Evaluation of the Economic Effects of Potential Policies to Reduce Residential Growth in Rural Areas of San Luis Obispo County

Prepared for San Luis Obispo County

by

ECONorthwest

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Preface

This report explains the economic effects of potential policies to reduce residential growth in rural areas of San Luis Obispo County. The County engaged ECONorthwest (a consulting firm in economics, finance, and planning) to address questions about the likely effects of such policies.

ECONorthwest had substantial and appreciated assistance from several sources: County staff, city planning departments, focus group participants, attendees at a public workshop, and others knowledgeable about development in the county.

Despite the assistance, ECONorthwest alone is responsible for this report's contents. The report has been reviewed by County staff, but the views expressed are those of ECONorthwest and may not be shared by others who contributed to or reviewed this report.

Any forecast of the future is uncertain. The fact that ECONorthwest evaluates its assumptions as reasonable does not guarantee that those assumptions will prevail. Throughout the report ECONorthwest has identified sources of information and assumptions used in the analysis. Within the limitations imposed by uncertainty and the project budget, ECONorthwest and the County have made every effort to check the reasonableness of the data, methods, and assumptions and to test the sensitivity of the results to changes in key assumptions.

Disclaimer: ***The statements and conclusions of this report are those of ECONorthwest and not necessarily those of the Strategic Growth Council or of the Department of Conservation, or its employees. The Strategic Growth Council and the Department make no warranties, express or implied, and assume no liability for the information contained in the succeeding text.***

Summary

This report explains the economic effects of policies to reduce residential growth in rural areas[1] of San Luis Obispo County. The County amended its General Plan in 2009 to include "strategic growth principles." Among those principles are ones to address problems with water supply, air quality, loss of agricultural land, and cost of County services. To implement the principles, the Plan suggests (among other things) redirecting residential development in rural areas of the county to unincorporated communities that have adequate resources and amenities to support new growth. The County engaged ECONorthwest (a consulting firm in economics, finance, and planning) to address several questions about the likely effects of potential policies that would reduce residential growth in rural areas by limiting the annual number of building permits:

1. By how much are such policies likely to reduce residential development in rural areas?
2. What will happen to the residential growth that would otherwise have been likely to occur in rural areas of the County—where is it likely to go?
3. What are the economic impacts of that change in the amount and pattern of development?

To answer these questions, ECONorthwest undertook an analysis to describe:

- **A framework and methods** for the evaluation: What factors are important causes of housing development? How will they change over time? How can they be estimated, forecasted, and used to estimate changes in housing starts? How do housing starts affect the local economy? (Chapter 2 and Appendices A and B).
- **A forecast of housing development** without the potential policy changes (*baseline forecast*) and with the changes. The difference is the reduction in housing starts attributable to the potential policies.
- The extent to which the households unable to acquire housing in the rural areas because of the new limitations would make **shifts to housing in cities or other parts of the County**.
- **The potential economic effects** of the estimated reductions in housing starts.

[1] Rural areas are areas outside of the County's urban and village reserve lines.

The potential policy changes

The County's existing Growth Management Ordinance (GMO) limits annual residential development in unincorporated San Luis Obispo County to growth of 2.3% of the existing number of housing units in the unincorporated county. Since its inception in 1990, the number of allocations for building permits has reached the annual cap only twice. However, the number of building permits (final inspection) by the County has only come close to, but short of, the cap in one year (roughly, 1,100 housing units). In most years, the number of building permits has been well under the cap. Since 1990, housing starts in the unincorporated county have averaged a little over 600 per year, and in rural areas, about 250 year. Rural housing starts have been about 40% of all housing starts in the unincorporated County.

The two potential policy scenarios provided by staff would amend the Growth Management Ordinance for rural areas as follows:

- Scenario 1: A cap of 128 dwelling units permitted annually in rural areas of the county
- Scenario 2: A cap of 89 dwelling units permitted annually in rural areas of the county

The County would apply these caps to parcels not in the Agriculture land use category and small parcels (less than 20 acres) in the Agriculture.

Housing development without new policy: the baseline forecast

Analysis by SLOCOG, the County, and its consultants in 2011[2] provides population and housing forecasts for 2040, not only for the county as a whole, but disaggregated by cities and the unincorporated area (which is further disaggregated into 13 planning areas). Those forecasts are the best and official guesses population and housing growth in San Luis Obispo County in the absence of new public policy (like the growth caps). The forecast for 2010–2040 for the unincorporated areas of the county:

- Total new dwelling units: 13,565 units
- Average annual new dwelling units: 450 units/year
- Average new rural dwelling units: 170 units/year[3]

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[2] AECOM. (2011). *San Luis Obispo County 2040 Population, Housing & Employment Forecast.*

[3] The County disaggregated the 13,565 new units into rural, urban, and village areas; then divided the rural portion of growth (5,030 units) by 30 years = 168 (about 170) units.

Housing development with new policy

The analysis in this report estimated changes in rural housing development between 2010 and 2040 for the two policy scenarios in two steps. Since both of the scenarios would cap annual growth below the both the historical and the average rate of housing development in rural areas, a preliminary estimate is straightforward: housing development will be reduced by the difference between average forecasted growth (170 units per year) and the policy growth cap (128 or 89 units per year).

The second step was to adjust those estimates for the effects of business cycles. The extent to which the caps affect housing starts depends on where the cap is set relative to the annual requests for those permits, and those requests will vary year to year because of changes in market demand for new housing units (i.e., because of business cycles).The caps will reduce development in high-growth years below the long-run annual average: the effect is that housing units developed will be less than the growth cap times 30 years. This study simulated those effects using assumptions about expected future growth in different parts of the county (AECOM forecasts and County allocations), average annual growth in rural areas (40% of 450 units per year), annual deviation from the average (high about twice the average; low about half the average), and length of business cycles (24 quarters).

The estimated reductions in housing units in rural areas will be partially offset, countywide, by increases in development in other parts of the county. This study simulated those shifts for different values of displaced rural housing.

The main conclusions (for the cap of 128 units per year) are that over 30 years the number of dwelling units would be reduced ("most likely" case) by (1) 1,600 units in rural areas, and (2) 700 units in the County overall (less than the rural reduction, because some of the displaced rural demand would be met in other parts of the county).

Potential economic effects

What impacts get counted matters greatly to the estimates. Section 5.1 provides important information about the proper way to think about these effects, and describes the methods used to estimate them. The estimates that follow should be interpreted in that context.

The estimated annual value of the estimate of housing units that the growth cap would cause to not be built in the county is about $10 to $13 million for Scenario 1 (about $16 to $21 million for Scenario 2). A reduction of $10 million in direct residential construction output (because of the

construction of fewer new houses in rural areas of the county) results in a decrease of about 2% in residential construction output in the county, and is about 0.05% of the county's annual economic output.

In summary, we estimate the *total* effects on economic output in the county (including effects on realtors and so called "multiplier effects" on other businesses) to be about *double* the *direct* loss in construction value. Thus, as a rough estimate, an annual loss of $10 million in residential construction value means about a $20 million annual loss to county output, about one-tenth of 1% of the county's $20 billion dollar annual economy.

That relatively small impact on the regional economy in the aggregate does not mean that there are not some relatively big impacts on certain businesses or individuals. If those effects are concentrated in some areas, it could make business difficult for some builders; some might close. The analysis in this report is not detailed enough to make further predictions.

Another concern that would require a full study is the effect on local governments, usually called "fiscal impacts." A reduction in building activity has many effects: on the revenue side, permit fees, impact fees, and property taxes will all be less than they would have been; on the expenditure side, the costs of the permitting and inspection process (staff time), infrastructure construction, operation of public facilities, and public services all decrease. Tricking out the net effects is difficult, but there is theoretical and empirical evidence to suggest that (1) a lot of development in a lot of jurisdictions does not pay what it costs local governments to permit and service it; (2) residential development is more likely to be fiscally negative than employment-related development; and (3) lower-cost and rental units are more likely to be fiscally negative than higher-cost and owner-occupied units. But there is a lot of variability in these gross generalizations.

An implication for this study of rural growth caps is that the type of housing that does and does not get built makes a difference. Some very high value houses, that are almost certainly fiscally positive for the County (high value and high tax payments, smaller family sizes, fewer children, less use of county services) will not be able to be built in the county. As with the analysis of the economy, however, the difference in net revenue will be very small relative to the total County budget.

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Chapter 1 INTRODUCTION

Section 1.1 describes the background and purpose of this study. San Luis Obispo County amended its General Plan in 2009 to include "strategic growth principles." To implement the principles, the Plan suggests (among other things) redirecting residential development in rural areas of the county to unincorporated communities that have adequate resources and amenities to support new growth. The County engaged ECONorthwest (a consulting firm in economics, finance, and planning) to address questions about the effects of such policies. **Section 1.2** describes how the report is organized.

1.1 BACKGROUND AND PURPOSE

In April 2009, the County Board of Supervisors adopted strategic growth principles and policies as part of the County's General Plan. A County document (*Strategic Growth Principles*, August 2011) describes in more detail the policies the County intends to pursue in following those principles. In particular, the policies aim to direct residential growth in the rural areas of the county toward unincorporated communities that have adequate resources and amenities to support urban levels of service and development.[4]

The County's definition and principles and policies of "strategic growth" are similar to ones articulated by many organizations promoting alternatives to typical development patterns.[5] The principles and policies include preserving farmland and open space, directing growth toward urban centers, mixed-use development, compact building design (attached units, smaller lots), better-connected streets, encouragement of walking and biking and transit, urban open spaces and parks, environmental protection, and better coordination of transportation and public facility investments with land-use planning.

Those *principles and policies*, on their own, are unlikely to have big effects on development patterns. To have such effects, they must be supported by *detailed policies and actions* that *allow* the kind of development the principles and policies suggest (by eliminating contradictory policies that prohibit the desired development types), *encourage* it (with direct or indirect economic incentives), or *require* it (with new regulations).

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4 In addition to County policies, State Senate Bill (SB) 375 requires better coordination between land use and transportation to reduce greenhouse gas emissions. The San Luis Obispo Council of Governments (SLOCOG) has prepared a preliminary Sustainable Community Strategy. It includes a "preferred growth scenario" that assumes that future development in the unincorporated rural areas occurs to a lesser degree than would be expected by past development trends.

5 The common term in planning discussions for these development patterns is "smart growth."

In land use policy, using regulations can mean limiting certain types of development, in certain locations, that is now allowed. *This study is about assessing the effects of such a limitation: a cap on the annual number of building permits issued in rural areas of the County.* This report is an assessment of a *potential* policy—no ordinance language has yet been drafted or is being considered by the Board of Supervisors.

The adoption of the strategic growth principles and policies by County decision makers reflects a belief that the County and its residents will, on net, be better off for having implemented those principles and policies. But the County acknowledges that implementation, if it is to have any impact, *must* change the amount, pattern, or timing of development in the future. In other words, the County acknowledges that the benefits it hopes to achieve by reducing residential growth in rural areas come at a cost. It wants some idea about the types and magnitudes of those costs to help it decide whether to pursue policies aimed at reducing residential growth in rural areas.

Thus, the three questions for this study are about how and how much new County policies to reduce residential growth in rural areas will (1) reduce rural growth, (2) shift it to other parts of the county, and (3) affect the local economy. To help answer those questions, the County engaged ECONorthwest (a consulting firm in economics, finance, and planning) to prepare this report.

1.2 ORGANIZATION OF THIS REPORT

This report has four additional chapters:

- **Chapter 2. Evaluation Framework and Methods**. Definitions, principles, assumptions, and methods for addressing the questions posed by the County about the economic effects of the policies it is considering.
- **Chapter 3. Baseline forecast of housing development (without potential caps on rural development).** The likely amount, type, and location of new housing units in the county if new policies are not adopted (the basis for comparison).
- **Chapter 4. Changes in housing development with potential caps on rural development.** The likely amount, type, and location of new housing units in the county if the County adopts new policies to limit housing growth in rural areas.
- **Chapter 5. Economic effects of estimated changes in housing development.** The likely types of economic impacts that could happen if the County adopts new growth limits in rural areas.

Those chapters are supported by four technical appendices that provide more detail:

Appendix A: General Framework for Policy Evaluation

Appendix B: Framework for Evaluating Housing Markets

Appendix C: Glossary and Reference Materials

Appendix D: Additional Data

Chapter 2 EVALUATION FRAMEWORK AND METHODS

An evaluation of any policy problem always includes an effort to gather and interpret information. In this report, the term **framework** refers to the context for the evaluation: the assumptions about how the world works (in this case, that part of the world called residential land development in San Luis Obispo County), which derive from theory, empirical work, common practice, or intuition. The term **methods** refers to specific techniques used in this evaluation (e.g., for data collection and analysis).

Section 2.1 describes the framework in two parts: (1) general principles that are applicable to any evaluation of policy, and that are standard in the professional literature of policy evaluation, and (2) the implications of those principles for the specific evaluation that this report provides regarding potential County policies to limit residential growth in the rural parts of the county. **Section 2.2** describes the methods used in this report (based on the framework in Section 2.1, and an assessment of data sources and process objectives). **Appendix A** provides more detail about a framework for policy evaluation in general. **Appendix B** provides a framework for housing market analysis, and describes how that applies in the context of this study for San Luis Obispo County.

2.1 FRAMEWORK

People base decisions on their personal models of cause and effect. Those models are simple and incomplete. Most of the facts that go into those mental models are based heavily on *assumptions* (some testable empirically, some not). Any technical (as opposed to ideological or emotional) discussion of public policy must focus on assumptions, and that discussion will derail quickly if it does not start with some clarity about *definitions*.

Readers that care about the underlying assumptions that ECONorthwest brings to this evaluation can find them and the reasons for them at the end of this report in Appendices A and B. Some readers will skip those appendices. The hope, however, is that most will at least skim the rest of this section. It summarizes Appendices A and B, focusing on definitions (so that the rest of the analysis is understandable) and on how households make choices about residential location and housing type (which is fundamental to the questions this report addresses).

Readers with less time may jump to Section 2.2, Methods, which uses (in part) the evaluation framework in Section 2.1 as a basis for recommending the specific evaluation techniques that this report uses to address issues related to constraining development in rural areas in San Luis Obispo County. Readers with less time yet may jump farther, to the data and

analysis in Chapter 3 and beyond, or may skip the analysis entirely and rely on just the Summary for an overview of the conclusions.

2.1.1 GENERAL FRAMEWORK FOR POLICY EVALUATION

Definitions

There is difference between *ends* and *means*: between *desired outcomes* and the *actions* intended to achieve those outcomes.

- **Terms related to outcomes** (from broad to specific): goals, principles, fundamentals, objectives, impacts, measures, indicators, evaluation criteria. Logically, since goals and objectives are categories of things people care about, they are roughly synonymous with the term impacts: the objectives are always about increasing the good impacts that a community wants, and decreasing the bad impacts that it does not want.
- **Terms related to actions**: strategies, policies, implementation tools, programs, regulations, investments. There are several ways actions can be classified (by where they get applied; by who implements them; by the area of development they affect).

Support for public actions presumably derives from a belief that evaluating and taking collective actions now can lead to a better future than the one that will arrive if such actions are not taken. Implicit in that idea is one of *alternative futures* (sometimes called *scenarios*).

Purposes of public policy

What is public policy trying to achieve? At the broadest level, decision makers and their constituents want policies that make everybody happy: all people, in all locations, now and in the future. Policy evaluation does not, however, use the term "happiness." It is more likely to use the terms well-being or social welfare (from economics) or public interest, quality of life, or livability (from planning). It typically defines good policies as those that are more effective, more efficient, and fairer than the alternatives at achieving desired ends.

Social welfare or quality of life are broad terms that include many components. A person's quality of life is affected by job quality, income, housing, public services (e.g., education and recreation opportunities, public safety), environmental quality, cost of living, and more.[6] Thus, an evaluation of public policy is always based on *multiple evaluation criteria.*

[6] Note the parallels between this definition and the idea from the literature on sustainability of *triple bottom line*: good policy must address and optimize across objectives related to the Economy, the Environment, and Equity.

Technical problems and (partial) solutions

The links among causes and effects are hard enough to identify in the physical sciences. In the social sciences, prediction has additional complications. People and groups have multiple objectives. They are sometimes inconsistent and they often disagree. Moreover, what might be true on average is not true for all people or even within groups of people, so any evaluation is complicated by the need to disaggregate the results of the analysis. Further, even if one could predict with a high degree of accuracy and certainty what the impacts of public actions would be on all groups now and into the future, there is still the messy issue of valuing the impacts: no amount of mathematics or computer power is ever going to yield a technical result that all parties agree give appropriate weight to their particular values. Policy evaluation addresses these problems by ignoring the ones it can and simplifying the ones it cannot.

Solutions to these problems are partial at best. Advice includes:

- Acknowledge the limitations of any technical evaluation: the public discussion will be better for it.
- Focus on the tradeoffs: there are always many objectives and not all can be maximized simultaneously.
- Frame the analysis to consider a future without the action under consideration, and with the action.
- Do not confuse "No Action" with "No Change": changes will occur even without the policy.
- Focus on differences among alternatives at the margin: if all alternatives perform the same on some objective, they theoretically have no effect on the decision, no matter how important that objective.
- Incorporate the principles of microeconomics into the evaluation of public policy.
- Evaluate not just the aggregate net benefits of a policy, but the distribution of those benefits among different groups as well.
- Design the evaluation modularly and hierarchically so that detailed impacts can be logically and consistently rolled up into an overall evaluation.
- Tell a clear story about cause and effect; put the statistical analysis in a supporting role.

2.1.2 SPECIFIC FRAMEWORK FOR THIS EVALUATION

Context

The County is considering simultaneous policies that would (1) reduce the rate at which new residential development would otherwise occur in the rural areas of the county, and (2) encourage residential development in County urban areas with adequate resources. It could achieve the first objective by regulating (i.e., reducing) the number of building permits issued annually for growth in rural areas of the county (the focus of this evaluation). It intends to achieve the second objective through a variety of standards and incentives that support growth in the County's unincorporated communities. These include:

- **Complete Communities Survey.** Inventories the infrastructure and public facilities that are needed in the communities of San Miguel, Templeton, Oceano, and Nipomo and develops a strategy to finance the construction of these improvements.
- **Infill Development Standards.** Recommends amendments to development regulations contained in a number of County plans and ordinances. These amendments will not emphasize the creation of additional regulations, but rather will encourage investment in communities by removing barriers, creating incentives, and improving existing standards to encourage high-quality infill development.
- **Update to the Economic Element of the County General Plan**. Contains goals and policies that will guide actions the County needs to take to assure a vital economy and continued high quality of life.
- **San Miguel Community Plan.** Establishes policies to encourage development that is compatible with the scale and character of San Miguel. Includes a public facilities financing plan.
- **Consolidated Capital Improvements Program (CIP).** Identifies capital expenditures over a five-year period. It will include strategies for coordinating with community services districts to finance infrastructure in the County's unincorporated urban areas.

To evaluate the potential limitation on rural housing development, the means by which development would be reduced must be specified. For the

purposes of this evaluation,[7] the policy is specified as **an annual cap on building permits in rural areas of the county.** The caps are intended to achieve the targeted ratios of urban to rural growth as envisioned in the Preliminary Sustainable Communities Strategy (PSCS) prepared by SLOCOG. Because housing cannot be legally built and occupied without a building permit, a cap on permits is a very clear and firm limit to growth if enforced. The cap would not apply in cities or in non-rural parts of the county: urban areas (URLs) and villages (VRLs). The cap would be an annual limit, set below the forecast of the long-run average annual growth in rural areas that the County expects. To avoid impacts on farmworker housing, the County would only apply these caps to parcels that are not in the Agriculture land use category and to small parcels (less than 20 acres) in the Agriculture land use category.

The County expects the growth caps to result in important benefits, such as reductions in vehicle miles traveled (VMT), energy use, air pollution, greenhouse gas (GHG) emissions, and water demand in constrained groundwater basins. But it also recognizes that those policies may have negative effects on some groups, for example, households that want to purchase new homes in the rural parts of the county and developers who want to build them. Thus, before implementing such policies, the County is interested in an evaluation of their economic effects. Specifically, it wants an assessment of what will happen to the growth that would otherwise have gone to rural areas of the county but is now prohibited from doing so: where would that growth go (to other areas in the county, to cities in the county, or out of the county), and what are the economic consequences of its change in location?

Factors affecting housing markets

To answer those questions about future impacts, an analysis must try to distinguish between two potential futures. It should estimate what residential development would be like (1) *without* the new policy, and (2) *with* the new policy. It can then compare those estimates: in concept, the difference is what can be attributed to the new policy.

But housing markets are complicated, affected by many more factors than a single public policy. Those factors include population growth, household income, household characteristics (e.g., size and age of household head), consumer preferences (for housing, location, and services), prices (of land and materials, new and existing housing, transportation), and public policy (which may support or restrict housing).

[7] The potential policies are not proposals now in front of the County Board of Supervisors. They are hypothetical policies specified so that their potential effects could be evaluated. If that evaluation looks, on net, positive, the County may then begin the process of making ordinance changes.

Housing cost is affected by the structure of the development industry, land price, land site and location characteristics, lending standards, infrastructure cost and pricing, other fees, labor costs, interest rates, state and national economic conditions, and more.[8]

For consumers, housing provides a bundle of services: shelter certainly, but also proximity to other attractions (jobs, shopping, recreation), amenities (type and quality of fixtures and appliances, landscaping, views), prestige, and access to public services (e.g., quality schools). Because it is impossible to maximize all these services and simultaneously minimize costs, households must, and do, make tradeoffs. What they can get for their money is influenced by both economic forces and government policy. Different households will value what they can get differently. They will have different preferences, which in turn are a function of many factors like income, age of the head of the household, number of people and children in the household, number of workers and job locations, number of automobiles, and so on.

Forecasting housing starts

The County's questions 1 and 2 about reducing rural growth and its possible shift to other locations relate to changes in the amount and location of housing starts.

Local governments rarely forecast housing development using a model that addresses the myriad factors described in the previous section. Yet despite all the variables and variability, most local governments are generally able to satisfactorily predict their population growth over the long-run because broad economic and demographic trends run through the variability of the business cycles. They pick a reasonable growth rate for population (which is highly correlated with households and thus demand for housing units), consider possible economic and demographics factors that may cause future growth rates to differ from historical ones, and make a forecast.[9]

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[8] See Appendix B for more detail. The housing market crash in 2008 was not foreseen as a serious problem by the great majority of housing forecasters even a month before it occurred. Because people can explain what happened with hindsight, they make the mistake of thinking that it was inevitable and obvious. But many other things *could* have happened, and few people predicted the one that *did* happen.

[9] Such forecasts are inherently uncertain. Their usefulness for public policy may derive as much from the explanation of their underlying assumptions about the dynamics of markets and policies as from the specific estimates of future demand and need.

The County's most recent forecasts of dwelling units, by planning area, are of this type.[10] They are the basis for the "without new policy" forecast, referred to in this report as the *Baseline Forecast* (or Business as Usual).

The "with new policy" forecast of housing starts is relatively easy to derive from the Baseline Forecast because the new policy reduces growth in rural areas below what the baseline forecast suggests the market would demand. The difference between this forecast and the baseline is the reduction in new housing development in rural areas of the county.

The final step of the housing evaluation is more difficult: estimating the extent to which the households unable to get housing in the rural areas because of the new restrictions would shift to housing in cities or other parts of the county. Again, many factors are in play. Consumer demand for housing in the county (by housing type, size, and location) is a function of income, household size and composition, ties to the location (employment, family, school), and the price of housing in alternative county locations and outside the county. The price depends on all the factors already listed in the existing market, and the fact that now *additional* demand (from the households not able to find housing in rural areas) will be pushing up the price of housing in the non-rural areas of the county.

Describing the economic effects of the change in housing starts

The County's question 3 is about the economic effects of estimated changes in the amount and location of housing starts.

There are many types of potential economic effects, both positive and negative, and they affect different groups. Some examples:

- Home construction industry: reduced economic activity. Fewer homes, less building
- Other industrial sectors: reduced economic activity. The multiplier effect: the construction industry buys less from other industries, and it has fewer employees buying local goods and services.
- Real estate industry: reduced economic activity. Fewer sales in rural areas that are probably not fully offset by sales elsewhere in the county
- Property owners and buyers: increased land and housing prices. A reduction in quantity means an increase in price, all else equal.[11] For

[10] AECOM. (2011). *San Luis Obispo County 2040 Population, Housing & Employment Forecast.* Retrieved from http://library.slocog.org/PDFs/SpecialProjects/SLOCounty2040RegionalGrowthForecast_aug2011.pdf

owners of existing houses, this is potentially a beneficial effect. For buyers, it is not.

- Local governments: fiscal impacts.

2.2 METHODS

The framework emphasizes the importance of demand and supply in the determination of household decisions about the type and location of dwelling units. The methods derive from the framework. Most of those methods are about data and technical analysis, and they are described in Section 2.2.1. Some of the methods, however, had to do with the involvement of local stakeholders and the public in a discussion of the issues this report evaluates: the methods for their engagement are summarized in Section 2.2.2.

2.2.1 TECHNICAL EVALUATION

ECONorthwest used a variety of data sources and analytical techniques for its assessment. It drew on its prior experience with housing market analysis and evaluation of land use policies; its knowledge of the professional literature on those topics; state and local data on building, population, and demographics; focus groups and interviews; and a public workshop and survey.

The analysis had four steps:

- **Base-case residential growth in county and rural areas, <u>without</u> any of the potential policies to limit residential growth in rural areas)**. This analysis was based primarily on prior work by AECOM and the County (2011) to forecast population and housing units by sub-area of the county. It is supplemented and corroborated by our independent assessment of other data on historical growth of factors that influence housing development.
- **Residential growth in county and rural areas, <u>with</u> the potential policies to limit residential growth in rural areas.** This analysis is driven by our simulations of how the potential caps on building permits in rural areas would affect development on average, given assumptions about building cycles.

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[11] A typical relationship in normal housing markets is that the "price elasticity of demand" (the percent change in quantity divided by the percent change in price) ranges between -.5 and -1. This means, for example that a 20% decrease in quantity of housing in some sub-market would cause prices to increase by 20% to 40% in that submarket. For this project, if other areas in the county are at least partial substitutes for the rural market, then prices there would rise also, but not nearly as much.

- **Reductions in housing units built in the county resulting from potential caps on residential permits**. This step has two parts. The first is a calculation of the impacts in *rural areas* by simple subtraction of the amount of building with caps from the amount of building without caps. The second is an estimation of the impacts in the *entire county* based on the assumptions that some households that would otherwise have purchased or rented housing in rural areas may choose to purchase or rent in non-rural parts of the county. We describe the propensity of different household types to make that tradeoff, and simulate the results.
- **Economic impacts of any estimated reductions.** We describe several types of economic impacts. The bulk of our effort is aimed at comparing losses in the construction industry to the overall economy of the county. Other analysis is more qualitative.

This chapter describes some of the complexity of housing markets. That complexity, and the limits of the budget for this report, suggested that the analysis try to get to a reasonable level of confidence about a range of possible results. Thus, our analysis is primarily simulations of possible futures based on explicit assumptions, not predictions based on unknowable facts.

2.2.2 STAKEHOLDER AND PUBLIC INVOLVEMENT

The project team used several outreach methods to get feedback on the potential economic effects.

Focus Groups

The County convened two focus groups: one consisting of private sector real estate and development professionals, the other consisting of planners and economic development professionals. The purpose of the focus groups was to help inform the consultant about past development, current trends, and opinions about the potential effects of the potential growth caps.

Interviews

The project team conducted several additional interviews to gain further information about the potential impacts.

Public Open House

The County held a public open house in April 2012, at which ECONorthwest presented preliminary findings regarding effects on housing starts, with opportunities for both oral and written feedback.

Survey

At the open house, participants had the opportunity to fill out a short survey to provide written feedback on the presentation of preliminary findings.

Presentation to County Board of Supervisors

ECONorthwest presented a final report at a public meeting of the Board of Supervisors in July 2012.

Chapter 3 BASELINE FORECAST OF HOUSING DEVELOPMENT (WITHOUT POTENTIAL CAPS ON RURAL GROWTH)

The most recent and official population housing forecasts for San Luis Obispo County were prepared by the consulting firm AECOM for the San Luis Obispo Council of Governments, delivered in August 2011. The County used those forecasts to allocate population and housing units to planning areas in the county. Those forecasts are the basis for all the estimates in this report. **Section 3.1** describes the results and methods used to create a baseline population forecast. **Section 3.2** describes the results and methods used to create a baseline housing forecast. ECONorthwest's evaluation of the methods leads it to conclude that the official forecast uses accepted methods, is relatively well documented, is reasonable, and is a logical proxy for the Baseline Forecast in this study. **Appendix C** provides information on the County planning area definitions. **Appendix D** provides more of the data summarized in this section: on economic conditions, the housing market, demographics, and forecasted growth in San Luis Obispo County.

3.1 POPULATION FORECAST

The basis for San Luis Obispo County's population forecast is the AECOM report, *San Luis Obispo County 2040 Population, Housing and Employment Forecast*. Exhibit 1 shows AECOM's mid-point population forecast for San Luis Obispo County for incorporated cities and unincorporated areas of the County. The County is expected to grow by 64,740 people between 2010 and 2040 (30,420 people in incorporated areas and 34,320 people in unincorporated areas) at an average annual growth rate of 0.8%.

Exhibit 1. Forecast of population by type of community, San Luis Obispo County, 2010-2040

	2010		2040		Change 2010-2040	
	Population	% of total	Population	% of total	Population	AAGR
City	**148,307**	**59%**	**178,727**	**56%**	30,420	0.6%
Unincorporated	**104,324**	**41%**	**138,644**	**44%**	34,320	1.0%
Urban (County)	60,944	24%	79,034	25%	18,090	0.9%
Village	10,966	4%	14,868	5%	3,902	1.0%
Rural	32,414	13%	44,742	14%	12,328	1.1%
Total	**252,631**	**100%**	**317,371**	**100%**	**64,740**	**0.8%**

Note: Forecast does not include population in group quarters.

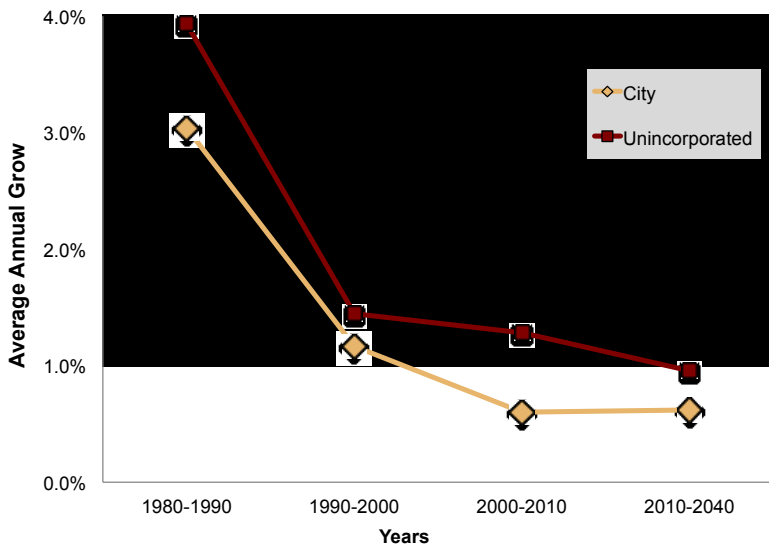
Source: AECOM *San Luis Obispo County 2040 Population, Housing and Employment Forecast*, Table 23, and San Luis Obispo County 2011

The AECOM forecast is well documented, uses standard methods from professional practice, and is reasonable. Its basic methods are:

- Use US Census data for historical trends
- Review recent statewide and county population and economic forecasts for context, including historical information about the county's population growth trends since 1990 (natural increase and net migration) and demographic changes in the population (e.g., the aging population and growth in numbers of young working age people)
- Focus on recent (10-year) trends in housing development (starts and prices)
- Create a range of population forecasts consistent with the sources above
- Convert countywide household population growth (not including population in Group Quarters) to countywide growth of housing units; disaggregate the countywide forecast to incorporated and unincorporated areas.

AECOM's average annual growth rate for county population from 2010 to 2040 (0.8%) is consistent with the growth rate implied by its forecast of county employment for the same period (0.9%). The rate is similar to rates in the county over the past two decades (Exhibit 2). AECOM expects the future growth rate to be slightly below those of the last two decades, and expects the unincorporated area to grow slightly faster than cities, assumptions that reflect (and are probably based on) historical trends.

Exhibit 2: Population growth, average annual rates by decade, cities and the unincorporated area in San Luis Obispo County, 1980-2010



Source: *San Luis Obispo County 2040 Population, Housing, and Employment Forecast*, AECOM, 2011

3.2 HOUSING UNIT FORECAST

AECOM allocated population growth to the seven incorporated cities and to unincorporated areas within the county. It converted forecasted population to forecasted housing units by using estimates of household size (assuming the historical rate of about 2.5 persons per household) and vacancy rates. AECOM allocated housing units to the incorporated cities based on historical population growth rates and the cities' estimates of annual housing capacity and absorption. The total estimated growth in the unincorporated land of the county for 2010 to 2040 is 13,561 dwelling units.

County staff then further sub-allocated the estimated housing units in unincorporated San Luis Obispo County to urban areas, villages, and rural parts of the county. The County's allocations of population (and housing) in unincorporated areas within the county are based in part on an analysis of the capacity for buildable land, which considered factors such as physical constraints (e.g., soil class, topography, or geologic stability) and policy constraints such as fire response time and open space. The County's allocations also considered prior allocations, historical growth, resource constraints, and planned infrastructure improvements.

Exhibit 3 shows the forecasts. Exhibits 4 and 5 illustrate the results. Exhibit 4 shows that most of the growth (2010 – 2040) in the unincorporated County is expected in five of 13 planning areas. Exhibit 5 shows that four of these five high-growth planning areas are also where most of the rural growth is expected. It shows, for example, that in the El Pomar-Estrella planning area, 1,575 of the expected 30-year growth of 1,592 dwelling units will occur in rural areas (99%).

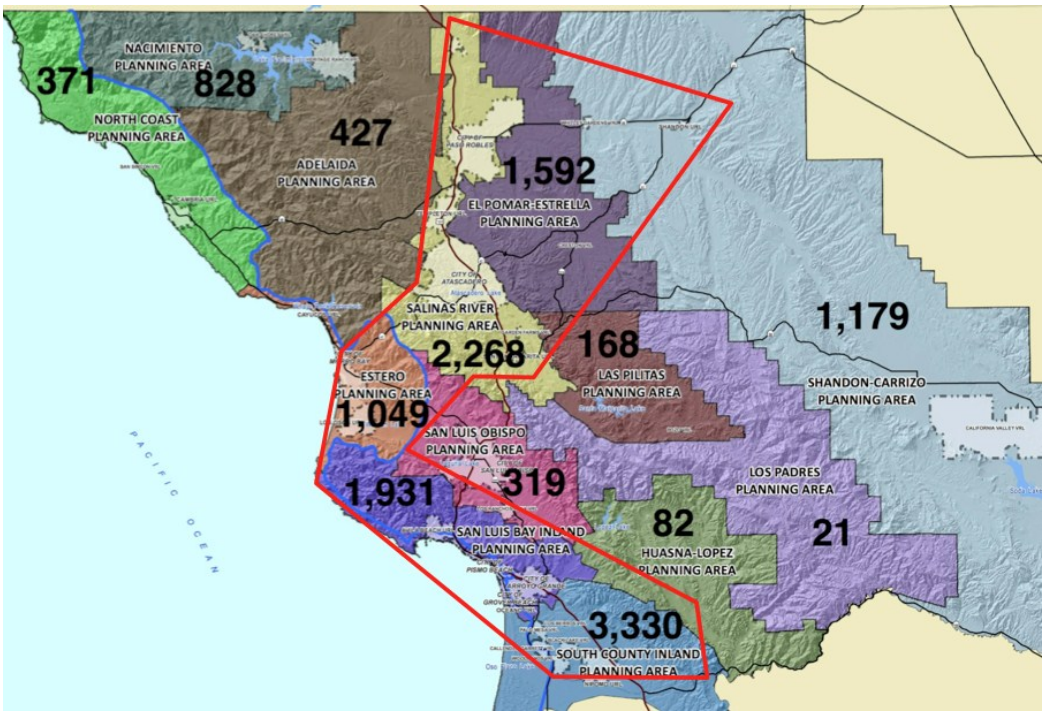
Not shown is the relationship between housing starts in the unincorporated county versus in the seven incorporated cities. The pattern is similar to the one for population shown in Exhibit 2 above: the rate of growth has been and is forecasted to be higher in the unincorporated areas than in the cities taken as a group, and the increase in both population and housing units is forecasted to be slightly higher in the unincorporated areas than in the cities.

Exhibit 3. Buildout capacity and dwelling unit forecast by planning area and community, San Luis Obispo County, 2010 - 2040

Capacity by Planning Area & Community	2010	2040	Buildout Capacity	DU Growth 2010-2040	Capacity beyond 2040 (DU)
Adelaida	1,172	1,599	2,379	427	780
El Pomar-Estrella					
Creston Village	33	50	118	17	68
Rural	3,549	5,124	5,223	1,575	99
Estero					
Cayucos	2,106	2,783	2,566	677	(217)
Los Osos	6,076	6,295	10,857	219	4,562
Rural	432	585	1,755	153	1,170
Huasna-Lopez	215	297	767	82	470
Las Pilitas					
Pozo Village	11	25	82	14	57
Rural	442	596	1,069	154	473
Los Padres	78	99	259	21	160
Nacimiento					
Heritage Ranch Village	1,631	2,174	2,922	543	748
Oak Shores Village	646	893	2,010	247	1,117
Rural	97	135	743	38	608
North Coast					
Cambria	3,789	4,085	7,967	296	3,882
San Simeon Village	219	239	576	20	337
Rural	152	207	636	55	429
Salinas River					
Urban Atas. (unincorp.)	61	109	232	48	123
Garden Farms Village	120	159	175	39	16
Urban PR (unincorp.)	835	1,083	1,587	248	504
San Miguel	686	1,080	2,005	394	925
Santa Margarita	486	569	566	83	(3)
Templeton	2,580	3,393	3,392	813	(1)
Rural	1,881	2,524	2,102	643	(422)
San Luis Bay					
Urban AG (unincorp.)	141	141	188	0	47
Avila Beach	827	1,198	1,245	371	47
Oceano	2,931	3,810	3,805	879	(5)
Rural	2,046	2,727	3,377	681	650
San Luis Obispo					
Urban SLO (unincorp.)	88	122	1,120	34	998
Edna Village	607	677	692	70	15
Rural	631	842	1,184	211	342
Shandon-Carrizo					
California Valley Village	177	316	7,905	139	7,589
Shandon	336	1,230	1,437	894	207
Whitley Gardens Village	97	122	139	25	17
Rural	329	450	4,332	121	3,882
South County					
Black Lake Village	559	562	559	3	(3)
Calender Garrett Village	356	509	396	153	(113)
Los Berros Village	54	56	74	2	18
Nipomo	5,038	6,927	7,742	1,889	815
Palo Mesa Village	1,068	1,159	1,326	91	167
Woodlands Village	650	972	1,320	322	348
Rural	2,191	3,061	3,332	870	271
Total	**45,423**	**58,984**	**90,161**	**13,561**	**31,177**

Source: San Luis Obispo County, 2011
Note: Buildout capacity expressed in dwelling units. “Capacity beyond 2040” = “Buildout Capacity” – “2040” (i.e., total units forecasted to exist in 2040).

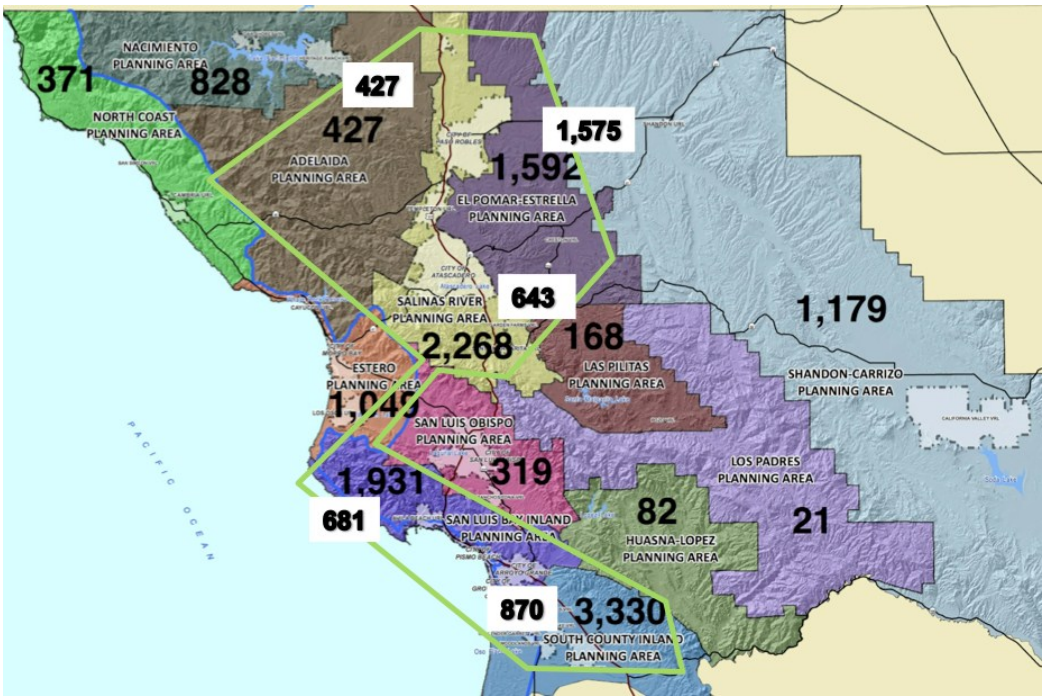
Exhibit 4: Growth in housing units, by planning area, all unincorporated county, 2010 - 2040



Source: San Luis Obispo County, 2011

Note: Red line marks the five planning areas with 77% of the expected, non-city housing growth.

Exhibit 5: Growth in housing units, by planning area, county <u>rural areas</u> only 2010 - 2040



Source: San Luis Obispo County, 2011

Note: Large numbers on white background are forecasted dwelling units (DU) in <u>rural</u> areas of the unincorporated county in five planning areas. Black numbers are the forecasted growth for <u>all</u> housing units for each planning area. Green line marks the five planning areas with 80% of the expected, rural area housing growth.

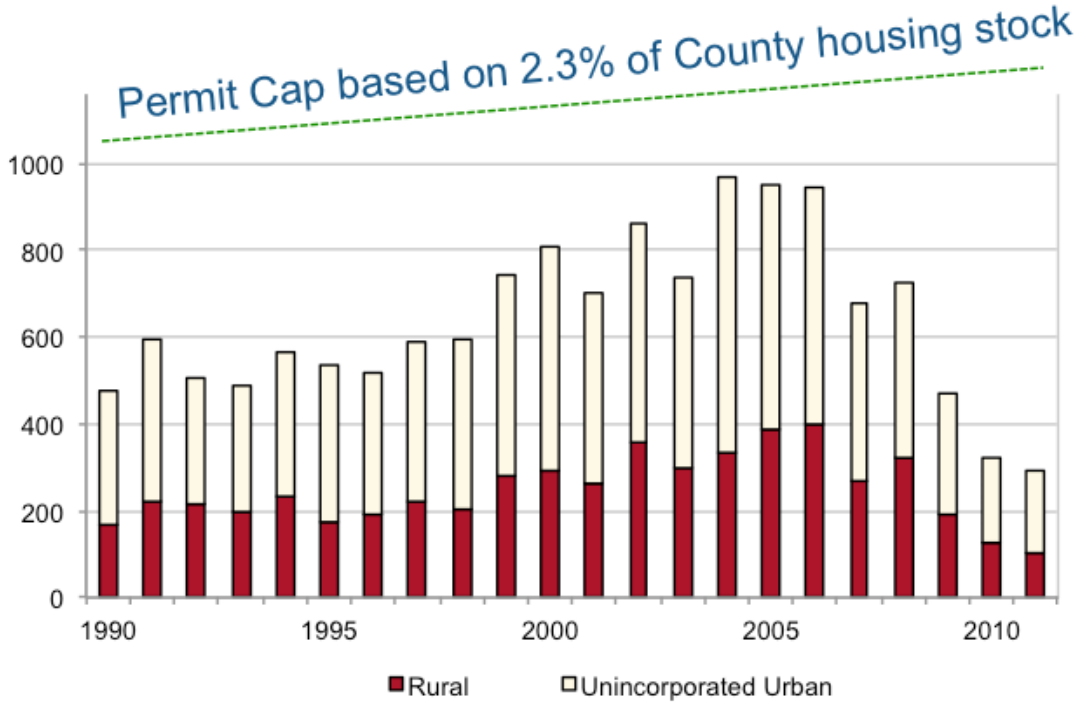
A summary of the key points of the Baseline Forecast:

- About 45,000 housing units existed in the unincorporated county in 2010
- The County estimates that the likely development potential in the unincorporated county (the "build-out capacity," given estimates and assumptions about vacant land and allowable density) is about 90,000 housing units
- Peak building occurred around 2005 (about 1,000 housing units in the unincorporated county); it dropped with the recession (to about 300 housing units per year now)
- The expected growth, 2010-2040:
    - About 13,500 housing units in the entire unincorporated county. That is about 450 new housing units per year. Compare to 1990-2011, when the numbers for housing units per year were: average: 640, minimum: 290, maximum: 970
    - About 5,000 housing units in just the rural areas of the county (an average of 170 housing units per year). About 80% of all new rural housing is forecasted to be in five of 13 planning areas (El Pomar-Estrella, Salinas River, South County, San Luis Bay, Adelaida).

As with population, these estimates are based on well-documented and reasonable assumptions. Exhibits 6, 7, and 8 show other evidence consistent with the forecasts:

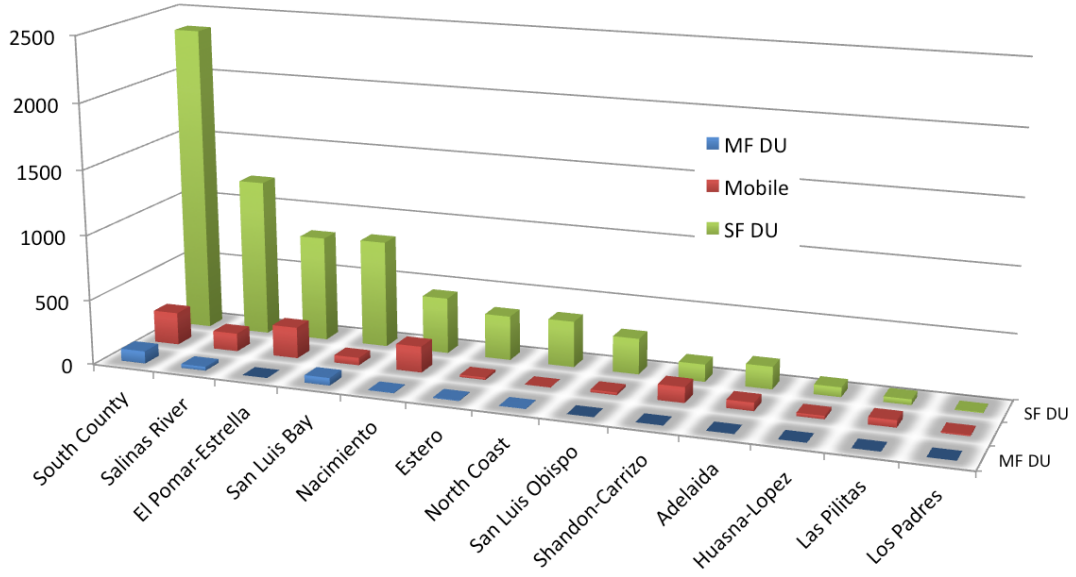
- Exhibit 6 shows annual housing starts in the unincorporated county from 1990 – 2011. They vary from low to high by a factor of 2 to 3, and have always been below the GMO cap (of roughly 1,100 housing units per year). Rural housing typically accounts for 40% of total unincorporated area housing, plus or minus 5%. Exhibit 7 gives more detail, breaking out the housing permits by type of dwelling unit (single family, multi-family, and mobile home).
- Exhibit 8 shows 12 years of building history in rural areas of the county. Over 80% of the housing growth went into five planning areas.

Exhibit 6: Number of dwelling unit permits issued (total, urban, and rural) in San Luis Obispo County, 1990 – 2010



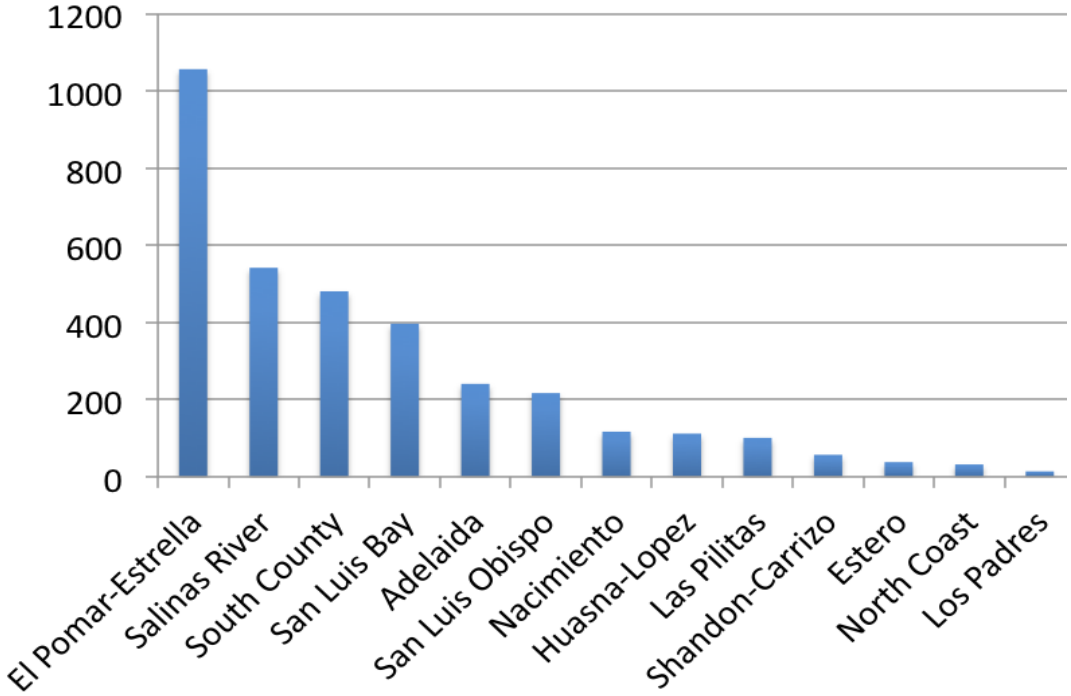
Source: San Luis Obispo County Building Permit Database

Exhibit 7: Building permits issued in unincorporated San Luis Obispo County by type and planning area, 2000 to 2011



Note: SF, MF, Mobile = type of dwelling unit (single family, multi-family, and mobile home)
Source: San Luis Obispo County Building Permit Database

Exhibit 8: Building permits issued in rural areas, by planning area, San Luis Obispo County, 2000 - 2011



Source: San Luis Obispo County Building Permit Database

We state in several places in this report that the future is uncertain and predictions about the future depend on assumptions. The assumptions of the official forecast could certainly prove wrong: the actual growth might be higher than predicted (it might also be lower). There is no such thing as a "correct" forecast. Even forecasts that are later shown to match what actually occurred may have been right for the wrong reasons.

The best planners and policymakers can do is to be clear about their assumptions, and about the reasons they believe the assumptions to be reasonable. "Reasonable" usually means somewhere between a pessimistic and an optimistic forecast of growth. Our conclusion is that the official forecast uses accepted methods, is relatively well documented, is reasonable, and is a logical proxy for the Baseline Forecast in this study.

Chapter 4 CHANGES IN HOUSING DEVELOPMENT WITH POTENTIAL LIMITS ON RURAL DEVELOPMENT

This study investigates the effects of a new limitation or "cap" on the annual number of building permits issued in rural areas of the county. **Section 4.1** defines two possible "growth caps" that could limit building permits in rural areas to 130 units and 90 units per year. **Section 4.2** evaluates the potential effects of a growth cap on the amount and location of housing development in the county. **Section 4.2.1** gives a preliminary estimate of the effects. **Section 4.2.2** adjusts those estimates to account for the interaction of the policies with business cycles. **Section 4.2.3** discusses the extent to which housing units not built in rural areas (because of the policy restrictions) would be built in other parts of the county. **Section 4.2.4** discusses additional possible effects. The main conclusions (for the cap of 130 units per year) are that over 30 years the number of dwelling units would be reduced ("most likely" case) by (1) 1,600 units in rural areas, and (2) 700 units in the County overall (less than the rural reduction, because some of the displaced rural demand would be met in other parts of the county).

The Baseline Forecast is, by definition, the official best guess about what growth will occur in rural areas of the county if market forces play out as assumed and **without substantial changes to public policy relating to infrastructure and land development**.

Over 30 years, of course, such changes to policy are likely, but they are hard to predict. Some might increase growth (e.g., incentives to attract large firms with good employment opportunities, resolution of water supply problems in the Paso Robles groundwater basin); some might decrease growth (e.g., higher impact fees for development; deterioration of the level of service of infrastructure from failure to maintain and expand it).

This analysis is typical of its type. It assumes that all these other uncertain factors affect both the *without-new-policy* and the *with-new-policy* futures in the same (but unpredictable way). That assumption allows a further one: that that difference between the *without-new-policy* and the *with-new-policy* futures can be attributed to the only difference between them: the new policy.

In this study, the new policy being investigated is **a limitation on the annual number of building permits issued in rural areas of the county** (referred to here as a **cap** on rural residential growth, or just "the cap"). To evaluate the effects of such a cap, one first must define it: the next section does that. Subsequent sections then evaluate its potential effects on the amount and location of housing development in the county.

4.1 DEFINING THE POTENTIAL "GROWTH CAP" POLICY

The County's existing Growth Management Ordinance (GMO) limits annual residential development in unincorporated San Luis Obispo County to growth of 2.3% of the existing number of housing units in the unincorporated county. The number of allocations for building permits has reached the annual cap only twice. However, the number of building permits finaled has only come close the cap in one year (roughly, 1,100 housing units). In most years, the number of building permits finaled have been well under the cap. Since 1990, housing starts in the unincorporated county have averaged a little over 600 per year, and in rural areas, about 250 year. Rural housing starts have been about 40% of all building permits issued in the unincorporated county. Exhibit 7, above, shows the numbers.

The potential "growth cap" polices evaluated in this report are different from the GMO countywide limit on building permits. The potential new growth caps would be distinct from, but in addition to the countywide 2.3% limit, and would apply only to development in rural areas of the county. The two policy scenarios are to amend the Growth Management Ordinance for rural areas as follows:

- Scenario 1: Cap of 128 dwelling units permitted annually in rural areas of the County
  - 47 units: rural Paso Robles groundwater basin[12]
  - 81 units: other rural areas
- Scenario 2: Cap of 89 dwelling units permitted annually in rural areas of the County
  - 33 units: rural Paso Robles groundwater basin
  - 56 units: other rural areas.[13]

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[12] The Paso Robles groundwater basin has more specific growth limitations due to the low capacity of the water supply. The Board approved the Paso Robles Groundwater Basin Resource Capacity Study (RCS), with recommendations for groundwater monitoring, water conservation and land use measures to address groundwater demand. A map of the groundwater basin is included in Appendix C.

[13] The scenarios were defined by County staff, independent of ECONorthwest. ECONorthwest's task in this report was to assume that the potential policies were adopted and then to estimate the effects on the type and location of housing, and on the local economy. It is ECONorthwest's understanding from the County that the growth caps were selected by County staff based on its estimates of the number of housing units that would be in line with the goals of the SLOCOG *2010 Regional Transportation Plan-Preliminary Sustainable Communities Strategy*, a plan consistent with the intent of state bills related to greenhouse gas emissions (GHGs) and climate change, including the California Global Warming Solutions Act of 2006 (AB 32) and the Sustainable Communities and Climate Protection Act (SB 375, 2008). ECONorthwest's analysis did not include a review of the assumptions, methods, and data used to set the growth caps in Scenarios 1 and 2.

Both scenarios would apply only to parcels (1) not in Agriculture land use categories, and (2) smaller than 20 acres in Agriculture categories.

The difference between the two scenarios is just that the second has a lower (more restrictive) cap than the first. An implication is that estimating the difference in rural housing development, relative to the higher cap, is easy once the methods for estimating the effects of the higher cap are worked out. Thus, to simplify the presentation, the analysis in Section 4.3 focuses on the higher, less-restrictive cap, and then concludes with a subsection addressing the difference in impacts from the lower, more-restrictive cap.

The growth cap policy only changes the *rate* of growth; it does not affect the ultimate amount, location, or pattern of growth. That point could be important given the County's objectives for the growth cap. For example, if a primary objective is to reduce greenhouse gas emissions by reducing vehicle miles traveled by capping annual development in rural areas, the cap only changes the timing of that development. It does not limit the ultimate amount of development in rural areas, nor does it do anything to change the pattern of that development in rural areas. It does little to direct where in rural areas the growth would be reduced.

4.2 EFFECTS OF THE GROWTH CAP ON RESIDENTIAL DEVELOPMENT

4.2.1 STARTING ESTIMATES OF EFFECTS

Note that the two policy scenarios are explicit about the maximum number of building permits that they would allow. Thus, if the potential policies were adopted and rigorously enforced:

1. They would have <u>no effect</u> if the market demand were less than the growth cap: everyone who wanted a building permit could have one.
2. They would have a <u>binding effect</u> as soon as the cap was reached: no matter how great the market demand, no more building permits would be issued.

Thus, a key question is: What is the expected demand for dwelling units in rural areas, independent of any new growth caps?

That question is answered by the AECOM report and subsequent analysis by SLOCOG and the County.[14] The result is a population and

[14] See footnote 10 for full citation.

housing forecast for 2040, not only for the County as a whole, but disaggregated by cities and the unincorporated area (which is further disaggregated into 13 planning areas). The AECOM analysis considers low, high, and mid-range forecasts, and describes assumptions for each.

The assumptions do not include the growth caps being evaluated in this report. Thus, those forecasts are the best and official guesses about how population and housing will grow in San Luis Obispo County in the absence of new public policy (like the growth caps). **Section 3.2** describes the official forecasts for 2010–2040 for the unincorporated areas of the County. In summary:

- Total new dwelling units: 13,565 units
- Average annual new dwelling units: 450 units/year
- Average new rural dwelling units: 170 units/year[15]

With those estimates of development without the potential new policies capping growth, one can make a preliminary estimate of the effects of those policies if they were to be adopted:

- Caps on annual dwelling units:
  Scenario 1: 128 units/year;
  Scenario 2: 89 units/year
- **Average annual reduction of rural dwelling units—**
  simple calculation (Average – Cap)
  Scenario 1: about 40 units/year
  Scenario 2: about 80 units/year

These estimated effects are independent of any effects that might result from the existing countywide GMO growth cap (limiting annual building permits in unincorporated areas to 2.3% of the existing housing units in those areas). Given that (1) historically the County has never reached the GMO cap, and (2) the 2010–2040 forecasts are for lower rates of growth than the County experienced in 1990–2010, it is unlikely that the GMO growth cap will have any effect on housing starts in rural areas of the county.

Still, this *simple calculation* may need adjustment. In particular, as the potential policies have been described for the purposes of this evaluation, they do not account for typical business cycles.[16] The next section simulates the potential effects.

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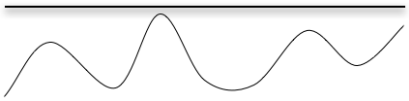
[15] To arrive at this number the County took the 5,030 projected units in rural areas (arrived at via a process for allocating total new dwelling units in the county to planning areas and community types) and divided by 30 years to get 168/year.

4.2.2 EFFECTS WITH BUSINESS CYCLES

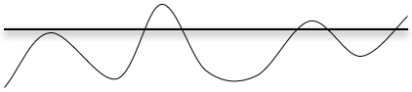
Scenarios 1 and 2 both set a maximum growth cap. The extent to which those caps affect housing starts depends on where the cap is set relative to the annual requests for those permits, and those requests will vary year to year because of changes in market demand for new housing units (i.e., because of business cycles).

Some simple diagrams illustrate the point. Imagine that the wavy line is a chart of expected future building permits, by year. Years are on the horizontal axis (farther in the future as one moves to the right) and number of permits is on the vertical axis (more permits as one moves up). The line moves up and down because of business cycles: more building permits are desired in some years than in others. Assume that the horizontal line is the cap on building permits: it is horizontal because it is the same year after year.

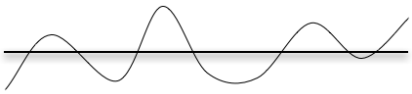
Growth Cap set higher than market demand: no effect on building permits and housing construction.



Growth Cap set close to market peaks: small effect on building permits and housing construction; a few units not allowed in a few years.



Growth Cap set at about the mid-point between peak and trough demand: larger effect on building permits and housing construction.



Scenarios 1 and 2 have a potential policy that would operate more like the third diagram (or a fourth one, not shown, with the straight line even lower). Scenario 1, for example, would limit housing permits in rural areas to 128 per year. Exhibit 6 in Section 3.2 shows that rural permits have varied over the last 22 years between about 100 and 400 per year; they have exceeded 128 in all but one or two years.

The scope of this study did not include the construction of an econometric model to predict housing cycles in the county. But simple simulations can provide approximate answers to the County's questions about the effects of the policy. ECONorthwest created some simulations using assumptions about expected future growth in rural areas (AECOM forecasts and County allocations), average annual growth in rural areas (39%-40% of 450 units per year), annual deviation from the average (high about twice the average; low about half the average), and length of business cycles (24 quarters).

A broad conclusion of the simulations is that setting the cap at the desired annual average will reduce new housing starts to levels below the 30-year target. Consider the numbers:

- Growth forecast for 30 years for rural areas: about 5,000 housing units; about 170 per year on average.
- If the 30-year target is to have 3,900 new houses in rural areas (instead of 5,000), and if the growth cap is set at 130 permits per year (3,900 / 30), the actual permits will be below the target because (1) in some years the market will demand fewer than the average number of permits, and (2) in years of above average demand, the cap will cut off the additional demand.
- Our middle-of-the-road simulations suggested that a cap of around 130 building permits per year would reduce housing starts, resulting in 3,400 new rural dwelling units over the 30-year period (1,600 less than the forecasted market demand of 5,000, and 500 less than the target of 3,900). For the more restrictive cap of 90 building permits per year, the simulation showed 2,500 new rural dwelling units over the 30-year period (2,500 less than the forecasted market demand of 5,000, and 200 less than the target of 2,700).
- To meet the target of 3,900 new houses in rural areas over 30 years, simulations suggested that the annual cap would have to be set at 155 building permits per year.

Exhibit 9 summarizes the results.

Exhibit 9: Summary of growth cap scenarios

Growth Cap	DUs/Year Permitted	Target Units Permitted Over 30 Years	Simulation of Units Built
Scenario 1	130	3,900	3,400
Scenario 2	90	2,700	2,500
Suggested	155	3,900	3,900

Source: ECONorthwest. See text for details

The simulations described in this section answer one of the three questions this study addresses: By how much are potential policies likely to reduce residential development in rural areas? The simulations support the conclusion that, given historical development patterns and the current and accepted forecasts of population growth for the county, there will eventually be more demand for building permits than the number that the County will issue, and that some housing that would otherwise be built in rural areas will now not be built there. In summary, our best estimate of the effects of the potential growth caps on rural housing in the county is that they will reduce new dwelling units in rural areas, compared to the forecasted market demand, on the order of 1,600 – 2,500 units over 30 years.

If the County wanted the reductions to be less, it could (for example):

- Set higher caps that allow more building (e.g., 155 permits/year)
- Create a system of "carry-overs" so that permits not used in years of low demand could be available later in years when demand exceeds the average cap
- Monitor the caps against multi-year (not annual) targets.

4.2.3 EFFECTS WITH POTENTIAL SHIFTS OF RURAL DEVELOPMENT TO NON-RURAL LOCATIONS

The second question this study was to address is: What will happen to the residential growth that would have otherwise been likely to occur in rural areas of the county—where is it likely to go? Does it all go to other counties or other states, or does some of it shift to other parts of the county?

Many factors affect location decisions. As noted in appendix B, households and firms are rarely trying to maximize on one variable in a housing decision (e.g., closest, biggest, lowest price). Rather, they try to optimize on many variables, looking for a combination they judge to provide the best value.

Demand from consumers for housing is correlated to preferences for housing type, size, and location, which are in turn correlated to household attributes like income, household size, age of the head of the household, and ties to county (employment, family, school).

The supply and full cost of housing at alternative locations is correlated to land value and building cost, transportation cost, and the amenity value of the location.

The *direction* of some of the effects of the potential policies can be predicted with confidence from economic theory. The policies, if binding (as the analysis above suggests they would be), would limit the number of building permits per year and ultimately limit the amount of housing that can be built. Given the expected demand for new housing (the forecasts above), that supply restriction is very likely to increase the price of the housing that can be built. Those price increases are unlikely to be captured by builders: the *cost* of constructing housing will not have changed, and the reduction in construction should mean that existing builders get more competitive on pricing. The same may hold true, but to a lesser extent, for developers. It is also possible that some developers will speculate on the value of having a scarce building permit and will be able to capture some of the price premium. We expect that much of the home price increases will be captured primarily by land owners as they sell their land for development.

A secondary effect of reductions in new rural housing will be an increase in demand (and, therefore, in price) in substitute markets (local and out of the area). For example, one should expect the price of housing in urban areas of the county to increase. One likely effect is that non-rural areas of the county will see both higher housing prices and more housing construction. That seems counterintuitive: shouldn't higher price lead to less consumption? Yes, but the answer is found in the fact that demand for the non-rural housing has increased: if the demand is growing substantially, then more housing can be demanded even as prices are increasing.

Though the *direction* of the effects is relatively clear (fewer housing starts and higher prices in rural areas; more housing starts and higher prices in non-rural areas), their *magnitudes* are much more difficult to predict. The trends in the county (2000-2010) provide a context for our opinions. The expectations are for:

- Growth in population and purchasing power, but at a slower pace than that of recent decades.
- Little shift in demographics.
- 80% of all new rural housing in 5 of 13 planning areas (El Pomar-Estrella, Salinas River, South County, San Luis Bay, Adelaida)
- Continued household mobility.

Interviews and anecdotal evidence (for example, on mobility, income, and housing values and starts) suggest a split (or diversified) housing market in the unincorporated county. Many professionals interviewed commented on a common demographic profile for buyers of rural housing: over 50, professional, retired or semi-retired, upper income and wealth, kids gone, attracted to the county for lifestyle, climate, and access to Los Angeles or San Francisco. That demographic is looking for rural acreage of one to five acres: enough for a large house, privacy, and horses, but not for commercial agriculture. This group is unlikely to find small lots or attached dwelling units in walkable urban areas a substitute for what they want, and they have the resources to go pay more to get what they want, or to go elsewhere.

Another significant group, however, has very different characteristics: under 50, working, middle- or lower-income, kids at home, and attracted to the county for employment opportunities and raising children. Many of these households have jobs in urban areas, but are choosing housing in rural areas because of its lower cost relative to urban alternatives. They might prefer an urban location given their professional and child-related activities. If rural prices increase, these households would look to urban locations if housing in their price range were available. A problem for this

second group is that the potential growth caps will, other things being equal, increase the price of urban housing as well as rural housing.

The descriptions of these two groups illustrate how different housing needs and decisions are. The reality (supported by the data) is that there is a diverse continuum of households and housing needs.

How well do cities and urban communities serve as locations for households that would otherwise have chosen rural housing. On the positive side, urban areas provide (1) better access (closer to jobs and services, less travel time), and (2) better services and amenities (especially schools). On the negative side, urban areas have (1) higher land and housing price per square foot, (2) higher fees and taxes, (3) annexation policies that will make urbanization in cities more difficult, and (4) an inability to provide certain desired housing products (e.g., large-lot, rural residential housing).[17]

Building an economically based predictive model to answer questions about housing shifts is well beyond the scope for this project. Instead, ECONorthwest did some simulations, based on relationships found in the professional literature of housing economics, to get a sense of the magnitude of the possible shifts.

We started with an estimate, based on the analysis of Scenarios 1 and 2 in section 4.2.2, that the potential policies would reduce rural housing starts, compared to the forecasted market demand, by 1,600 to 2,500 units over a 30-year period. We then assumed:

- For this simulation the reduction in housing starts in rural areas would be 1,600 units (section 4.2.2, Scenario 1 growth cap).
- The effect of the restrictions on housing would be to increase the price of housing in rural areas on the order of 1 - 4% (based on elasticities estimated in the professional literature of housing economics).[18] Price increases in rural areas result from decreased

[17] The scope of work for this study did not include an evaluation of city policies or County policies outside of rural areas. The County has another consulting team working on issues relating to encouraging infill development (amount and intensity) on urban land. But our interviews for this project found some potential problems related to the development of urban land, which has implications for the amount of shift we might expect from rural to urban areas. For example, the County policy for property tax exchange on annexation (Resolution 96-158) is unique in our experience: when unincorporated lands are annexed to a city, the County retains the existing tax base and all (for industrial and commercial) or most (66% for residential) of the future property tax increment. Since the major incentive to cities for annexation of *residential* property is new property tax (in contrast to *retail* property, which delivers sales tax), this policy has to be a substantial disincentive to annexation and, by implication, to the type of urban development that the Strategic Growth Principles would support.

[18] The restriction represents a shift back in the supply curve (and a movement along the demand curve), so we can figure out the price increase in the county if we know the slope of the demand

supply; they would lead to price increases in other areas because of the increased demand that shifts to those areas from rural areas.

In practice, those increases could be reduced or eliminated if the supply of housing in non-rural areas increases enough in response to such increased demand.

- Lower-income, working households are the ones most likely to be willing and able to substitute a housing unit in an urban location for one in a rural location.
- High-income, retired households will have a low propensity to shift to cities or County urban areas; but some will shift to villages.
- As building permits become scarce, economic forces will be such that a higher percentage of available permits will go to higher-end housing.
- The County is studying what policies it might adopt in urban and village areas to encourage more and more diverse housing in those areas; strong incentives will increase shifts for all groups, but more for lower-income, working households.

Our simulations produced the following results. The percentages are the percent of housing units or households displaced from rural areas—assumed to be 1,600 over 30 years for this simulation, which is about 53 housing units per year—that would find housing elsewhere in the County, including cities:

- If no other change in policy: 35-65%
- If also strong incentives to encourage additional and diverse housing in the county's unincorporated urban areas and cities: 55-75%
- Mid-range (slightly stronger incentives than now): 45-65%

Exhibit 10 summarizes the estimates *for the mid-range assumptions* about the amount of shift from rural areas to other areas of the county (i.e., in the 45-65% range. The mid-range result (mid-range on shifts, and mid-range on incentives) is that the growth caps would result in a total reduction in new housing built in the county, compared to the forecasted market demand, of 712 units over 30 years with a 130 unit/year cap (or 1,115 units with a 90/unit year cap).

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curve (the price elasticity of demand). There are a number of estimates in the literature, but some point to ranges between -.5 and -1. This means that a 100% increase in price generates between a 50 and 100% decrease in quantity (or a 100% decrease in quantity is associated with a 200% increase in price). If we assume that demand in the county is toward the more price inelastic side of the range (-0.5) (e.g., people like the climate so they don't flee small increases in price), then a 1.2% decrease in quantity correlates with a 2.4% increase in price (1.2*(1/-0.5)).

Exhibit 10: Summary of policy scenario results, mid-range assumptions for shifting and for incentives

	Rural Areas	In the county overall (after shifts to cities and unincorporated urban areas and villages)
130 unit/ year cap	Likely initial reduction if no policy adjustments for housing cycles: 1,600 housing units	• Reduction if no new incentives: 870 housing units • Reduction with strong incentives to encourage development in unincorporated urban and village areas and in cities: 550 housing units • Mid-range reductions: 712 housing units
90 unit/ year cap	Likely initial reduction if no policy adjustments for housing cycles: 2,500 housing units	• Reduction if no new incentives: 1,360 housing units • Reduction with strong incentives to encourage development in unincorporated urban and village areas and in cities: 860 housing units • Mid-range: reduction: 1,115 housing units

Source: ECONorthwest. See text for details.

These estimates are of the reduction in the *number* of housing units. But Chapter 5 must address the question of the economic effects of the potential reductions in housing production. Effects on the economy will depend not just on the reduction in the number of units, but also on estimates of their average *value* (which is correlated to *type* and *size* of unit, and other characteristics. Is the average construction value $150,000, or $1.5 million? We considered several factors in making our estimates:

- **Simulations of the composition of current and future households and housing.** We looked at building permits and demographic data to disaggregate households into four types: (1) working family, lower income, (2) working family, mid to lower-upper income, (3) retirees (or almost), mid to upper income, and (4) retirees, high to very high income. Obviously these are crude classifications and do not cover all household types, but they give a sense of the type of housing that will be demanded. For each housing type, we estimated the percent of new housing that it would demand before the policy and the number of units it would be short for any given loss of housing, assuming their existing percentages remain unchanged. In

making these estimates, we considered survey data[19] for *cities* in the county showing roughly 10% of their occupied dwelling units are valued under $200,000, and roughly 10% are valued over $1 million; for all but one city, 50% to 60% are valued over $500,000. We then made estimates of how the percentages would change based on the ability of each group to find alternative housing. In general, we assumed that lower-income households would lose more than their percent share of housing and very high-income households would lose less. We tested different sets of assumptions.

- **Historical housing values and types in different areas of the county.** Getting accurate and comparable information about construction values is difficult. We used construction value data (converted to constant, 2011 dollars) from County building permit data (2000 – 2011) for new construction in the county (broken out by planning area and by urban and rural), and the American Community Survey of the U.S. Census for 2010.
- **Construction cost indices**. ECONorthwest subscribes to construction costs indices produced by McGraw Hill. We adjusted costs per square foot of construction to account for regional price differences and various fees. For San Luis Obispo, the cost per square foot, not counting land or public sector fees, is about $140 - $150 per square foot. We did not want to include land or fees because we are trying to estimate the revenues to the building industry, not windfalls to property owners or payments for facilities and services to local governments.

Exhibit 11 summarizes the mid-range results of all the simulations we did for Scenario 1 (Growth Cap of about 130 permits per year in rural areas).

Exhibit 11: Mid-range simulation of the number of fewer dwelling units, countywide, by type, and their construction value for 30 years (2010- 2040)

Average Construction Value per Unit ($000, 2011)		Number of Units Lost, Mid-Range Assumptions	Total Construction Value of Lost Units ($000, 2011)
Range	Assumption		
$150 - $250	$200	308	$61,600
$200 - $400	$300	228	$68,400
$400 - $800	$600	96	$57,600
$800 - $2,000	$1,500	80	$120,000
	Total	712	$307,600

Source: Estimates by ECONorthwest. See text for assumptions.

[19] American Community Survey, 2006-2010.

The simulation started with a mid-range assumption that the potential growth cap would reduce residential construction in rural areas by about 1,600 below the baseline forecast over a 30-year period: about 53 dwelling units per year. But because many of the units not built in rural areas would shift to cities and urban areas of the county, the simulated *net* loss over 30 years is 712 dwelling units: about 24 per year. Those 712 units have a simulated construction value (in 2011 dollars) of about $308 million. That is an average *construction cost* (not *housing price*) of about $430,000 per dwelling unit.[20]

Here is an example of the calculations embedded in Exhibit 11. The simulation assumed that about 10% of the dwelling units that would be built *without* a growth cap would be for high- or very high-income households. If permits will not be issued for 1,600 of the 5,000 units forecasted to 2040, then as a starting point, about 160 of those units (10%) would be for large, high-end houses. But in our simulation, we presumed that the market would work to get permits to highly profitable high-end housing, and that low-end housing would bear a bigger than proportional share of the reduction. We assumed a reduction in rural areas of 100 of these high-end units. We then made assumptions about how much the County and cities would give as incentives for building in urban areas (three different scenarios) and how responsive the high-end market would be to those incentives (not very, because that market is heavily weighted toward households with an ability to pay for large houses on acreage in rural areas). All these calculations ultimately led to the result shown in Exhibit 11: that about 80 fewer very high-end units would be built in the county over a 30-year period because of the policy, which would mean a loss of construction activity of about $120 million (in 2011 dollars).

Obviously, different assumptions could change that estimate.[21] Simulations that assumed more high-end housing, with greater average value, and lower propensities to shift to non-rural locations in the county all caused lost construction value to increase. But even a loss of 130 high-end units (with an assumed 0% probability of shifting to non-rural locations in the county) led to an aggregate loss over 30 years of $396 million (compared to the base simulation of $308 million): about a 30% increase.

Thus, for the evaluation of economic effects presented in Chapter 5, we assume that a Scenario 1 growth cap will lead to a lost value of residential

[20] That average number is heavily weighted by the values of the high-end units. The lower and mid-range housing accounts for 75% of the housing reductions, and those lost units have an average construction value of about $240,000 per dwelling unit

[21] Our conclusion is that the range of reasonable values is skewed toward the high end.

construction in the county as a whole over a 30-year period in the range of $300 to $400 million (an annual average of about $10 to $13 million).

4.2.4 SUB-AREA AND SECONDARY EFFECTS

The County would of course like to know how these countywide effects might be distributed throughout the county. The scope of this analysis did not include building simulations at the sub-area level, but the data reported thus far allow some inferences:

- Exhibits 4 and 5 show that about 80% of all new rural housing is forecasted to be in five of 13 planning areas (El Pomar-Estrella, Salinas River, South County, San Luis Bay, Adelaida). Those areas will be most affected.
- The effects by planning area will depend in part on how much developable and serviceable non-rural residential land there is in each. Exhibit 3 shows the number of non-rural development areas in each planning area, and the County's estimates of "build-out capacity." Adelaida has no non-rural planning areas or cities: any losses of rural housing would have to go to elsewhere. In contrast, the Salinas River planning area includes two cities and four urban and village planning areas, most of which show ample land to accommodate residential development. El Pomar-Estrella is more like Adelaida; South County and San Luis Bay are more like Salinas River.
- The Paso Robles groundwater basin cuts across several planning areas (El Pomar-Estrella and Salinas River in particular, which we use as a proxy for the basin boundaries). The existing and potential groundwater problems in the basin is one of the primary reasons the County is considering growth caps in rural areas.
    - *Effects of limiting restrictions on rural development to the Paso Robles groundwater basin.* The County is considering targeting its caps in that basin. For the cap of 128 dwelling units permitted annually in rural areas, the County considered allocating a maximum of 47 to the Paso Robles groundwater basin. The County calculated that maximum to be proportional to what the cap the basin would have had if the countywide cap had been 128 units per year.

      We start by noting that (1) 47 is 37% of 128 total, and (2) El Pomar-Estrella and Salinas River combined are forecasted to have 44% of the rural residential growth. Under the countywide Scenario 1 cap, one might expect the two planning areas to lose permits in proportion to their expected percentage of the forecasted growth. The reason they do not is because their boundaries are different from those of the basin, which are the boundaries the County used for its calculation.

The biggest part of the basin is in the El Pomar-Estrella planning area. Exhibit 3 shows it has limited capacity outside rural areas. The cap would be binding, and any displaced growth would have to go to other planning areas.

What happens to the displaced growth depends on the assumptions about the policy. In the base assumptions of Scenarios 1 and 2, rural areas in all other planning areas of the county are restricted and the restrictions are binding. Thus, they would have no ability to accommodate the growth displaced from the Paso Robles groundwater basin. But if the restrictions apply only to the Paso Robles groundwater basin, then there are still ample opportunities for rural residential development in the county. Exhibit 3 shows the capacity to accommodate those units. About 85% of the *rural* capacity in the county is outside of the El Pomar-Estrella and Salinas River planning areas. Overall, the county would have theoretical capacity outside of El Pomar-Estrella and Salinas River planning areas sufficient for about 12,000 dwelling units, compared to the approximately 5,000 that the county forecasts will be built between now and 2040. Regarding forecasted rural growth from 2010 to 2040, about 44% is forecasted to occur in the El Pomar-Estrella and Salinas River planning areas.

We conclude that the overall effect on the county would be much smaller than the effects shown in our baseline analysis. The county has many times the theoretical capacity to accommodate the rural residential growth not allowed in the basin. The county is not so big that many local developers and builders working in the basin could not travel to other areas of the county. In that sense, the policy is much less restrictive, and the effects are similarly likely to be less.

- *Development without caps*. The County asked ECONorthwest to comment on development in the basin without the caps. We can speculate based on assumptions. The capacity estimates in Exhibit 3 for El Pomar-Estrella and Salinas River planning areas imply a lot of available land for new rural housing. Many studies suggest limitations on groundwater in the basin. The logical conclusion is that fewer limitations means more growth and more pressure on the limited groundwater supply.

  Estimating the severity of that problem, however, requires more data and different expertise than we have. Other work we have done typically shows that the biggest share (often by far) of groundwater is used by agriculture. Whether there are 20 or 100 more dwelling units in the basin in a given year may make little difference to the problem, which requires solutions from the

biggest users (and we expect efforts are already being made in this area).

But if the groundwater problems are as bad as predicted, then every existing and future housing unit is likely to see some additional costs: drilling deeper wells, implementing conservation measures (e.g., building greywater systems), or trucking in water. These effects seem likely to occur incrementally: the hydrology of groundwater is such that decline is more likely to be continuous rather abrupt at some threshold, and human accommodation will be incremental as well. In the context of this study of economic effects, they are likely to be incremental; it is less likely that at some threshold the agricultural or residential part of the economy goes bust because of a sudden reduction in groundwater supply.

We also comment on what we will call secondary effects: effects that occur as the effects of the new policies ripple outward. The growth caps will reduce permits and residential construction in rural areas of the county. We noted how that construction might shift to non-rural areas, focusing on urban areas and villages. Our scope did not, however, include trying to quantify effects on agricultural land. We comment, however, on our expectation about the direction of the effects:

- The County allows now, and would continue to allow under the potential growth caps, two houses on larger residential acreages (say, 20 or more acres). Our understanding is that owners of agricultural land of some minimum size could apply for and receive a land division and a permit to build a new dwelling unit.[22] Thus, if residential development in rural areas is restricted, and land prices go up (as we expect they would) the direction of the effect should be to increase the number of applications for second dwellings on agricultural parcels. We do not have an estimate the effect, but the direction is to decrease the reduction in the construction of new dwellings in rural / agricultural areas of the county.
- The County has policies that allow clustering of development on parts of agricultural land in return for an easement that limits the remaining agricultural lands to agricultural uses in perpetuity. The County is currently reviewing those policies and we do not claim to understand all the details. As in the previous bullet point, however, the direction of the effect seems clear: supply restrictions and price

[22] ECO was not tasked with investigating the details of this policy: exact size requirements, limitations based on prior land divisions, and so on. For the purposes here we are only making the point that there are probably many agricultural parcels in the county, which now have a right to another dwelling unit.

increases in rural areas will make the use of cluster development more attractive, and the effect will be to decrease the reduction in the construction of new dwellings in rural / agricultural areas of the county.

Chapter 5 ECONOMIC EFFECTS OF ESTIMATED CHANGES IN HOUSING DEVELOPMENT

The third question this study was to address is: What are the economic impacts of the potential changes in the amount and pattern of residential development (as described in Chapter 4)? **Section 5.1** provides some information about the proper way to think about these effects and describes the methods used to estimate them. **Section 5.2** looks at the impacts on the residential development and real estate sector and concludes that a reduction of $10 million in direct residential construction output (because of the construction of fewer new houses in rural areas of the county) results in a decrease of about 2% in residential construction output in the county, and is about 0.05% of the county's annual economic output. Effects on realtors and so called "multiplier effects" on other businesses roughly double the effect. **Section 5.3** comments on other ways of viewing the effects (e.g., as fiscal effects on the County budget).

5.1 FRAMEWORK FOR THINKING ABOUT ECONOMIC EFFECTS

This report has noted in several places the difficulties of estimating the net effects of any public policy. Those difficulties are not just of data and measurement—they are conceptual as well. There are problems in dealing with multiple measurements and multiple perspectives. Some impacts can get counted many times in different ways.[23]

In that context, "economic effects" in this evaluation are derived from and are a different way of describing the direct effects of the potential policies on housing permits. The causal chain goes like this:

- The growth cap reduces building permits.
- Fewer building permits result in fewer housing units constructed (various types, values, locations) over a 30-year period.
- Fewer housing units mean effects on all kinds of people and groups:
  - Most importantly, the County is considering the policies because of its belief that they will have many *benefits* to many citizens in the county. Those benefits are expected to include preservation of natural areas and farmland, greater agricultural output, lower automobile emissions, and protection of groundwater resources. Though those benefits are described in their own special units of measurement; those same benefits could also be described in terms of the economic value they provide (e.g., the economic value of greater agricultural production, the avoided cost and

[23] Appendix A provides more detail.

charges of new water systems). *This study does not try to quantify these effects in economic terms.*

- But the County recognizes that the desired benefits of having fewer housing units in rural areas will also have some negative consequences.
  - The groups most directly affected are those that make their living by producing and selling housing: **developers, builders, and realtors**.
  - Effects on the residential building industry ripple out to affect **other business sectors**: the suppliers of the building industry, and local businesses that sell goods and services to households whose incomes come from the residential building trades and their local suppliers. These are called "multiplier effects."
  - The cost per square foot of residential construction will not change in any significant way because of the growth caps. And yet, the *price* of housing will probably change (it will increase). If for, example, a house that would previously have sold for $500,000 before the growth cap now sells for $510,000 after the growth cap, where is the other $10,000 going? For new housing, it is probably going to **land owners**, and secondarily developers. For existing housing, it is going to **home owners** selling their homes. The limitation on permits restricts the supply of new houses, which makes all available housing (used and new) slightly more expensive than it would have been without the limitation. We consider these effects to be primarily *transfers*: some people are better off (sellers) and some people are worse off (buyers), but the effects on the economy are relatively small.
  - Another set of transfers relates to **local government**. Residential development generates both revenues (fees) and costs for local governments. The occupation of that residential development by households also generates revenues (fees and taxes) and costs (of providing dozens of types of services). The professional literature of planning and local finance addresses these *fiscal impacts.* There is ample evidence in that literature that different types of land uses and households have different fiscal impacts: some are net contributors (they pay more than they cost); others are net receivers.

There is a debate in the literature of urban economics about the net effects of housing supply restrictions. In theory, if such restrictions are reducing external costs like pollution and congestion (and that is the justification for the County's consideration of growth caps), they can make

an economy more efficient. But if restrictions go "too far" (which for some economists, describes most restrictions on building permits or land supply), the effects on the regional economy will be negative. The analysis that follows does not attempt to make an estimate of aggregate or net effects. Rather, it just tries to provide some context for evaluating the effects of the potential growth caps on the residential sector, and the effects on reduced activity in the residential sector on other sectors of the economy.

5.2 IMPACTS OF THE HOUSING SECTOR

Our estimates of the effect of the caps on the housing sector are derived comparing the value of lost residential production (from Section 4.3.3) to the total value of residential regional output in the residential sector, and then comparing those estimates to the total value of *all* regional output. The size of the change in output relative to the output of the regional economy gives a sense of how significant the effect is.

Note that there is a difference between "aggregate effects on the regional economy" and "specific effects on businesses and individuals." The overall economy is large and measures of its performance may hardly vary even as certain businesses close and create significant economic problems for their owners and employees.

Chapter 4 describes the methods for estimating how the growth cap would reduce the number of housing units built in the county and the resulting loss in construction value. We assume that a Scenario 1 growth cap will lead to a lost value of residential construction in the County as a whole over a 30-year period in the range of $300 to $400 million (an annual average of about $10 to $13 million).[24]

ECONorthwest used the IMPLAN model to estimate the economic impact of a loss of $10 to $13 million in direct housing construction activity on an annual basis. The IMPLAN model uses an input-output modeling framework: what do various sectors of a regional economy produce (outputs), and to support that production, how much do they buy from other sectors (inputs). Thus, the outputs of one sector are inputs to many other sectors. IMPLAN uses secondary source data and proprietary analytic methods to estimate empirical input-output relationships from a combination of national technological relationships and county-level measures of economic activity. The IMPLAN model is widely used for

[24] To simply the rest of the presentation, we show the estimates for Scenario 1, mid-range, only. Our simulations show mid-range estimates for Scenario 2 (the more restrictive growth cap) of about 1,100 fewer dwelling units built in the county over 30 years, and a loss of construction value of about $480 million. Our estimated range for average annual loss of construction value is $16 to $21 million.

modeling regional economic impacts and well respected. ECONorthwest has used IMPLAN to model economic impacts for several hundred projects.

The IMPLAN model is used to measure changes in economic activity that result from changes in economic conditions relative to a baseline representation of the economy. That is the situation for this research: the question is about effects on the overall baseline economy of changes in residential construction activity that are estimated to be caused by potential change in housing policy in San Luis Obispo County. The impacts on the economy are reported on one of three levels:

- **Direct** impacts represent the initial change in final demand for an industry sector's output. In this case, we have estimated the direct impact in Chapter 4: a decrease in residential construction resulting from the cap in rural housing.
- **Indirect** impacts represent the response as supplying industries decrease output to accommodate the initial change in final demand (from the housing sector, because it is producing fewer houses). Decrease in residential construction will result in a corresponding decrease in spending for supplies and services, which results in another round of indirect spending, and so on. Indirect impacts are often referred to as "supply-chain" impacts.
- **Induced** impacts are generated by the spending of households who benefit from the additional wages and income they earn through direct and indirect economic activity. A decrease in residential construction spending will decrease the purchasing power of households. Induced impacts are also described as "consumption-driven" effects.

This cycle of direct, indirect, and induced spending does not go on forever. It continues until the spending eventually leaks out of the economy as a result of taxes, savings, or purchases of non-locally produced goods and services or "imports."

IMPLAN reports total industrial output, which is the value of production by industries for a specified period of time. Output can be also thought of as the value of sales including reductions or increases in business inventories. It is the broadest measure of economic activity, and includes purchases by businesses of intermediate goods and services, as well as the total value added during production.

Exhibit 12 shows the impact on industrial output for the residential construction industry resulting from a $10 million decrease in construction activity for one year (the mid-range estimate in Section 4.3.3 above for the direct losses to the residential construction sector is between $10 and $13 million annually). The direct economic output of all industries in San Luis Obispo is about $20.8 *billion* annually. The construction industry (all

construction, not just residential) accounts for 7% of economic output in the County, about $1.5 billion per year.

Exhibit 12: Impact on economic output of a $10 million decrease in construction activity for one year, San Luis Obispo County, 2011 dollars

Variable	Annual Value
All economic output countywide (annual)	$20,842,000,000
All Construction, direct output	$1,468,600,000
Construction's percent of all direct output	7.05%
Residential Construction, direct output	$493,000,000
Residential construction's percent of construction output	33.57%
Residential construction's percent of all economic output	2.37%
Loss in construction activity, annually	$10,000,000
Loss as a percent of residential construction output	2.03%
Loss as a percent of all economic output	0.05%
Indirect and induced loss from lost residential output	$6,710,000
Residential direct, indirect, and induced loss as a percent of all economic output	0.08%
Total loss: construction, indirect, induced	$16,710,000

Source: Estimates by ECONorthwest. See text for assumptions.

Residential construction accounts for about one-third of total construction output, with annual output of $493 million. Residential construction (total county: incorporated and unincorporated) accounts for 2.37% of all economic output in the County.

A reduction of $10 million in direct residential construction output (in this case, because of the construction of fewer new houses in rural areas of the County) results in a decrease of 2.03% in residential construction output. This is a 0.05% (i.e., one-twentieth of one percent) reduction in economic output in the County.

A well-accepted concept in regional economics is called "the multiplier effect." The concept, documented empirically, is that activity in one sector affects activity in other sectors. If, for example, agricultural activity in the County grows in response to increases in the demand for the county's agricultural products, then producers will buy more supplies and services, and hire more workers. The businesses in the county from which they buy supplies and services will hire workers and buy yet other supplies and services. All the new workers will buy local goods and services: housing, groceries, fuel, and so on. Thus, the initial economic growth in the agricultural sector multiplies, and the overall effect on the economy is bigger.

Similarly, *reductions* in activity, revenues, jobs, and income in the *residential* sector will affect other sectors. IMPLAN accounts for these impacts as indirect and induced impacts. Exhibit 10 shows that the reduction in construction also results in $6.7 million in indirect and induced spending resulting from residential construction. Put together, the direct,

indirect, and induced impacts result in a $16.7 million decrease in economic output or 0.08% of the County's annual economic output.[25]

If loss of construction spending is $13 million per year (the higher end of our mid-range estimate), the total change in output (direct, indirect, and induced) is $21.7 million, which is about 0.10% (one-tenth of a percent) of all county output. Even if the impact of the cap were double our base estimate ($20 million), the result would be a loss of 4% of residential construction output or about two-tenths of a percent of the County's total economic output.

The cap on residential construction in rural areas will also impact the real estate industry through decreases in the number of home sales. Under Scenario 1, there will be about 24 fewer new houses for sale in the county per year (for a reduction of about 712 dwellings over the 30-year period). The average housing sales price in San Luis Obispo County in 2011 was $435,000, according to the Multiple Service Listing. Commissions on housing sales are generally between 5% and 6%.

Assuming a 5% sales commission, if there were 24 fewer new houses to sell in a year, the real estate industry would lose about $622,000 annually in commissions.

But the impact of the cap on housing sales is cumulative: over time there are fewer houses to be sold. The forecast for housing growth for the rural parts of the county without the cap is for growth of 13,561 new dwellings, or about 450 new units per year. With 24 fewer dwellings available to be sold per year, there are 5% fewer new dwellings for sale. By 2040, without the cap there would be nearly 59,000 dwellings. Under the cap there would be 58,300 dwellings by 2040, meaning that there would be 1.2% fewer dwellings potentially for sale in any given year.

In summary, we estimate the *total* effects on economic output in the county economy to be about *double* the *direct* loss in construction value. Thus, as a rough estimate, an annual loss of $10 million in residential construction value means about a $20 million annual loss to county output, about one-tenth of 1% of the county's $20 billion dollar annual economy.

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[25] There are some fussy technical points here. We are using construction cost as an estimate of final demand and direct effects in the residential sector. But part of construction cost is actually final demand and a direct effect in other sectors (e.g., materials suppliers of all types). Thus, when we estimate the *indirect* effects based on the direct effects, we are, in concept, double counting to a greater or lesser degree the output of suppliers to the construction industry. Given our purposes in this report, and the small size of the impacts relative to the overall economy, we simply note that the direction of this method is to overestimate the multiplier effects.

5.3 OTHER DISTRIBUTIONAL IMPACTS

The previous section provides a context for the effect of the growth caps on the overall economy of the county, and on the residential development and sales sectors of that economy. There are, however, dozens of other questions that the County and the public might want answered about economic effects. Our scope of work does not include any detailed evaluation, but we can comment on some broader issues.

Most importantly, we have made the case that small impacts on the regional economy in the aggregate do not mean that there are not some relatively big impacts on certain businesses or individuals. The growth cap, by our estimates, would reduce building activity and secondary activity by on the order of $20 million per year (a mid-range estimate; the number could be double that, but is unlikely to be many times that). If those effects are concentrated in some areas, it could make business difficult for some builders; some might close. But as we noted, the building trades and all the related suppliers will mainly keep producing, other things being equal: the loss in average annual residential building activity is on the order of 2% of the existing annual activity.

Another concern that would require a full study is the effect on local governments, usually called "fiscal impacts." A reduction in building activity has many effects: on the revenue side, permit fees, impact fees, and property taxes will all be less than they would have been; on the expenditure side, the costs of the permitting and inspection process (staff time), infrastructure construction, operation of public facilities, and public services all decrease. Tricking out the net effects is difficult, but there is theoretical and empirical evidence to suggest that (1) a lot of development in a lot of jurisdictions does not pay what it costs local governments to permit and service it; (2) residential development is more likely to be fiscally negative than employment-related development; and (3) lower-cost and rental units are more likely to be fiscally negative than higher-cost and owner-occupied units. But there is a lot of variability in these gross generalizations.

An implication for this study of rural growth caps is that the type of housing that does and does not get built makes a difference. In Section 4.2.3 we gave our reasons for assuming that lower-value houses would be disproportionately reduced by the growth. But even so, some very high value houses that are almost certainly fiscally positive for the County (high value and high tax payments, smaller family sizes, fewer children, less use of city services) will not be able to be built in the county. As with the analysis of the economy, however, the difference in net revenue will be very small relative to the total County budget.

The fiscal effects go farther, of course. There will be impacts on special districts and cities. We do not evaluate those.