
ECONOMIC IMPACT STUDY OF THE PROPOSED HOUSING DEVELOPMENT IN STOCKTON, CALIFORNIA

March 25, 2015

Prepared By:
Dr. Jeffrey Michael, Dr. Thomas Pogue, and Jesse Neumann
Center for Business and Policy Research
Eberhardt School of Business
University of the Pacific

TABLE OF CONTENTS

Executive Summary.....	3
1. Introduction.....	3
2. Data, Methodology and Assumptions.....	4
3. Economic Impact results.....	8
4. Government Revenue Impacts.....	8
5. Summary and Conclusion.....	9
Appendix	10

Figures

Figure 1-City of Stockton Building Permits (Source: U.S. Census Bureau).....	4
--	---

Tables

Table 1-Estimated Cost to Construct a 2,070 Square Foot New Home in Stockton	5
Table 2-IMPLAN Inputs	7
Table 3-Overview of BIAGV Housing Development's County-Wide Economic Impact.....	8
Table 4-Overview of BIAGV Housing Development's County-Wide Tax Impact.....	9
Table 5-Estimated Permit and Fee Costs for a 2,070 Square Foot Single-Family Home in Stockton.....	10

EXECUTIVE SUMMARY

This report estimates the potential economic impact of building 1,000 homes per year in the City of Stockton, a reasonable expectation in a healthy economy with moderate growth. We find this home building activity would have the following annual economic impact in San Joaquin County.

- 3,700 jobs
- \$492 million in economic output
- \$244 million value added
- \$56 million in permit and fee revenue for local governments
- \$64 million in tax revenue to federal, state and local governments

While this analysis was done at the County level, we estimate that approximately 80% of these economic impacts would be within the City of Stockton itself. This report looks only at the economic impact of construction activity. It does not estimate on-going economic impacts from the spending of new households that occupy the homes after they are built, tax payments that would be made by those households or the cost of providing government services to the households.

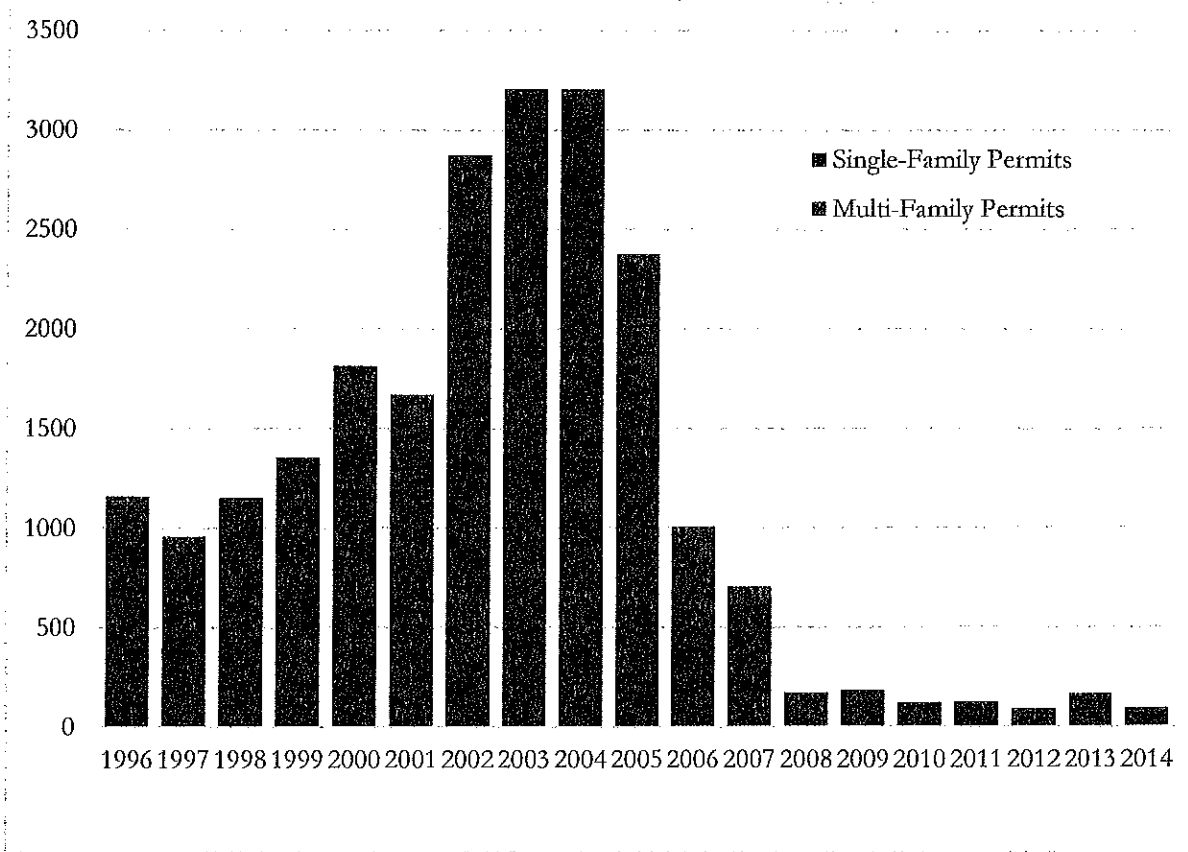
1. INTRODUCTION

New home construction is a significant part of the economy. Historically, new residential investment has accounted for about 5% of U.S. GDP. Likewise, new home construction has been a significant part of Stockton's economy over the years, and the dramatic swings in this sector are strongly correlated with the ups and downs of the City's economy. This report details the potential economic impact of new home construction in the City by examining a scenario where one thousand new homes are built in the City each year. One thousand new homes in the City each year is a reasonable future scenario given historic trends and current projections of growth in the County.

As shown in Figure 1, new building permits in Stockton have fallen precipitously from the peak of over 3,000 new units in 2003-04. New single-family permits have remained under 100 units for the past 3 years in Stockton. The City averaged about one thousand new units per year in the late 1990s before a period of rapid growth driven by the housing bubble. The Census Bureau reports the City of Stockton had a population of 298,118 and 99,637 housing units in 2013. Thus, one thousand units per year would represent a modest 1% annual growth rate which is less than projections of 1.3% annual growth in households for San Joaquin County recently released by the California Department of Finance.¹

¹ <http://www.dof.ca.gov/research/demographic/reports/projections/view.php>

Figure 1-City of Stockton Building Permits (Source: U.S. Census Bureau)



2. DATA, METHODOLOGY AND ASSUMPTIONS

The economic impact analysis is based on the costs to construct a typical new home in Stockton. Cost information was obtained from the Building Industry Association of the Greater Valley (BIAGV) with input from area builders and contractors. The size of the home (2,070 square feet) is the same as used by consultants to the City of Stockton in a 2013 analysis of development fees, with costs adjusted to reflect builders' estimates of 2015 conditions². The costs paid by developers include the direct construction costs of the home, site development costs such as sidewalks and underground utilities, and indirect/soft costs such as marketing, management, insurance, financing, and closing costs. Developer costs also include building permit fees. We used the City of Stockton permit fee estimator³, and added fees for schools and habitat conservation that are not included in

² <http://www.stocktongov.com/files/StocktonDevFeeStudyPhase1.pdf>

³ <http://www.stocktongov.com/government/departments/permitCenter/bpfe.html>

the City's estimator.⁴ As shown in Table 1, the estimated construction cost for a typical 2,070 square foot new home in Stockton is about \$322,000 without considering the cost of land. If an allowance of 10% of construction cost is made for the cost of land, the total cost to the builder is estimated at \$354,000. While the value of land is a real cost to the builder, the land's use as a residential lot does not represent new economic production and is thus not included in the economic impact analysis.

Table 1-Estimated Cost to Construct a 2,070 Square Foot New Home in Stockton

Construction @ \$78 per square foot	\$161,460
Site Costs	\$42,000
Indirect/Soft Costs	\$62,706
Government Permits and Fees	\$55,817
Total Costs (not including land)	\$321,983
Allowance for Land Value (10% of construction cost)	\$32,198
Estimated Total Cost to Developer	\$354,181

Based on this typical home, the costs of building 1,000 homes is approximately \$322 million. The economic impact of these developer expenditures was performed using an input-output model calibrated to reflect the County economy across which impacts were assessed. We utilized IMPLAN Version 3.1 with data for calendar year 2013. Input-output models are in a sense, general accounting systems of transactions between industries, businesses, and consumers that estimate the range of economic impacts. We use the IMPLAN software to create complete, extremely detailed Social Accounting Matrices and Multiplier Models of the San Joaquin County economy that enable in-depth examinations of the impacts of the proposed housing development.

IMPLAN was developed in the late-1970s by the United States Forest Service and researchers at the University of Minnesota. The software was initially based on input-output accounts whose analysis was pioneered in the Nobel Prize winning work of Wassily Leontief. As the software evolved, it began using Social Accounting Matrices in its analysis. Currently, IMPLAN is among the most widely used economic impact modeling systems. It provides a transparent and detailed approximation of economic impacts that is widely utilized by businesses and government agencies.

⁴ We used the fees of Lodi Unified School District and the San Joaquin Multi-Species Habitat Conservation and Open Space Plan. The current fee schedules are published on the websites for Lodi Unified School District and the San Joaquin Council of Governments.

The full range of economic impacts that result from the expenditures—the **Total Effect**—is the sum of the direct, indirect, and induced effects:

- **Direct Effects** are the changes in jobs and income directly supported by the builder, such as the jobs held by the homebuilders' employees.
- **Indirect Effects** represent the iterative impacts of inter-industry transactions as supplying industries respond to demand from the sector(s) where the initial expenditures occurred. An example of an indirect impact would be employees of a building material wholesaler.
- **Induced Effects** reflect the expenditures made by recipients of wages in the direct and indirect industries. Examples of induced impacts include employees' expenditures on items such as retail purchases, housing, food, medical services, banking, and insurance.

In this analysis, the total, direct, indirect, and induced effects are reported by output, labor income, and employment:

- **Output** represents the value of industry production. It accounts for the total change in the value of production in an industry for a given time period. Output varies as a measure across industries. For manufacturers, the value of production is sales plus or minus any change in inventories. For service sectors, the value of production equals their sales. While for retail and wholesale trade, the value of production equals their gross margin and not their gross sales.
- **Value Added** is the contribution of to GDP of an individual producer, industry or sector. It is the difference between the value of Output and the cost of intermediate inputs. In terms of income, Value Added is equal to the sum of employee compensation, gross operating margin, and net taxes.
- **Labor Income** is the sum of employee compensation and proprietor income. Employee compensation includes wages, salaries, benefits, and all other employer contributions, while proprietor income consists of payments received by self-employed individuals and unincorporated business owners.
- **Employment** is the number of full- and part-time jobs based on an annual average of monthly jobs. In other words, employment is measured as a full year of employment. Thus, 3 temporary jobs that lasted for 4 months are reported as 1 job.

The input-output model is defined for a specific geographic area, and economic impacts are calculated for that area. Indirect and induced effects are calculated using regional purchase coefficients calculated by IMPLAN, and thus economic impacts do not include spending outside the region analysis even if the purchases are made by individuals or businesses located within the region.

The definition of the geographic area is limited by the available data. In general, the smallest geography used for economic impact analysis is a County. However, the IMPLAN model can now develop regions at the zipcode level.

For this analysis, all of San Joaquin County was chosen as the study area even though all the direct construction activity in the scenario takes place in the City of Stockton. This was done for multiple reasons. First, the City boundaries do not follow zipcode boundaries closely, so it is only possible to make a rough approximation of the City. Second, the zipcode level source data is more limited leading to less confidence in the model results. Finally, many suppliers of building inputs and employees could be located just outside of the City so that a model looking solely at the boundaries of Stockton would ignore these areas that are still very much integrated with the City and understate local economic impacts.

The inputs to the IMPLAN model were created by multiplying the expenditures in Table 1 by 1,000 homes and allocating the spending across sectors in the IMPLAN model. Direct construction, site costs and indirect/soft costs were combined and input into IMPLAN sector 59, "Construction of new single-family residential structures," because the industry spending pattern in IMPLAN already expenditures on site and soft costs. The expenditures on Government permits and fees were allocated according to the use of the funds. Much of the fees are for construction of public facilities such as roads, schools, and police stations and the share of fees for these purposes was allocated to the appropriate construction sector as displayed in Table 2. Other fees, such as plan checks, were allocated to support the local government, non-education sector. Fees that are allocated for the purchase of land or easements to preserve habitat or open space were not included in the economic impact model just as land costs are excluded from construction impacts. These land related fees excluded from the economic impact calculation total about \$7 million across 1,000 homes. Land costs are excluded because shifting the use of land does not represent new economic production in an economic impact model. All together, the construction of 1,000 homes supports just under \$315 million in new production as shown in Table 2.

Table 2-IMPLAN Inputs

Sector	Description	Value
59	Construction of new single-family residential structures	\$265,903,000
58	Construction of other new nonresidential structures	\$16,386,840
533	Employment and payroll of local government, non-education	\$11,646,140
56	Construction of new highways and streets	\$9,697,580
55	Construction of new educational and vocational structures	\$6,955,000
57	Construction of new commercial structures, including farm structures	\$4,187,000
Total Expenditures		\$314,775,560

3. ECONOMIC IMPACT RESULTS

Table 3 presents an overview of total economic impacts in San Joaquin County attributable to building 1,000 homes in Stockton in a year. We estimate that approximately 80% of these countywide economic impacts would accrue within the City of Stockton itself.

Table 3-Overview of BIAGV Housing Development's County-Wide Economic Impact

Impact Type	Economic Impact			
	Employment	Labor Income	Value Added	Output
Direct Effect	2,138	\$129,868,744	\$136,261,120	\$314,775,552
Indirect Effect	842	\$29,372,220	\$53,362,048	\$87,938,072
Induced Effect	717	\$28,623,700	\$54,719,872	\$88,863,008
Total Effect	3,696	\$187,864,664	\$244,343,296	\$491,576,632

The production of 1,000 homes in Stockton is estimated to directly support 2,138 jobs, and a total of nearly 3,700 jobs when including multiplier effects. These 3,700 jobs average nearly \$51,000 per year in total compensation for total labor income of \$188 million in the County. An additional \$57 million in profits and indirect business taxes brings the total value added in the County up to \$244 million. The total output related to home building is \$492 million.

4. GOVERNMENT REVENUE IMPACTS

As discussed earlier and detailed in the appendix, the developer of a typical house in Stockton would pay a total of \$56,000 in permits and fees to local governments, so that our 1,000 home scenario would generate nearly \$56 million in revenue to local governments in permits and fees alone. The majority of the fees are used to pay for public infrastructure such as water systems and roads.

In addition to these direct payments from developers, the income and economic activity created by the new home construction generates income, sales, social insurance, property and other taxes for local, state and federal governments. The IMPLAN model estimates for these other sources of tax revenue is shown in Table 4.

The total tax payment from this planned development is \$63.5 million. The state and local tax payment is \$24.8 million, or 39% of the total tax payments. The federal tax payment is \$38.7 million or 61% of the total tax payment. Of the \$24.8 million in state and local payments, indirect business taxes account for approximately two-thirds of the revenue; this tax consists mostly of sales (49%) and property (41%) taxes paid to state and local governments by the companies involved in the development. This is followed by personal tax payments (28%), social insurance tax payments (3%), corporate profit taxes (2.6%) and net dividend payments (less than 1%). Of the \$38.7 million in federal tax payments, social insurance is the largest revenue component at nearly 50%; these payments go to programs such as Social Security, Medicare and unemployment insurance. This is followed by personal tax payments (38%), corporate tax payments (6.9%) and indirect business tax payments (6.3%).

Table 4-Overview of BIAGV Housing Development's County-Wide Tax Impact

Line	Description	Value
1	State and Local Taxes Resulting from the Planned Housing Development	
1.1	Net Dividend Payments to Government (Payments from Envestments)	\$43,262
1.2	Social Insurance Tax Payments (Retirement, Health & Disability Insurance)	\$745,553
1.3	Corporate Profit Tax Payments (Corporate Net Income Tax)	\$634,702
1.4	Personal Tax Payments (Income & Property Tax)	\$7,023,260
1.5	Indirect Business Tax Payments (Sales, Property & Motor Vehicle Tax)	\$16,388,180
1.6	<i>Total State and Local Tax Payments (Lines 1.1 through 1.5)</i>	<i>\$24,834,957</i>
2	Federal Payments Resulting from the Planned Housing Development	
2.1	Indirect Business Tax Payments (Customs & Excise Taxes)	\$2,446,841
2.2	Corporate Profit Tax Payments (Corporate Net Income Tax)	\$2,685,292
2.3	Personal Tax Payments (Income Tax)	\$14,930,310
2.4	Social Insurance Tax Payments (Retirement, Health & Disability Insurance)	\$18,633,430
2.5	<i>Total Federal Tax Payments (Lines 2.1 through 2.4)</i>	<i>\$38,695,873</i>
3	Grand Total of Tax Payments (Lines 1.6 & 2.5)	\$63,530,830

5. SUMMARY AND CONCLUSION

Home building is an important part of the local economy that has yet to recover from the effects of the Great Recession. This report estimates the potential economic impact of building 1,000 homes per year in the City of Stockton, a reasonable expectation in a healthy economy with moderate growth. We find this home building activity would support nearly 3,700 jobs in San Joaquin County, about 3,000 of these within the City itself. The new home construction would support \$492 million in output, and \$244 million in value-added or GDP within the County.

The construction activity would generate \$56 million in permit and fee revenue for local governments, and an additional \$64 million in tax revenue to the federal, state and local governments. This report does not estimate tax payments that would be made by individuals that would occupy the homes after they were built or the cost of providing government services to the households.

APPENDIX

Table 5-Estimated Permit and Fee Costs for a 2,070 Square Foot Single-Family Home in Stockton

Fee Type	Amount
Permit fee	\$2,202.70
Plan Check fee	\$1,585.94
Planning fee	\$728.15
Strong Motion Instrumentation Program (SMIP) fee	\$31.55
Technology fee	\$284.15
Permit tracking fee	\$14.00
Land update fee	\$3.25
Microfilm fee	\$50.00
Capital preservation fee	\$242.72
Green Building fee	\$10.00
Community Rating System Admin fee (CRS)	\$44.05
Development Code Maintenance fee	\$242.72
Development Oversight Commission fee	\$242.72
Climate Action Plan Implementation fee	\$242.72
Housing Element Preparation & Monitoring fee	\$121.36
Permit Issuance fee	\$39.00
Water *	\$2,135.84
Sewer	\$6,172.00
Delta Water Supply Project *	\$8,079.00
Water and Sewer - Administrative fee (3.5%)	\$290.77
Air Quality	\$187.00
City Office Space	\$233.50
Community Recreation Center	\$240.50
Fire Station	\$781.00
Libraries	\$451.00
Police Station Expansion	\$591.00
County fee	\$1,890.00
Agricultural Land Mitigation fee	\$2,059.23
Parkland	\$2,798.00
Street Improvements	\$6,613.00

Surface Water	\$4,196.00
Traffic Signal	\$110.00
Fee Area - Administrative fee (3.5%)	\$705.26
Regional Transportation fee	\$3,084.58
Public Works Residential Construction	\$72.10
School District (Lodi)	\$6,955.00
Multi-Species Habitat Conservation and Open Space	\$2,087.00
Total Permits and Fees	\$55,816.81