 dollars.

## **A Case Study of New Library Construction**

In this section of the report, two new library projects are used to illustrate the impact on the county economy when prevailing wage requirements do, or do not apply. The Mitchell Park Library and Community Center in Palo Alto has 56,332 total square feet, a contract value-as-bid: \$24,369,000, a bid date of July 13, 2010, and was not bid under prevailing wage requirements.<sup>6</sup> The Gilroy Public Library (phase 2) has approximately 53,000 total square feet, contract value-as-bid of \$17,263,444, a bid date of June 2, 2010, and was bid under prevailing wage standards.<sup>7</sup> These projects are approximately the same size and cost and were started at the same time in the construction business cycle.

The Mitchell Park library project involved some demolition work that was included in the bid. The demolition work for the Gilroy project was included in Phase 1 of the project... The bid for the demolition work on the Gilroy library was approximately \$150,000. If this amount is subtracted from the Mitchell Park Library project, the adjusted cost of this project is \$24,215,000. When this total cost measure is used to calculate the square foot cost for the

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<sup>6</sup> The Palo Alto Mitchell Park Library & Community Center required that the existing library and community center buildings be deconstructed and demolished. The estimated cost of this portion of the project is approximately \$150,000. The new construction involved a new two-story, joint-use library and community center and reconfiguration of parking on the site.

<sup>7</sup> Phase 1 included demolition to the existing single-story concrete library of approximately 13,500 square feet (including all foundation and building systems associated site work including but not limited to the surrounding landscape - hardscape and underground utilities and site winterization). The contract may have been let without any prevailing wage requirement. The low-bid for Phase 1 was \$149,850. Phase 2 is as described above and was bid with prevailing wage payments to construction workers. Phase 3 will be the furnishing and installation of all Library Furniture, Fixtures and Equipment.

project, the cost is \$430 per square foot. The corresponding cost of Phase 2 of the Gilroy Public Library is \$326 per square foot. This simple comparison suggests that prevailing wage requirements are not associated with higher construction costs for new library projects of similar size built at the same stage in the construction business cycle.

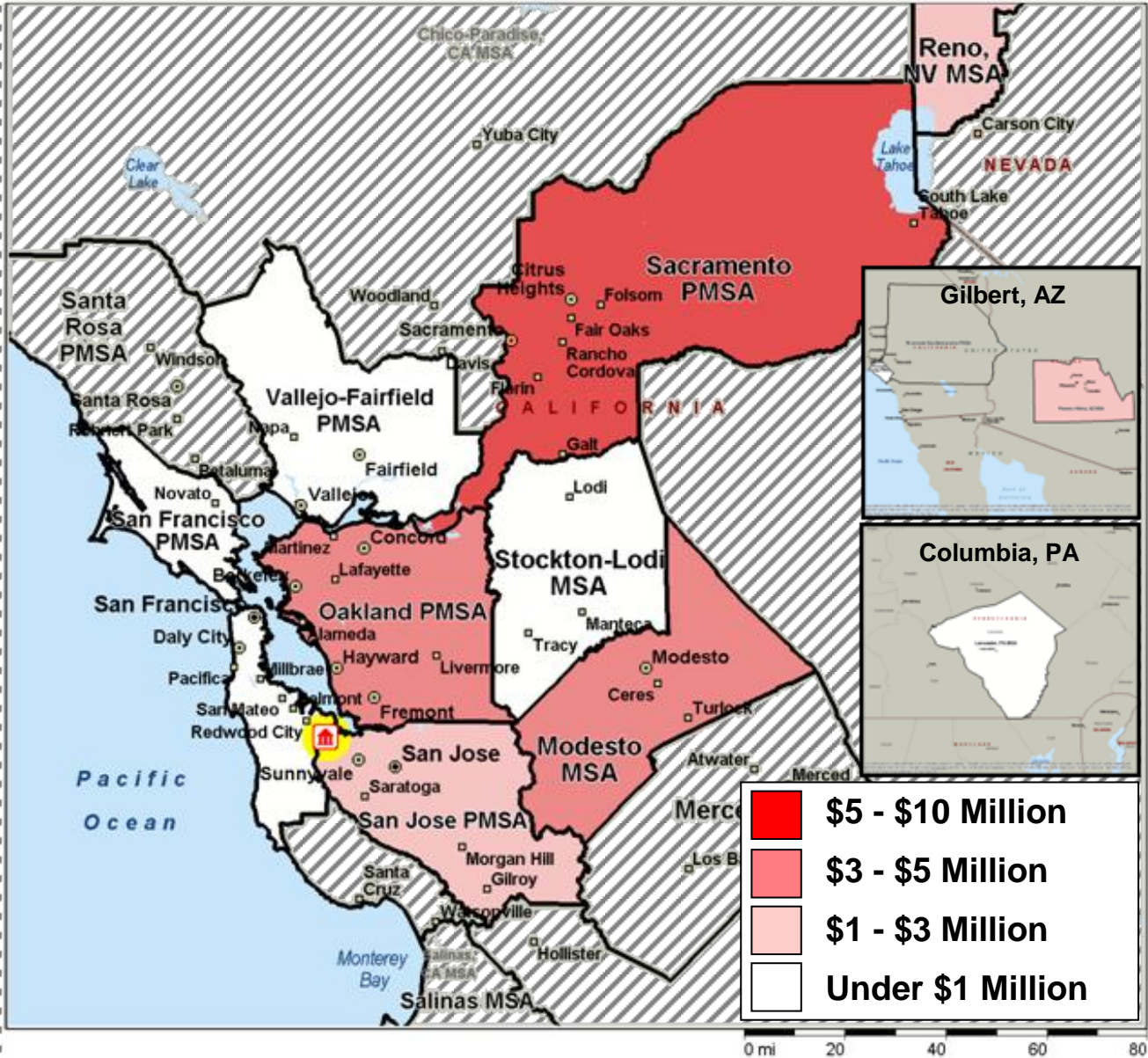
Because of the differences in prevailing wage coverage, there are important differences with respect to the amount of work competed by local contractors and the utilization of local labor. For example, only one of the 33 listed subcontractors on the Mitchell Park Library project had a Santa Clara County business address.<sup>8</sup> The rest of the subcontractors were from out of the county. None came from neighboring San Mateo County. The figure below illustrates the dispersion of work on this project by subcontractor contribution to the value of the project. The majority of the work on this project was completed by out-of-county subcontractors. Very little of this \$24 million project was completed by Santa Clara County subcontractors. Most of the work was completed by subcontractors with business addresses in counties to the north and east of Santa Clara County. Some work was completed by subcontractors located to the south and east of the county. Since these contractors do not hire as many local workers, the utilization of Santa Clara construction workers was relatively low on this project. In fact, it is estimated that 16 percent of the work on this project was completed by county-resident construction workers.

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<sup>8</sup> Information on subcontractor business address was obtained from the subcontractor list for the winning bid.

# Where the Work Goes When Prevailing Wages Do Not Apply

## Geographic Dispersion of Contractors Receiving Funds for Construction of Palo Alto Mitchell Park Library (Non-Prevailing Wage)

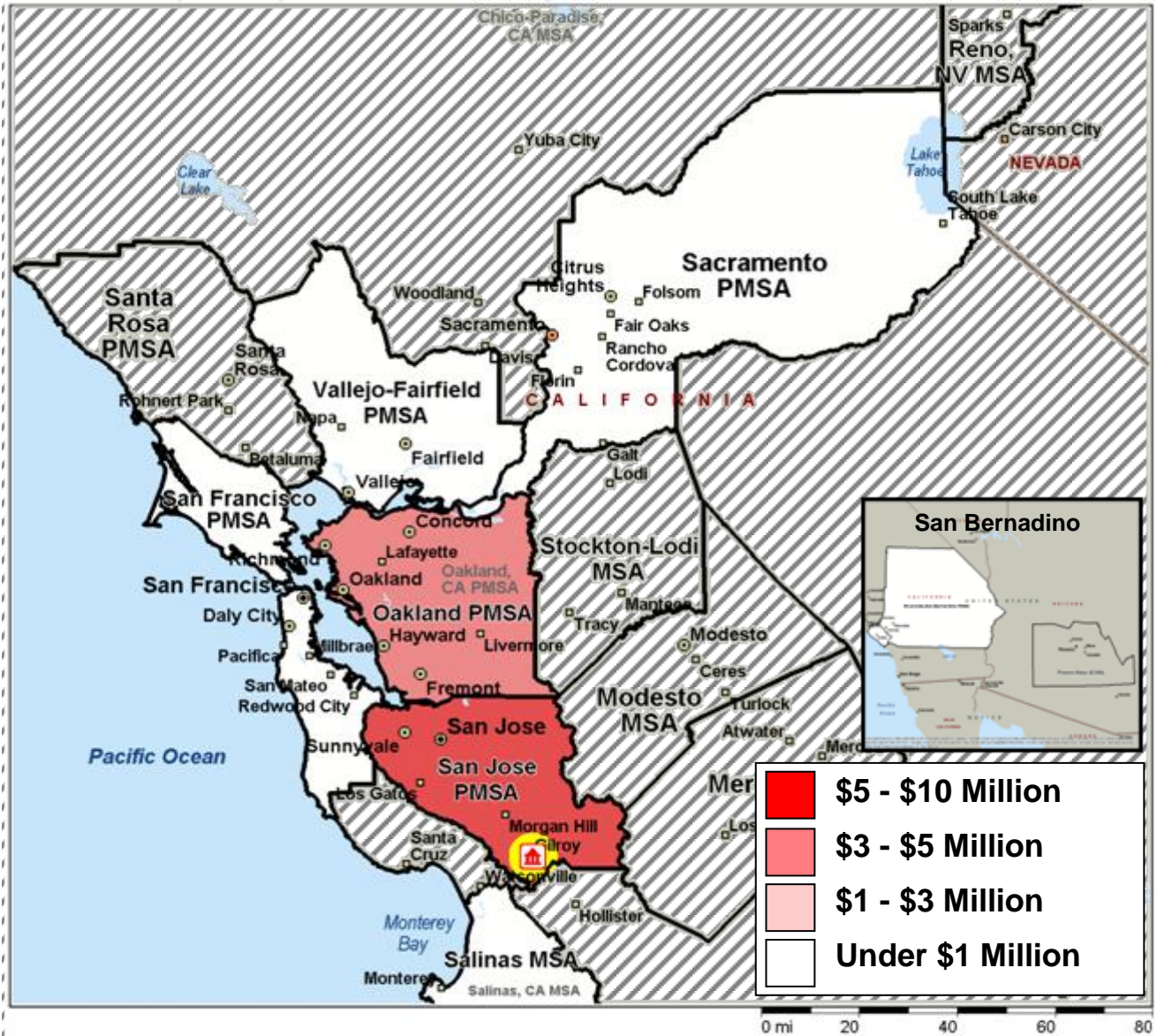


On the other hand, the Gilroy Public Library project employed more county-resident subcontractors. Information from the subcontractor list from the winning bid for this project indicates that 18 of the 33 listed subcontractors and the general contractor had Santa Clara County business addresses. An estimated 43 percent of the work on this project was completed by county-resident construction workers. The map below provides information on the dispersion of subcontractor contributions to the value of this project by business address. The figure reveals the concentration of work completed by Santa Clara County contractors. In contrast to the Mitchell Park Library in Palo Alto, very little of the Gilroy library project is completed by subcontractors located in counties to the north and east of Santa Clara County. The wage requirements of prevailing wage laws make it less attractive for low-wage subcontractors to bid and travel for work in Santa Clara County. Consequently, more of the work on prevailing wage projects is completed by local subcontractors and workers. In this way, the wage policies prevent local municipal funds from leaking out of the area and decreasing local economic activity.



# Where the Work Goes When Prevailing Wages Apply

## Geographic Dispersion of Contractors Receiving Funds for Construction of Gilroy Library (Prevailing Wage)



Two scenarios are used to illustrate the economic impact of prevailing wage requirements on the Santa Clara County economy. The first scenario illustrates the economic impact on the Santa Clara County economy *if* the Palo Alto library project had been built under prevailing wage standards. This scenario illustrates the impact on the local economy if the project had been built with the same labor utilization as the Gilroy project, that is, if the Palo Alto library project had been constructed with 43 percent local labor. The second scenario illustrates the impact on the local economy if the Gilroy library project had been constructed without prevailing wage requirements, that is, *if* the Gilroy project had been built with the same labor utilization as the Palo Alto project (16 percent). Consequently, the economic impacts are based on the flow of labor income out of, or into the local economy, depending on prevailing wage coverage.

***Impact on the Santa Clara County Economy if the Gilroy Public Library were not Constructed under Prevailing Wage Requirements***

As illustrated above, if prevailing wage standards do not apply to a library project in Santa Clara County with a nominal value over \$10 million, an estimated 9 percent of the project value will leave the county economy as more out-of-county construction workers are employed. This means that approximately \$1,554,000 ( $0.09 \times \$17,263,444$  contract value for Gilroy project) in labor compensation will leave the county if this project were not built under prevailing wage standards. With a decrease in county income there is also a decrease in local spending. Or, the local spending that is induced by local income decreases. So, the direct decrease in construction worker income of approximately \$1.55 million induces an additional decrease in local spending of about \$823,000. Therefore, the total economic impact if the Gilroy library project had not been built under prevailing wage standards is an approximate \$2.4 million decrease in local economic activity.

The impact can also be measured in terms of jobs. The loss of \$1,554,000 in construction worker income is equal to about 17 fewer construction jobs in Santa Clara County.<sup>9</sup> The loss of these construction jobs and income means that there is less spending in the local retail and service sectors. The impact of this direct loss of 17 jobs is an additional loss of 5 secondary jobs in the local retail and service sectors. Consequently, the estimated total job loss if the project were not completed under prevailing wage requirements would be 21 jobs in the county. With the decrease in local economic activity, property values, property taxes, and sales taxes will also decrease. The decrease in property tax revenue is approximately \$21,000. The decrease in sales taxes is approximately \$6,000. So, the total tax revenue loss if prevailing wage requirements had not applied to this project is about \$27,000.

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<sup>9</sup> Data from the QCEW indicate that the average worker in commercial construction receives compensation totaling approximately \$92,500 in 2010 dollars. So  $\$1,554,000 / \$92,000$  annual compensation is 16.8 construction jobs. Data from the February 2010 General Prevailing Wage Determination for Northern California indicate that carpenters earned from \$50 to \$57 in total hourly compensation. Data from the American Community Survey indicates that construction workers in Santa Clara County worked an average of 43 weeks per year (2006-2008). Combining the weeks worked and hourly pay data for carpenters provides a range of annual income from \$98,000 to \$86,000 (with a midpoint of \$92,000). This amount does not represent take-home pay, which is considerably lower; rather, it represents the “total package” of all costs to the employer per employee hour.

**Table 1: Impact on the Santa Clara County Economy if the Gilroy Public Library was Constructed without Prevailing Wage Requirements**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$1,554,000
Induced Decrease in Spending in the County:	-\$823,000
Combined Economic Impact:	-\$2,377,000
Direct Job Loss:	-17 Construction Jobs
Secondary Job Loss:	-5 Local Retail and Service Sector Jobs
Total Employment Decrease:	-22 Jobs in the County
County Property Tax Revenue Decrease:	-\$21,400
County Sales Tax Revenue Decrease:	-\$6,100
Total County Tax Revenue Decrease:	-\$27,500

Sources: IMPLAN, Quarterly Census of Employment and Wages.

***Impact on the Santa Clara County Economy if the Mitchell Park Library and Community Center Project were Constructed under Prevailing Wage Requirements***

As illustrated above, if prevailing wage standards apply to a library project in Santa Clara County with a nominal value over \$10 million, an estimated 9 percent of the project value will be redirected into the county as more local construction workers are employed on the project. This means that approximately \$2,193,000 (0.09 x \$24,369,000 project contract value) in labor compensation would be redirected into the county economy if this project were built under prevailing wage standards. With an increase in county income there is also an increase in local spending. Or, the local spending that is induced by local income increases. So, the direct increase in construction worker income of approximately \$2.2 million induces an additional increase in local spending of about \$1.2 million. Therefore, the total economic impact if the Palo

Alto library project had been built under prevailing wage standards is an approximate \$3.3 million increase in local economic activity.

The impact can also be measured in terms of jobs. The increase of \$2,193,000 in construction worker income is equal to about 24 more construction jobs in Santa Clara County.<sup>10</sup> The benefit of these construction jobs and income means that there is more spending in the local retail and service sectors. The impact of these 24 construction jobs is the creation of an additional 7 secondary jobs in the local retail and service sectors. Consequently, the estimated total job gain if the project were completed under prevailing wage requirements would be 31 jobs in the county. With the increase in local economic activity, property values, property taxes, and sales taxes will also increase. The increase in county property tax revenue is approximately \$30,000. The increase in sales tax revenue that remains in the county is approximately \$8,600. So, the total county tax revenue increase if prevailing wage requirements had applied to this project is about \$39,000.

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<sup>10</sup> \$2,193,000 / \$92,000 annual compensation is 24 construction jobs. See note 9 for data sources.

**Table 2: Impact on the Santa Clara County Economy if the Mitchell Park Library and Community Center in Palo Alto was Constructed with Prevailing Wage Requirements**

Economic Impact Category	Economic Impact
Direct Income Increase in the County:	\$2,193,000
Induced Increase in Spending in the County:	\$1,162,000
Combined Economic Impact:	\$3,335,000
Direct Job Increase:	24 Construction Jobs
Secondary Job Increase:	7 Local Retail and Service Sector Jobs
Total Employment Increase:	31 Jobs in the County
County Property Tax Revenue Increase:	\$30,200
County Sales Tax Revenue Increase:	\$8,600
Total County Tax Revenue Increase:	\$38,800

Sources: IMPLAN, Quarterly Census of Employment and Wages.

### **Economic Impact of San Jose Library Projects**

This section presents economic impact results for Santa Clara County *if* recent San Jose library projects had not been built under prevailing wage regulations. This is based on the 16 library projects with F. W. Dodge contract values adjusted to Q4, 2010 dollars. The projects date from 2003 to 2009. The total costs of these projects in 2010 dollars are approximately \$177 million.

**Table 3: San Jose Library Projects: Costs and Bid Dates**

Bid Date	San Jose City Library Project	Project Cost at Bid Date	Project Cost in 2010 Dollars
4/17/2008	Seven Trees Community Ctr & Branch Library	\$24,257,700	\$25,931,481
5/29/2008	Bascom Branch Library/Community Ctr (West Side Library)	\$17,850,000	\$19,081,650
4/15/2004	Almaden Community Center & Branch Library	\$17,439,000	\$22,879,968
1/27/2005	Cambrian Branch Library	\$8,997,000	\$11,354,214
10/25/2007	Santa Teresa Branch Library	\$8,456,000	\$9,140,936
10/30/2003	Alum Rock Branch Library	\$7,925,000	\$10,896,875
2/24/2005	Hillview Branch Library	\$7,643,000	\$9,377,961
3/30/2006	Edenvale Branch Library	\$7,299,000	\$8,663,913
11/25/2003	Rosegarden Branch Library Replacement	\$7,117,000	\$9,785,875
10/7/2004	Evergreen Branch Library	\$7,025,000	\$8,949,850
4/7/2009	Educational Park Branch Library	\$6,867,000	\$7,086,744
11/30/2006	Willow Glen Branch Library	\$6,848,000	\$7,765,632
9/27/2007	East San Jose Carnegie Branch Library (Expansion/Renov)	\$6,611,514	\$7,213,162
7/27/2006	Joyce Ellington Branch Library	\$6,579,000	\$7,592,166
9/14/2006	Pearl Avenue Branch Library	\$5,741,545	\$6,625,743
12/10/2009	Calabazas Branch Library	\$4,600,000	\$4,696,600

Sources: F.W. Dodge and RS Means Commercial Construction Cost indices for San Jose.

The economic impact results are reported in the following table. The direct income loss if these projects had not been built under prevailing wage requirements is approximately \$7.2 million. This is based on a total labor income that can be attributed to prevailing wage projects of 1 percent for projects with a bid date value of less than \$10 million. The corresponding percent for projects with a bid date value of over \$10 million is 9 percent. As income in the county falls, so does local spending. Consequently, the decrease in direct (local construction worker) income induces a decrease in local spending of about \$3.8 million. Therefore the total economic impact if these library projects had been built without prevailing wage requirements is approximately \$11 million. This is approximately 6 percent of the value of this mix of projects with costs below and above \$10 million. This provides a rule of thumb; about 6 percent of the

value of a project leaks from the Santa Clara County economy if projects are not completed under prevailing wage policies. The direct income loss is equivalent to approximately 79 local construction jobs, based on the average earnings of commercial construction workers employed in Santa Clara County.<sup>11</sup> The loss of these jobs means that other local or secondary jobs in the local retail and service sector are no longer supported. This secondary job loss is 24 local jobs. The total employment impact is 103 local jobs. With reduced economic activity property values, property taxes, and sales taxes also decrease. The decrease in county property tax revenue is approximately \$100,000. The decrease in sales tax revenue that is collected by the county is about \$28,000. So, the total tax impact if these projects had been built without prevailing wage requirements is approximately \$128,000. Since these projects are funded by, and take place in the city, the sales tax impact for the City of San Jose is also included. San Jose collects about 43 percent of all sales taxes collected within the county. This indicates that sales tax collections in the city would decrease by approximately \$12,000 (.43 x \$28,400) if these projects were not built under the prevailing wage policy. This tax estimate can be considered conservative because it is based on the county average for the city (43 percent). This amount is likely to be larger for projects occurring within the city limits.

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<sup>11</sup> Based on data from the QCEW. See note 9.



**Table 4: Impact on the Santa Clara County Economy if the San Jose Library Projects were Constructed without Prevailing Wage Requirements**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$7,202,000
Induced Decrease in Spending in the County:	-\$3,815,000
Combined Economic Impact:	-\$11,017,000
Direct Job Loss:	-79 Construction Jobs
Secondary Job Loss:	-24 Local Retail and Service Sector Jobs
Total Employment Decrease:	-103 Jobs in the County
County Property Tax Revenue Decrease:	-\$99,300
County Sales Tax Revenue Decrease:	-\$28,400
Total County Tax Revenue Decrease:	-\$127,700
Reduction in Sales Taxes Collected by the City of San Jose	-\$12,200

Sources: IMPLAN, Quarterly Census of Employment and Wages.

### **Economic Impact of San Jose Capital Improvement Projects**

To illustrate the impact of repeal of the City of San Jose’s prevailing wage policy on the Santa Clara economy, municipal building projects from the city’s capital improvement budget are used. Two periods are selected. The current 2010-2011 through 2014-2015 planned projects represent the impact during a period of slow economic recovery.<sup>12</sup> The 2007-2008 through 2011-2012 budget period represents planned projects before last recession.<sup>13</sup> Data from the selected Santa Clara County library projects concerning the percent of work completed by local

<sup>12</sup> See

<http://www.sanjoseca.gov/budget/FY1011/06AdoptedCapital/SectIII.03.SUMMARYINFORMATIONUseofFunds.pdf>

<sup>13</sup> See <http://www.sanjoseca.gov/budget/FY0708/AdoptedCapital.asp>

subcontractors are extrapolated to the municipal building projects included in the capital improvement projects. Library projects are similar to other municipal building projects with respect to the employment of local subcontractors, but may differ significantly for other capital improvement projects such as parks, water, and sewer projects. So, the use of municipal building projects provides a conservative impact because not all capital improvement projects are included.

The planned capital improvement data for the two periods are presented in the tables below. The total planned expenditures are provided where figures for municipal building projects are separated. In the 2010-2015 period building projects accounted for approximately 15 percent of total planned expenditures. In the 2007-2012 period, buildings accounted for approximately 60 percent of the total. Building projects are further divided into projects costing more or less than \$10 million. These are the same distinctions used for library projects to identify those projects with a greater or lesser proportion of work completed by local subcontractors.<sup>14</sup>

**Planned Capital Improvement Projects for the City of San Jose  
2010-2015**

<b>For 2010-2011 through 2014-2015:</b>	<b>2010 Dollars</b>
Total CIP budget (construction):	\$832,306,064
Total building projects:	\$128,191,000
<i>Under \$10 million:</i>	\$51,632,000
<i>Over \$10 million:</i>	\$76,559,000

Source: City of San Jose

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<sup>14</sup> These data represent planned projects. Not all projects proceed as budgeted in the CIP. In addition, some line items that were budgeted separately may have been bid out as a package (potentially increasing the number of projects >\$10 million); conversely, some single line items may have been split into multiple projects for bidding (potentially decreasing the number >\$10 million).

**Planned Capital Improvement Projects for the City of San Jose  
2007-2012**

<b>For 2007-2008 through 2011-2012:</b>	<b>2007 Dollars</b>
Total CIP budget (construction):	\$1,918,028,455
Total building projects:	\$1,152,502,000
<i>Under \$10 million:</i>	\$89,500,000
<i>Over \$10 million:</i>	\$1,063,002,000

Source: City of San Jose

The economic impact results are presented below. The projects have been adjusted in the same way library projects were adjusted to determine the percent of the project value that would leak from the county economy if San Jose prevailing wage standards did not apply to these projects. The data have been adjusted for inflation with RS Means commercial construction cost indices for San Jose. The data for the 2010-2015 planned projects indicate that approximately \$7.4 million in income would leak from the local economy if these projects were not covered by the wage standard. The loss of this income induces an additional decrease in local spending of approximately \$3.9 million. The total impact to the local economy is about \$11.3 million. The income loss is equivalent to about 80 local construction jobs and the decrease in local spending would reduce employment in the local retail and service sectors by 25 jobs. So, the total employment loss in the county would be 105 jobs. The reduced economic activity over the scheduled period of these projects would reduce county property tax revenue by about \$102,000 and the portion of sales taxes that remain in the county by \$29,100. Consequently, the total tax revenue loss in the county would be approximately \$131,000. Since these projects are funded by, and take place in the city, the sales tax impact for the City of San Jose is also included. San Jose collects about 43 percent of all sales taxes collected within the county. This indicates that sales tax collections in the city would decrease by approximately \$12,500 (.43 x \$29,100) if these projects were not built under the prevailing wage policy. This tax estimate can be

considered conservative because it is based on the county average for the city (43 percent). This amount is likely to be larger for projects occurring within the city limits.

**Table 5: Impact on the Santa Clara County Economy if San Jose 2010-2015 Budgeted Capital Improvement Projects were Constructed without the Prevailing Wage Policy: (Includes Municipal Building projects only, comprising 15% of total CIP value)**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$7,407,000
Induced Decrease in Spending in the County:	-\$3,923,000
Combined Economic Impact:	-\$11,330,000
Direct Job Loss:	-80 Construction Jobs
Secondary Job Loss:	-25 Local Retail and Service Sector Jobs
Total Employment Decrease:	-105 Jobs in the County
County Property Tax Revenue Decrease:	-\$102,100
County Sales Tax Revenue Decrease:	-\$29,100
Total County Tax Revenue Decrease:	-\$131,200
Reduction in Sales Taxes Collected by the City of San Jose	-\$12,500

Sources: IMPLAN, Quarterly Census of Employment and Wages.

The impact for the 2010-2015 planned municipal building projects is based on a projected period of reduced spending on capital projects. The impact for the 2007-2012 period represents more typical public capital expenditures during a time of economic growth. The impact for the earlier period if prevailing wage had not applied is presented below. Because the total for municipal building projects is higher, the leakage associated with the loss of local construction worker income is larger for the 2007-2012 period. County income decreases by approximately \$107 million. Local spending in the retail and service sectors also decreases by

approximately \$56 million. Local construction employment would decrease by about 1,160 jobs. With the loss of these jobs about 355 local retail and service jobs are lost. With the reduction in local economic activity county property tax revenue decreases by approximately \$1.48 million and county sales tax revenue decreases by about \$421,000. The total loss of county tax revenue if the prevailing wage law did not apply to municipal building projects planned for the 2007-2012 period would be approximately \$1.9 million. Since these projects are funded by, and take place in the city, the sales tax impact for the City of San Jose is also included. San Jose collects about 43 percent of all sales taxes collected within the county. This indicates that sales tax collections in the city would decrease by approximately \$181,000 ( $.43 \times \$421,000$ ) if these projects were not built under the prevailing wage policy. This tax estimate can be considered conservative because it is based on the county average for the city (43 percent). This amount is likely to be larger for projects occurring within the city limits.

This impact, which is based only on municipal building projects, indicates that if the city were to repeal the prevailing wage policy, GDP in the San Jose metropolitan statistical area would decrease by approximately 0.1 percent and employment in Santa Clara County would decrease by about 0.2 percent.

**Table 6: Impact on the Santa Clara County Economy if San Jose 2007-2012 Budgeted Capital Improvement Projects were Constructed without the Prevailing Wage Policy: (Includes Municipal Building projects only, comprising 60% of total CIP value)**

Economic Impact Category	Economic Impact (2010 dollars)
Direct Income Decrease in the County:	-\$106,897,000
Induced Decrease in Spending in the County:	-\$56,621,000
Combined Economic Impact:	-\$163,518,000
Direct Job Loss:	-1,155 Construction Jobs
Secondary Job Loss:	-355 Local Retail and Service Sector Jobs
Total Employment Decrease:	-1,510 Jobs in the County
County Property Tax Revenue Decrease:	-\$1,483,000
County Sales Tax Revenue Decrease:	-\$421,000
Total County Tax Revenue Decrease:	-\$1,904,000
Reduction in Sales Taxes Collected by the City of San Jose	-\$181,000

Sources: IMPLAN, Quarterly Census of Employment and Wages.

The loss of local income associated with the repeal of the city’s prevailing wage policy would induce a decrease in spending in the local retail and service sectors. The specific Santa Clara County industries that would experience a decrease in sales revenue are listed below. These data illustrate the economy-wide impact of repealing the prevailing wage standard with industries not directly related to the construction industry experiencing substantial impacts. The total revenue loss for the county is the estimated induced impact (\$56 million) that is reported in the table above. The reduction in economic activity would decrease residential home values in the county (as indicated by the reduction in imputed rents for owner-occupied dwellings). With the reduced economic activity, real estate transactions would also decrease and the local real estate industry could expect to lose about \$4 million in revenue and the loss of 23 jobs. The

health care sector in the county would experience a decrease in revenue of approximately \$8.9 million and a decrease in employment of 57 workers. The broadly defined Santa Clara County food service and retail sectors would experience a decrease in revenue of approximately \$6.7 million and an employment decrease of about 88 workers.

**Table 7: Impact on the Santa Clara County Economy if San Jose 2007-2012 Budgeted Capital Improvement Projects were Constructed without the Prevailing Wage Policy: Impact on Industry Revenue and Employment**  
(Includes Municipal Building projects only, comprising 60% of total CIP value)

<b>Santa Clara County Industry</b>	<b>Revenue Loss by Industry</b>	<b>Job Loss by Industry</b>
Total	-\$56,621,017	-355
Imputed rental activity for owner-occupied dwellings	-\$8,877,570	0
Real estate establishments	-\$4,119,799	-23
Private hospitals	-\$3,914,528	-19
Offices of physicians- dentists	-\$3,405,486	-23
Food services and drinking places	-\$2,963,211	-42
Wholesale trade businesses	-\$2,560,573	-8
Nondepository credit intermediation and related institutions	-\$1,584,886	-2
Monetary authorities and depository credit institutions	-\$1,544,013	-5
Telecommunications	-\$1,388,240	-3
Private junior colleges- colleges- universities	-\$1,366,550	-11
Legal services	-\$1,043,742	-4
Retail Stores - Food and beverage	-\$1,018,925	-13
Electric power generation- transmission	-\$913,723	-1
Medical and diagnostic labs and outpatient analysis	-\$888,802	-5
Other state and local government enterprises	-\$817,404	-3
Insurance carriers	-\$786,213	-2
Retail Nonstores - Direct and electronics	-\$770,220	-4
Securities- commodity contracts- investments-	-\$764,162	-9
Nursing and residential care facilities	-\$688,578	-10
Retail Stores - General merchandise	-\$637,519	-10
Retail Stores - Motor vehicle and parts	-\$536,467	-6
Retail Stores - Clothing and clothing accessories	-\$528,399	-8
Services to buildings and dwellings	-\$491,450	-7
Religious organizations	-\$467,923	-3
Data processing- hosting- ISP- web search providers	-\$449,606	-1
Amusement parks- arcades- and gambling industries	-\$446,390	-4
Funds- trusts- and other financial vehicles	-\$440,862	-1
Automotive repair and maintenance- except car sales	-\$403,455	-4
Other personal services	-\$374,769	-1
Retail Stores - Health and personal care	-\$368,636	-5

## **Contribution to the Santa Clara County Economy of Prevailing Wage Requirements on Federal, State, and County Public Building Construction.**

The examination of San Jose library projects revealed that about 6 percent of the value of a project leaks from the Santa Clara County economy if projects are not completed under prevailing wage policies. This 6 percent rule is applied to all public building projects in the county to provide an estimate of the economic and fiscal impacts of federal, state and county/city prevailing wage policies.

The data for these projects were obtained from the Construction Industry Research Board and include building construction expenditures by the federal, state and county/city governments. Projects funded by the federal and state governments are covered by prevailing wage regulations. All major public construction projects funded by the County of Santa Clara and all cities within the county are covered by a prevailing wage policy, excluding Palo Alto. Since municipal building projects funded by the City of Palo Alto are not covered by prevailing wage requirements, the totals for this city are subtracted from the overall totals.<sup>15</sup>

Public building construction expenditures in Santa Clara County for 2008 to 2010 are reported in the table below. These data indicate that approximately \$1.2 billion worth of public building construction that was covered by prevailing wage policies occurred in the county between 2008 and 2010. Applying the 6 percent rule suggests that Santa Clara County economic activity is increased by approximately \$75 million because of federal, state, county and city

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<sup>15</sup> Palo Alto municipal building construction values were obtained from the capital improvement budgets for fiscal years 2007-2008 through 2009-2010. See:  
<http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=16680>,  
<http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=13065>,  
<http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=8773>



prevailing wage regulations. Or, county economic activity would be lower by about \$75 million if these polices did not apply.

**Table 8. Impact of Federal, State, County and City Prevailing Wage Requirements on Santa Clara County: Data from Public Building Construction, 2008-2010.**

Year	Value of Federal, State, County and City Public Building Construction in Santa Clara County	Value of Municipal Building Construction in the City of Palo Alto
2008	\$592,662,000	\$2,583,000
2009	\$440,366,000	\$6,719,000
2010	\$252,639,000	\$55,913,000
Total Value (2010 dollars)*	\$1,310,950,000	\$66,522,000
Net Value Covered by Prevailing Wage Policies	\$1,244,428,000	–
Economic Impact of Prevailing Wage Policies	\$74,666,000	–

\* RS Means Construction Cost Indexes for Santa Clara County (2008-2010).

Other results from the examination of San Jose library projects can be used to provide estimates of the local tax and employment impacts prevailing wage laws for the Santa Clara County economy. For example, the \$75 million increase in economic activity is associated with an increase in county property and sales taxes of approximately \$873,000 and about 700 jobs in the construction, retail and service industries.<sup>16</sup>

The estimates of the effect of federal, state, county and city prevailing wage policies are conservative because they are based only on public building projects and omit the impact associated with other federal, state, county and city public works construction that occurs in Santa Clara County, such as roads, sewers and other infrastructure-related projects. The estimates are also conservative because the 6 percent rule was derived from the repeal of a city

<sup>16</sup> Data from the examination of San Jose library projects indicate that an impact of \$11 million was associated with 103 total jobs and the \$128,000 in county sales and property tax revenue. Consequently, a \$75 million impact is associated with approximately 700 jobs (\$75 million / \$11 million x 103 jobs) and about \$873,000 in local sales and property tax revenue (\$128,000 in sales and property tax revenue / \$11 million x \$75 million). Data for San Jose library project impacts are reported in Table 4.

prevailing wage policy, assuming that federal and state policies remain in effect. If prevailing wage regulations were removed at all levels it is likely that the impact would exceed 6 percent. With complete repeal of prevailing wage standards the structure of the regional construction labor market would change as construction worker income falls and workers move from the Bay Area to locations with lower costs of living. Consequently, even less of the work on public works construction would be completed by local construction workers and the impact would be greater than 6 percent.

## **Economic Impact of Changes in the Distribution of Income**

Prevailing wage laws tend to support the income of all construction workers in a jurisdiction. Several academic studies examine the effect of the repeal of state-level prevailing wage laws on construction worker income. For example, Philips et al. (1995) finds an 8 percent difference between the wages in states with strong and weak laws. Kessler and Katz (2001) report that construction worker incomes decrease from 2 to 4 percent after states repeal their prevailing wage laws. It would be inappropriate for this county-level study to use the estimates from these studies since they are based on state-level prevailing wage standards. If the City of San Jose were to repeal its wage standard, state and federal policies would still be in place and serve to support local construction worker incomes. With less local policy support, construction worker income would decrease. However, the amount of the decrease is difficult to measure. If construction worker income decreases with repeal of prevailing wage standards, the income of another construction resource owner must go up; if the cost of the project remains the same (the preponderance of recent research indicates construction costs are not affected by prevailing wage laws). So, if construction worker income was to fall and, say contractor income was to rise, this change in the distribution of income has an effect on the level of local economic activity.

To obtain an estimate of the impact of a change in construction worker income on the Santa Clara County economy, an auxiliary IMPLAN estimate of a change in household income can be used. Data from the Bureau of Labor Statistics for a broad cross-section of construction worker occupations for the San Jose-Sunnyvale-Santa Clara metropolitan statistical area indicates that most workers fall within the \$50,000 to \$75,000 income range.<sup>17</sup> It is assumed that general contractors, subcontractors, and other construction resource owners or suppliers fall in

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<sup>17</sup> See <http://www.bls.gov/data/#employment>

the +\$150,000 income range (the highest range available in IMPLAN). IMPLAN can measure the effect of a change in household income on the Santa Clara County economy. This procedure was used to estimate the impact of a shift in income from the \$50,000-\$75,000 bracket to the +\$150,000 income category. The results indicate that this change in the distribution of household income is associated with a reduction in economic activity of \$53 (or 5.3 percent of the amount of income that is redistributed upward). This makes sense because of the higher spending leakage from the local economy for high income earners who pay more in state and federal taxes and who are more likely to save and not spend. Those in the middle income bracket are more likely to spend their income on local goods and services. To the extent that municipal prevailing wage laws support the incomes of all construction workers in the county, these laws also support more local spending. Repeal of this legislation would likely shift income upward and thereby reduce local spending as well as local economic activity.

## **Review of the Research on Prevailing Wage Laws and Construction Costs**

The research that examines the cost implications of prevailing wage laws has evolved over time as new data and statistical methods become available. This section traces out the development of the research. The preponderance of the most recent studies, using the best methods and data, indicate that prevailing wage laws are not associated with higher construction costs. These results, drawn from studies in the U.S. and Canada, are consistent with a recent study that examines construction cost differences among five northern California cities (including Palo Alto and San Jose). The findings of this northern California study also support the conclusion that prevailing wage laws are not associated with higher construction costs.

### ***First Generation, or Labor Cost Studies of the Cost Implications of Prevailing Wage Laws.***

Early studies of the cost effects of prevailing wage laws focused on wage comparisons between projects that were covered by the national prevailing wage law (the Davis-Bacon Act) and uncovered projects (see Gujarati 1967; GAO 1979, 1981; Goldfarb and Morrall 1978, 1981; Gould 1971; Gould and Bittingmayer 1980; and for a more recent example, Keller and Hartman 2001).<sup>18</sup> Bilginsoy and Philips (2000) indicate that the bulk of these studies suggest that the Davis-Bacon wage requirements increase construction costs from 1.5 to 3 percent. However, the study by Bourden and Levitt (1980), which employs that same labor cost method, fails to find any cost effect of this law.

These studies are based on an intuitive approach where the difference between prevailing wage rates and open shop rates are used to calculate the increase in project labor costs on a prevailing wage project, keeping the number of construction workers employed on the project the same. Labor costs are then adjusted to reflect the ratio of labor costs to total construction costs to arrive at the final estimate of the percentage increase attributed to the prevailing wage policy. This is an intuitive approach and is consistent with the notion that if wage rates increase, so will the total construction costs.

While this methodology provides a measure of the impact of a prevailing wage law on labor costs (given fixed labor usage), it does not provide an accurate measure of the total cost of such a policy because it ignores any changes in labor hours that might result from increased productivity due to managerial efficiency, the substitution of equipment for labor, or employing labor with more training. Standard economic theory suggests that as wages rise, the utilization of labor will change as other inputs are substituted for more expensive workers. So, it is not

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<sup>18</sup> The following early studies are exceptions to this method. Allen (1983) adjusts his cost estimate for factor substitution, he still finds a modest Davis-Bacon cost impact of 0.3 to 0.4 percent. Thieblot (1975) pursues a unique approach by taking advantage of President Nixon's temporary suspension of the Davis-Bacon Act in 1971. Thieblot's examination of the rebids allowed during the suspension suggests that the absence of the Davis-Bacon wage requirements reduced costs on federal projects by 0.63 percent. Thieblot's re-examination of the data indicates that a repeal of the Act would result in a cost savings of 4.74 percent (see Thieblot 1986, 105-106).

appropriate to assume that labor utilization will remain the same when wage rates rise. If labor utilization or productivity is different, or changes on prevailing wage projects, the labor cost method described above will provide a cost estimate that is too high. Because prevailing wage laws may alter the utilization of labor and the total wage bill, it is important to examine the effect of prevailing wage laws on total construction costs since total costs include any adjustments management has made when wage rates change. An examination of total costs separates second generation studies from early analysis.

***Second Generation or Statistical Estimates of the Cost Implications of Prevailing Wage Laws.***

Second generation studies use more advanced statistical methods (regression analysis) to estimate the effect of prevailing wage laws on the total costs of construction. The preponderance of these studies fail to find a statistically significant prevailing wage cost effect. The exceptions to the majority of this research are the studies by Sarah Dunn, John Quigley and Larry Rosenthal (2005) and Martha Fraundorf, John Farrell and Robert Mason (1983). Both of these studies suffer from serious methodological and data errors that limit the ability to draw meaningful conclusions about the effect of prevailing wage laws on construction costs.

The study by Dunn, Quigley, and Rosenthal (2005) is based an examination of residential projects subsidized by the California Low Income Housing Tax Credit and covered by the state prevailing wage law. These authors find that prevailing wage requirements increased costs from 9 to 37 percent. However, there are several problems with this study. First, data from the Economic Census of Construction indicates that construction labor costs range from 25 to 30 percent of total construction costs. Consequently, it is unlikely that the total cost of construction would fall by up to 38 percent from a regulatory change that primarily affects a cost component

that accounts for only 25 to 30 percent of total costs.<sup>19</sup> Additionally, the Office of the Legislative Auditor, State of Minnesota (2007) has criticized this report on the basis that the cost of the publicly funded projects included in this study may have been influenced by prevailing wage laws and by other factors such as more exacting HUD construction standards that may also affect construction costs. However, these additional factors are not considered separately from prevailing wage effects. Finally, the study is based on a sample of 205 residential projects, yet the authors can only identify if the prevailing wage law applies, or does not apply to 175 of the projects. Yet 30 unidentified projects are included in the sample. An appropriate statistical test would be based on the sample of 175 projects because the inclusion of the unidentified projects may bias the cost estimate.

The study by Fraundorf et al. is based on the cost comparison between federally funded and privately funded construction projects (federally funded projects are covered by the Davis-Bacon Act, private projects are not). Results of this study indicate that federally funded projects cost from 26 to 35 percent more than privately funded projects. The authors ascribe this cost difference to the effect of prevailing wage requirements. There are several problems with this study and its conclusions. Like the cost estimates provided by Dunn, Quigley, and Rosenthal, this cost estimate is unrealistically too high given the data from the Economic Census of Construction indicating that labor costs range from 25 to 30 percent of total construction costs. This suggests that the Fraundorf estimate of the cost differential between federally and privately funded construction is too high to be entirely attributed to the wage changes required by the Davis-Bacon Act. A better explanation of the higher costs of federal projects is that many

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<sup>19</sup> The authors provide ‘rough’ data specific to housing construction in selected California cities indicating that labor’s share of construction costs range from 42 to 46 percent of total costs. Even if labor costs are 46 percent of total costs, it is unrealistic to assume that total costs would fall by up to 38 percent. The implication is that labor’s share of total costs would fall from 46 percent to about 17 percent ( $0.46 \times 0.38$  reduction if the wage laws was repealed). This figure for labor’s share of total cost (17 percent) is unrealistically too low.

factors such as the prevailing wage law, federal regulations, and construction practices on federal projects influence the total construction cost of projects funded by the U.S. government. For example, the fittings and components in public buildings may be more expensive. Project life expectancy may be higher on government projects. Or, quality and workmanship specifications may be higher. In general, the fact that public owners are under different economic and political pressures compared to private owners may lead to higher costs associated with public buildings, independent of prevailing wage regulations. Unfortunately, the data used by Fraundorf et al. do not allow for the kind of distinctions necessary to separate other influences from the effect of the prevailing wage law.

Numerous studies build on the work by Fraundorf by examining differences in the relative cost of publicly and privately funded projects between jurisdictions with and without prevailing wage laws (see for examples Prus 1996, Philips 2003, Azari-Rad, Philips and Prus 2002, 2003, Duncan and Prus 2005, and Duncan, Philips, and Prus forthcoming). Others compare total construction costs for public projects before and after the introduction of prevailing wage laws (see for example, Bilginsoy and Philips 2000). All of these studies cited above employ different data sets and statistical tests to estimate the cost of these policies in Canada and the U.S. Despite these differences, these studies all share the common finding that prevailing wage laws are not associated with higher construction costs.

The results of these studies are consistent with a recent study of five northern California cities by Philips and Kim (2009). In an examination of public works projects in five northern California cities (Palo Alto, Mountain View, San Carlos, San Jose, and Sunnyvale) with different municipal prevailing wage laws, these authors fail to find evidence suggesting that wage policies affect the bid process or outcome in a way that increases construction costs. For example, the



results do not support the view that wage policies discourage bidding by nonunion contractors, reduce the number of bidders, or prevent nonunion contractors from winning bids on prevailing wage projects. Additionally, these authors fail to find statistically significant differences between the winning bid and two measures of project costs (the engineer's estimate and the median bid). This suggests that prevailing wage laws of northern California cities are not associated with higher construction costs. An explanation of how wages can rise, yet costs remain stable on prevailing wage projects is the subject of current, or third generation research.

### *Third Generation Studies*

As mentioned above, possible reactions to prevailing wage policies are changes to the crew mix, substituting equipment for labor, and other changes that alter the productivity and efficiency of construction. This is the focus of the current, third generations prevailing wage studies that apply a method of estimating production efficiency (stochastic frontier regression) to the topic of prevailing wage laws. For example, in an examination of the effect of prevailing wage laws on construction efficiency in British Columbia, Canada, Duncan, Philips, and Prus (2006) find that prior to the introduction of the wage legislation, public school projects were from 16% to 19% smaller, in terms of square feet, than comparable private structures. This size differential did not change after the policy was in effect. These results suggest that prevailing wage requirements do not alter labor or other input utilization in a way that significantly affects the relative size of covered and uncovered projects.

In a follow-up to this study the authors use data from public school projects in British Columbia to provide a more direct test of the effect of prevailing wage policies on the efficiency of construction (see Duncan, Philips, and Prus 2007 and 2009). Results indicate that average technical efficiency for all construction projects included in the sample is 94.6 percent (100

percent is optimal efficiency in terms of maximizing output from inputs). Average efficiency for projects covered by the introductory stage of British Columbia's construction wage legislation is 86.6 percent. This policy mandated apprenticeship training requiring journeymen to divide time between teaching and building. This can explain the decrease in efficiency when the policy was introduced. However, by the time of the expansion of the policy 17 months later, the average efficiency of covered projects increased to 99.8 percent. These findings suggest that the introduction of prevailing wage laws disrupted construction efficiency. However, in a relatively short period of time, the construction industry adjusted to wage requirements by increasing overall construction efficiency in a way that is consistent with stable costs.

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