



MEMORANDUM

Date: February 28, 2010

To: Julie Eldridge, Kimley-Horn and Associates

From: Dena Belzer, Sarah Graham, and Sujata Srivastava

Project: Public Transportation Infrastructure Study, Phase II

Subject: Statewide Fiscal Impact Study Results

This memorandum summarizes Strategic Economics' recent study of the fiscal impacts of various land development patterns on a statewide basis. It provides a brief summary of the methodology and key findings resulting from the study. Full results of the study have not yet been made public, so this summary is intended to provide the PTIS team with a summary of the results as they relate to Fresno, but not all of the details of the analysis.

KEY FINDINGS

There are significant economic benefits to higher intensity development patterns in terms of infrastructure cost savings. Some cities in California have calculated the marginal cost difference between infill and greenfield locations for infrastructure capital costs, which demonstrates that infill development can provide significant savings to the cities. Strategic Economics' analysis found that on a general basis per unit and per acre infrastructure costs are significantly lower for compact and urban infill development, compared to standard development patterns. There is a marginal increase in per unit and per acre infrastructure costs for compact-greenfield communities compared to sprawl development patterns, partly due to the enhanced streetscape and urban design "placemaking" features often found in these types of developments.

There are economies of scale for certain categories of O&M costs, such as engineering and public works. Engineering and public works O&M costs are reduced significantly for compact-greenfield and compact-infill development patterns, compared to standard development patterns. The lower cost of providing these types of services correlates to the efficiencies achieved from more compact physical development patterns, including lower linear feet of roads and sewer pipes, and the reduced capital costs discussed above. However, urban places benefit less from these savings due to factors described in more detail below.

Other categories of O&M costs, such as public safety and community services, generally increase with higher intensity land development patterns. This is somewhat attributable to variable economic conditions present in different cities. For example, urban places generally have a higher cost of living and average wage. Therefore, these cities often exhibit higher operating and maintenance costs per capita compared to compact-infill places. In addition, urban cities often provide a greater level of service than standard or infill cities (e.g., providing higher ratios of police officers per capita, or a wider array of community programs).

The per acre and per unit revenues generated in compact-greenfield, compact-infill, and urban cities is significantly higher than in standard cities for all housing types. On average, housing in the standard cities demand lower market values compared to higher intensity locations. The price differential is most pronounced for single-family detached units.

BACKGROUND

Strategic Economics was retained as part of the Vision California project to calculate the fiscal impacts of varying land use scenarios on a statewide basis. Calthorpe Associates is leading the Vision California project, which is intended to provide public officials and decision-makers with data that will inform more sustainable land use planning, in accordance with state legislation SB375 and AB32. As part of this effort, Calthorpe Associates has developed a “Rapid Fire Model” that measures the impacts of various land use scenarios on criteria such as land consumption, energy and water use, vehicle miles traveled (VMT), fuel use, and greenhouse gas emissions. The fiscal analysis and results presented here were intended to provide metrics to the Rapid Fire Model and do not represent projected results for any specific place.

Fiscal impact analysis typically calculates revenues and costs associated with new growth and development in order to assess the overall impact of differing land use types or plans to local government. Several studies have suggested that municipal service costs for compact, infill development are generally lower than for low-density “sprawl” development. Many of the studies cited in “smart growth” literature are focused on showing that compact growth can significantly reduce the need for new infrastructure and services by directing development to places with existing capacity, and allowing for “economies of scale” for certain types of public infrastructure, such as roads and sewers. For examples of studies, see the Further Reading section below.

While a number of studies have compared sprawl development in ex-urban or unincorporated areas to compact developments within established urban areas, such a comparison does not tell a complete story of why service costs and revenues may differ because each of the place types has differing governmental and fiscal structures. The analysis presented here generalizes fiscal impacts on a statewide basis to provide a more complete picture of the impacts of differing growth patterns.

STUDY METHODOLOGY

This section provides an overview of the methodology and assumptions used in the analysis as well as the limitations of the data and methodology.

Base Assumptions

As with all fiscal impact analyses, the assumptions drive the results. Strategic Economics created its assumptions based upon available data on population and housing characteristics, municipal revenue and cost factors, real estate market indicators, and commonly applied fiscal impact analysis standards. Strategic Economics gathered data on population, employment and household size and composition in order to make a series of assumptions on the service base. The service base is the population served

by a municipality. Because this analysis does not consider the impacts of employees, Strategic Economics netted out costs and revenues associated with employment uses and attributed only those costs and revenues associated with residential uses¹ to the following housing types:

- Single Family Small Lot Detached;
- Single Family Large Lot Detached;
- Single Family Attached/Townhome (Townhome); and
- Multi-Family.

Land Development Patterns

Strategic Economics identified analog cities to correspond with the development patterns used in the Rapid Fire model. Because of data availability this classification of cities does not exactly mirror those used by Calthorpe in the Rapid Fire model, but it does generally correspond with the vehicle miles traveled (VMT) standards set by the model. The development patterns as defined by the Rapid Fire model and in the fiscal analysis are as follows:

- **Standard** is the least intense development pattern and is represented by suburban and stand-alone cities that have lower densities and fewer nonresidential uses.
- **Urban** is the most intense and most mixed of the development patterns. For the purposes of the fiscal analysis, major California cities and city centers were used to represent the Urban pattern.
- **Compact – Greenfield** is less intense than Urban, but is a walkable development pattern with a mix of single-family small-lot, single-family attached/townhome and multi-family units in addition to a mix of nonresidential uses.
- **Compact – Refill**, like the Compact – Greenfield development pattern, is less intense than Urban, and is represented by largely built out cities with a mix of housing types and nonresidential uses.

Aerial photographs of example cities depicting the development patterns are on the following page (Figure 1).

Costs and Revenues

In order to measure the fiscal impacts of the above land development patterns, Strategic Economics measured the municipal costs and revenues incurred from an individual household or dwelling unit. This methodology allows the comparison of different development patterns rather than land use plans associated with a specific place. The analysis uses current averages for costs and revenues on a per capita basis. The per capita cost and revenue factors are then applied to population assumptions associated with the specific housing types listed above.

The analysis considered the following costs and revenues: 1) capital costs of building new infrastructure and facilities; 2) operations and maintenance (O&M) costs for facilities and provision of municipal services; and 3) primary sources of local tax revenues (property taxes, sales taxes, and vehicle license fees). Due to the fact that schools are not primarily funded directly by cities, the impact to school districts was not measured. Because the fiscal analysis only measured the impact of households, Strategic Economics netted out all costs and revenues associated with employment uses and attributed only those costs and revenues associated with residential uses.

¹ To determine O&M costs associated with residential uses only Strategic Economics applied a “Service Population Factor” to costs. The residential service population was assumed to have a 1.0 factor, while the employment service population was assumed to have a 0.3 factor. The costs attributed to employment uses were then subtracted from total costs and revenues.

Figure 1: Aerials Depicting Development Pattern Types

Standard



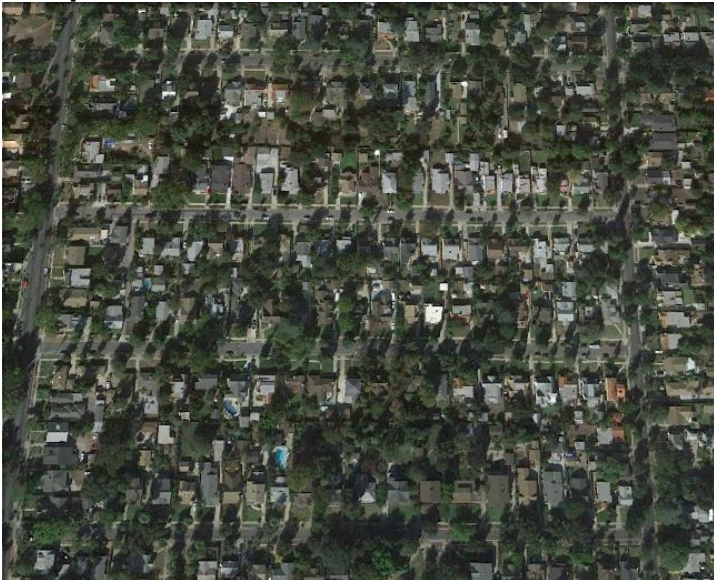
Coachella, CA

Compact-Greenfield



Hercules, CA

Compact-Refill



Pasadena, CA

Source: Google Earth, 2010.

Urban



San Francisco, CA

Infrastructure Costs

Infrastructure costs, or the capital costs of building public infrastructure and facilities to serve new development, are one-time costs. Strategic Economics estimated infrastructure costs based on development impact fees assessed in various California cities. Development impact fees represent the capital costs to cities to provide the infrastructure needed to serve new development. In California these fees are typically calculated to capture the full costs of infrastructure investments triggered by new residential development. Cities may reduce fees for commercial development but are less likely to subsidize the infrastructure costs associated with residential development. The infrastructure costs considered in this analysis include the following major categories:

- Streets and Transportation, or the costs of new roads required to serve development;
- Parks, or the costs of parks and recreation facilities required to serve development;
- Sewage/Wastewater, or the costs of wastewater treatment facilities required to serve development; and
- Water, or the costs of water treatment required to serve development.

The above categories cover the most commonly incurred infrastructure costs associated with new development. Some cities may charge development impact fees for other categories of infrastructure, including General Government, Police, Fire, and Libraries. Those categories are not charged consistently and typically make up a smaller portion of infrastructure costs associated with new development, and were therefore excluded from this analysis.

Operations and Maintenance Costs

The operations and maintenance costs (O&M) represent the cost of providing ongoing services to new development. Strategic Economics calculated the O&M costs on a per capita basis based on the actual expenditures of the representative cities included in the analysis. Strategic Economics used city budget documents and Comprehensive Annual Financial Reports (CAFRs) to compile recent actual costs for major service areas for the cities included in the analysis.

O&M costs are broken out into the following major categories:

- General Government: including administrative and legislative functions;
- Public Safety: including fire and police services;
- Community Services: including library and recreation services; and
- Engineering and Public Works: including only General Fund public works functions.

Community development and other categories often paid for with designated revenues (such as building permit fees) were excluded. Similarly, debt service costs were excluded from the analysis.

Revenues

Revenues are calculated on a per capita or household basis based on statewide averages for some revenue factors and on property value calculations. Strategic Economics calculated the potential revenues from property tax revenues, sales tax revenues, and vehicle license fees generated by new housing units under each development pattern and for each housing type. Property tax revenues were calculated based on recent market values for new construction housing units in each of the cities included in the analysis².

Local property tax revenues are shared among numerous beneficiaries, including the City's General Fund, special districts, school districts, and the County. Each jurisdiction has a unique revenue sharing arrangement, and the General Fund's share of the property tax revenues varies from city to

² Data sources included Dataquick, Realfacts, Hanley Wood Market Intelligence, and California Infill Builders Association.

city. In order to simplify the analysis, Strategic Economics estimated the local property tax revenues at one percent of total assessed value, without further allocating the funds to individual agencies and districts.

Sales tax revenues are calculated based on statewide retail store spending and do not reflect variable spending resulting from income variations and retail mix. The revenues are calculated as 0.75 percent of sales representing the revenues retained by cities for general use and not other local program specific sales taxes or those assessed regionally or statewide.

Limitations of Data/Methodology

This methodology allows the generalization of fiscal impacts across the entire state, but it has its limitations. This fiscal impact analysis is limited by scope to the impacts associated with households and does not consider the impacts of nonresidential development. Also the analysis only considers General Fund costs and revenues and does not measure the impacts of development on services or infrastructure that may be paid for from other funding sources. This analysis does not consider other economic benefits often attributed to smart growth, such as lower transportation costs for households and businesses, improved access to jobs or housing for low-income people, and enhanced economic productivity and innovation. Because this analysis is meant to compare the relative impacts of the varying development patterns and is not intended to determine the net fiscal impact of a land use alternative to a specific municipality, it does not consider every source of revenue and expenditure. Rather, the analysis focuses on the major categories of costs and revenues for California cities.

Furthermore, due to the wide variability in the property tax revenue structure for cities in California it was not possible to calculate the net fiscal impacts at the state level under each development pattern. A similar analysis conducted for a smaller set of cities or for a specific region could allow for the calculation of net fiscal impacts.

FURTHER READING

Robert Burchell, et al (2002), “The Costs of Sprawl – 2000, TCRP Report 74,” Transportation Research Board (www.trb.org); at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_74-a.pdf.

William Coyne (2003), “The Fiscal Cost of Sprawl: How Sprawl Contributes to Local Governments’ Budget Woes,” Environment Colorado Research & Policy Center; at www.impactfees.com/publications%20pdf/fiscalcostofsprawl12_03.pdf.

Reid Ewing, Rolf Pendall and Don Chen (2002), “Measuring Sprawl and Its Impacts,” Smart Growth America (www.smartgrowthamerica.org).

Chuck Kooshian and Steve Winkleman (2011), “Growing Wealthier: Smart Growth, Climate Change and Prosperity,” Center for Clean Air Policy (<http://www.growingwealthier.info/index.aspx>).

Todd Litman (2010), “Understanding Smart Growth Savings: What We Know About Public Infrastructure and Service Cost Savings, And How They are Misrepresented By Critics,” Victoria Transport Policy Institute (www.vtpi.org); at www.vtpi.org/sg_save.pdf.

Mark Muro and Robert Puentes (2004), “Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns,” The Brookings Institution at http://www.brookings.edu/~media/Files/rc/reports/2004/03metropolitanpolicy_muro/200403_smartgrowth.pdf