# Towards the Future:
# Jobs, Land Use and Fiscal Issues
# In San Jose's Key Employment Areas
# 2000-2020

Prepared for:

City of San Jose

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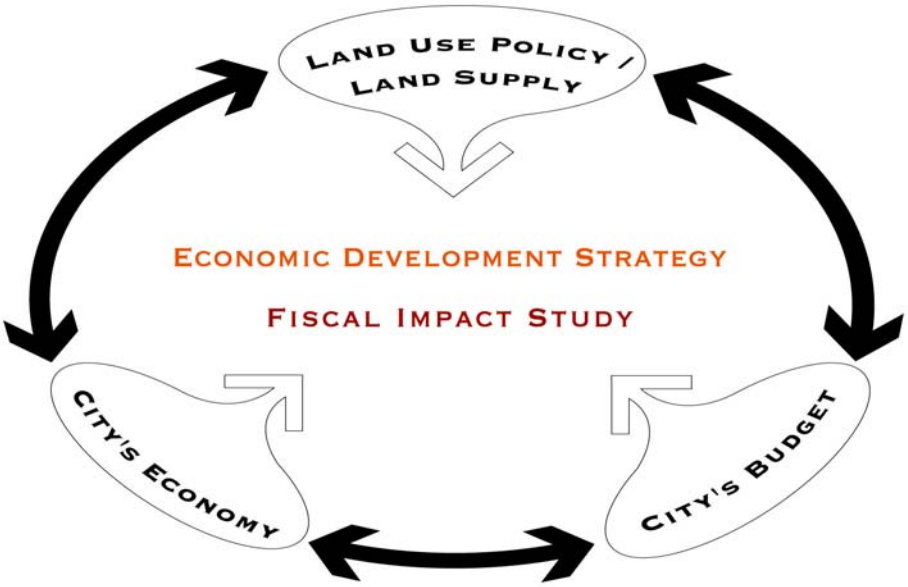
# I. INTRODUCTION

## PROJECT OBJECTIVES

The City's economy, budget, and land supply/land use policies are all interconnected and affect one another. Figure 1 shows that land use policy influences both the fiscal and economic health of the City, and that fiscal health is closely tied to a robust employment base. All three of these aspects of the City must be understood in terms of how they relate to one another. The effort to understand these relationships has led to two parallel efforts: the Economic Development Strategy, adopted in November 2003, and this study of the City's key employment land. This is the first time that a study has explicitly examined and linked these three elements in San Jose.

*Figure 1: The Relationships Between Land Use, Economy, and Budget*




The purpose of this project is threefold: first, to compile current information, particularly employment data, on the City's economy, and to analyze that information in a spatial context; second, to link this information to land supply and demand to understand better how San Jose's employment areas can best serve the needs of the City's economy through 2020; and third, to develop a tool for evaluating the fiscal implications of potential land use conversions in those employment areas.[1] In this way the project links the three elements from Figure 1 and provides

[1] The term "employment areas" rather than "industrial areas" is used in this report because, after conducting the analysis, it was considered more reflective of the current and future character of those areas, which contain a diverse mix of businesses with different needs that cannot be considered strictly "industrial."

detailed background information necessary to make informed land use policy decisions that will support San Jose's Economic Development Strategy and the City's General Plan.

More specific objectives of the project include:

- To consider the relationship between future job growth and housing demand in San Jose in terms of the City's long-term economic and fiscal health.
- To measure overall employment land supply against future demand as part of the overall Economic Development Strategy.
- To create a clearer portrait of the City's existing employment mix and employment land as a framework for determining the value of employment areas and making strategic decisions about land use policy.
- To identify the contribution of land or property-based costs and revenues to the City's General Fund.
- To test the fiscal implications of changing land uses in areas of the City with land currently designated for employment uses.
- To provide a holistic strategy for evaluating future proposed General Plan amendments based on a number of factors including, but not limited to, the fiscal implications.
- To recommend other policy actions that could foster a better relationship between the City's land use policies, its long term economic growth, and its fiscal condition.

This document presents the major components of the study along with conclusions and recommendations. These are based on a multi-faceted analysis that has been conducted in the context of discussions with City staff and the local real estate development community.

The analysis draws on the work completed for the City's Economic Development Strategy, but benefits from having had additional time for analysis, discussion, and feedback, both as part of the Economic Development Strategy process and parallel to it.

In addition to this document, there are three other major components of the project:

1. A GIS database that integrates land use, employment, and other data in a spatial format for certain portions of the City. The analysis of the City's employment mix and employment areas is based on the GIS database and other information sources.
2. A fiscal model to test the impact of development and/or changes in land use in various employment areas on the City's General Fund.
3. A user-friendly interface that integrates the GIS database and the fiscal model in order to facilitate analysis of the fiscal impact of very spatially specific development scenarios.

## REPORT CONTENTS

The report is organized as follows:

Chapter 2 contains the key conclusions and recommendations of the report, including key conclusions regarding land use and fiscal issues. This chapter can be read independently of the rest of the report or after reading the analyses from which they were drawn.

Chapter 3 examines the City's existing employment base and employment land. The City's total active employment land is divided into subareas, which are analyzed and characterized on the basis of land use and the types of industries they host.

Chapter 4 examines employment and population growth projections and translates them into demand for various types of real estate and, ultimately, demand for land. These figures are then compared to the City's vacant land supply. While the demand numbers in this Chapter are calculated at the aggregate (citywide) level, the information presented in Chapter 6 facilitates more place-specific conclusions, e.g., identification of employment subareas best suited for particular types of employment growth vs. subareas that could be candidates for conversion to residential or retail uses.

Chapter 5 presents background information on the City's budget, its major revenue sources, and public services costs. It also presents the key model results of the fiscal analysis of the four employment subareas that are analyzed using the model. The development scenarios tested shed light on the fiscal impact of different land uses and development intensities in these four subareas, which is important for understanding how fiscal concerns are related to employment, housing, and land use issues.

Chapter 6 discusses land use policies and land use conversion issues. It also presents recommendations for land use policies in the different types of employment areas.

Finally, the Technical Appendix explains the study methodology in detail, reviewing data sources, data manipulation, assumptions, and calculations. The Technical Appendix is organized to reflect the four major components of the project outlined above.

# II. KEY FINDINGS AND RECOMMENDATIONS

## FINDINGS

### Finding 1: The overall strength of the economy is the most important factor affecting General Fund revenue.

The most important source for sustained municipal revenue growth in San Jose is a strong, competitive local economy that is generating jobs and rising incomes while fostering private-sector investment. This leads to growth in major revenue sources, including sales taxes, property taxes, Redevelopment tax increment revenues, the City's utility taxes, and franchise fees. Effectively, in order for San Jose to be fiscally stable, the City must remain economically vital. This economic vitality is related to both the local economic conditions and to the overall strength of the regional, national, and international economies.

A total of 56 percent of General Fund revenue is currently generated from buildings and their occupants. Building-related revenues (property taxes, franchise fees, utility taxes, permits, and licenses such as the business license) account for 37 percent of General Fund revenue. An additional 19 percent of the City's revenue is generated by people and companies who occupy the buildings in such forms as sales taxes and transient occupancy taxes. Given these basic characteristics of the City's revenue sources, it is in San Jose's best fiscal interest to keep its employment base growing.

Cost challenges are as important as revenue challenges to the City's fiscal health. Employee salary and benefits are 70 percent of the City's General Fund budget. Over the last three years, the aggregate of employee salary increases has outpaced the growth in City revenues. The City also faces steep increases in health insurance costs and worker compensation expenses. Finally, the City faces a severe spike in costs for employer contributions to retirement funds, driven primarily by lower investment earnings than those that were achieved during recent boom years.

In this context, the revenues and costs associated with individual, small-scale development projects are unlikely, at the margin, to have significant fiscal implications—whether positive or negative—for the City. The exceptions could be very large-scale projects, a significant number of conversions in one specific area, or a significant number of land use conversions that accumulate over time.

**Finding 2: Land use decisions will affect the City's economic competitiveness and prosperity, as well as its ability to implement the Economic Development Strategy.**

The Economic Development Strategy puts an emphasis on four areas that have direct land supply implications:

- Remaining competitive as a home for Driving Industries, including young companies, growing businesses, and established firms that operate nationally and internationally from a San Jose base.
- Preserving and creating mid-tier jobs in Business Support Industries such as Transportation/Distribution, Building/Construction/Real Estate, and Industrial Supplies and Services, as well as in Health Care and the Civic sector.
- Continuing the emphasis on developing housing, especially new housing types in a variety of neighborhood settings.
- Developing retail to its full potential to maximize revenue impacts and neighborhood livability.

In order for the City to implement the Economic Development Strategy, land supply clearly needs to be available for employment uses. Suitable lands need to be planned for both Driving Industries and Support Industries. But land also needs to be made available for other uses (e.g., housing, retail, and civic uses) that provide for a balanced community and help sustain long-term economic vitality. For example, the cost of housing is the single-most important issue that threatens to undermine the competitiveness of San Jose and Silicon Valley. As a result, nearly 60 percent of San Jose's land area with the Urban Service Area is currently planned and used for housing.

As illustrated in this report, there are some opportunities to mix employment with housing, civic, and other uses in compatible, exciting new neighborhood forms in the active employment lands. But for some other types of businesses it will be important to be separated from housing, civic, and institutional uses due to their potential to create negative impacts on adjacent uses.

**Finding 3: The City's economy can be broken down into three broad groupings of industries: Driving Industries, Business Support Industries, and Household-Serving Industries.**

Driving Industries, which account for about one-third of San Jose's job base, tend to sell their goods and services to customers outside of the region, bringing in significant revenues that are spent locally and help drive the San Jose economy. Business Support Industries, which include slightly less than one-third of total employment, sell their goods and services to other companies within the local economy, including Driving Industries. Household-Serving Industries provide goods and services to City residents. They include more than one-third of total employment, with the retail sector alone accounting for almost 15 percent of the City's total jobs.

**Finding 4: San Jose's active employment land plays a disproportionately important role in the City's economy.**

San Jose has approximately 13,000 acres of active employment land (the Evergreen and North Coyote lands are not included in this figure because they are not currently "active" due to the large number of vacant acres in these areas). The active employment land represents only 13 percent of the City's total land area but contains 54 percent of the City's total employment and 72 percent of the City's total employment in the Driving Industries. In the case of some individual employment sectors, the share is even higher.

**Finding 5: The 13,000 acres of active employment land can be divided into subareas with very different characteristics.**

This study defines 20 different employment subareas that are further divided into four different categories based on their employment and land use characteristics. These subareas vary widely in their development patterns and the business types they serve. For example, some subareas clearly support Driving Industries because of their location, infrastructure, building stock, and market position, while others have a much higher concentration of Household-Serving Industries, which serve the needs of local residents. The chart on the next page classifies the four types of subareas into groupings that have been defined on the basis of employment characteristics:

- Subareas where Driving Industry employment predominates;
- Subareas where Business Support Industry employment predominates;
- Subareas with a mix of Driving Industries and Business Support Industries;
- Subareas where Household-Serving Industry employment predominates.

Although the subarea classifications are based on the relative concentration of employment by industrial sector within a given subarea, the report also examines each subarea's share of the City's total employment in a particular sector, which in some cases is significant.

The fiscal implications of development also vary by subarea, as shown by the four subareas that were tested in the fiscal impact model. The results are discussed in subsequent findings.

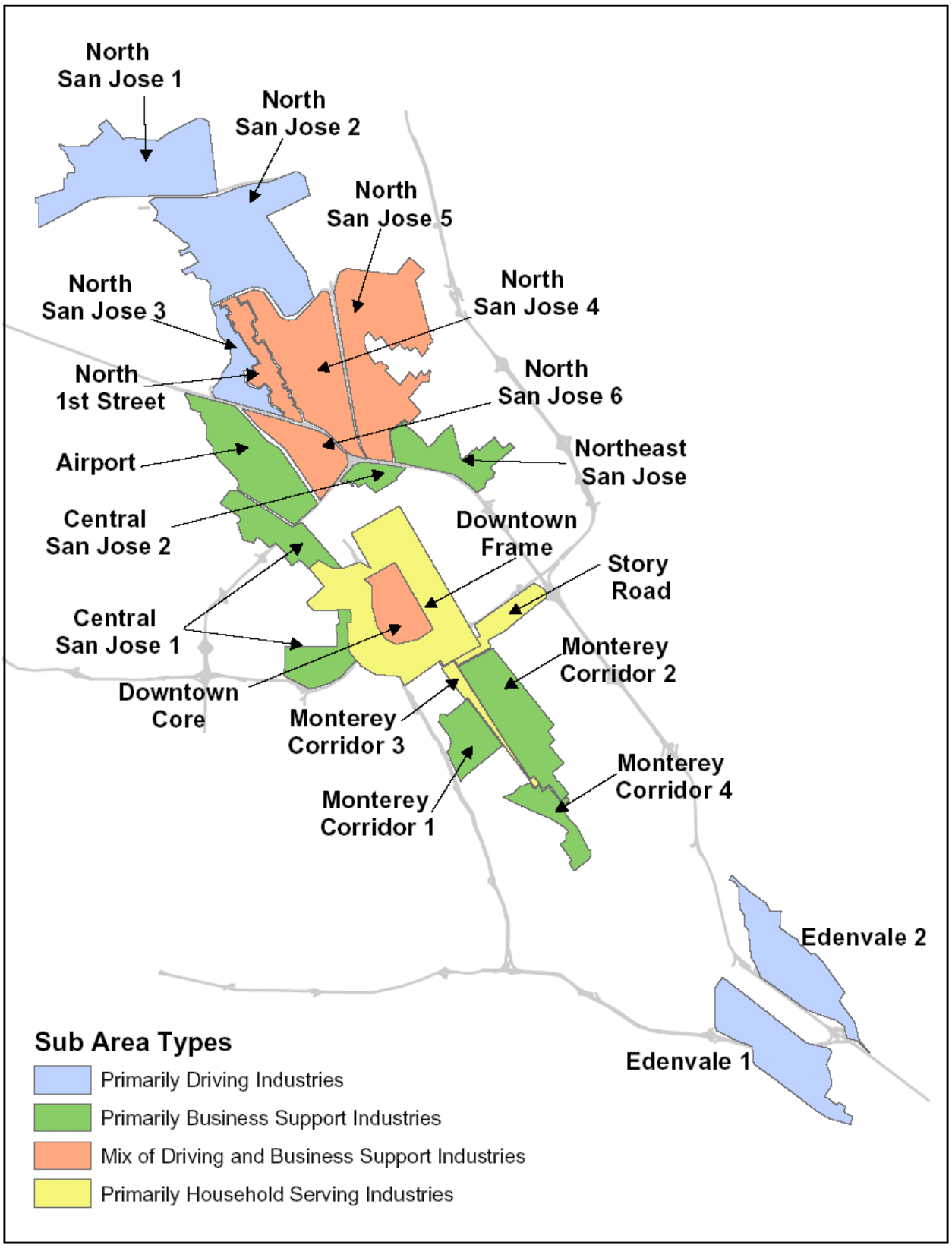
| Type 1: Subareas Where Driving Industry Employment Predominates | |
|---|---|
| North San Jose 1<br>2,600 jobs<br>90% in Driving Industries | About 70% of employment is related to Semiconductors. |
| North San Jose 2<br>24,200 jobs<br>78% in Driving Industries | This subarea is the second-largest employment sub-area, following North San Jose 5. Currently, 42% of employment in this subarea is in Computers/Communications; this area is the largest single concentration of Computer/Communications employment in the City (35% of all employment in Computer/Communications). A total of 17% of employment in this subarea is in Semiconductors; this area is also the largest single concentration of Semiconductor employment in San Jose (22% of Semiconductor employment citywide). |
| North San Jose 3<br>7,100 jobs<br>79% in Driving Industries | Currently, 32% of employment in this subarea is in Computers/Communications; and 20% is in Semiconductors and 15% is in Transportation/Distribution. |
| Edenvale 1<br>11,700 jobs<br>67% in Driving Industries | 49% of employment in this subarea is in Computers/Communications, and 16% is in Retail/Consumer Services. The remaining employment is a diverse mix across all remaining industry categories.<br><br>This subarea is home to 20% of City employment in Computers/Communications— the second highest share of Computers/Communications in San Jose (next to North San Jose 2). |
| Edenvale 2<br>1,800 jobs<br>57% in Driving Industries,<br>43% in Business Support Industries | Roughly 36% of employment in this subarea is in Computers/Communications, 13% is in Software, 12% is in Retail/Consumer Services, and 11% is in Transportation/Distribution. |
| **Type 2: Subareas Where Business Support Industry Employment Predominates** | |
| Airport<br>3,000 jobs<br>97% in Business Support Industries | The largest sectors in the Airport subarea are Transportation/Distribution (43% of total employment in this subarea), Retail/Consumer Services (27%), and Business Services (21%). This subarea is home to the second-largest concentration of Retail/Consumer Services located in employment areas, 27% of Retail/Consumer Services employment found in employment subareas. |
| Monterey Corridor 1<br>3,700 jobs<br>80% Business Support Industries | The largest employers in this subarea are Building/Construction/Real Estate (20% of employment), Retail/Consumer services (16%), Industrial Supplies and Services (15%), and Transportation/Distribution (14%) |
| Monterey Corridor 2<br>9,200 jobs<br>92% Business Support Industries | The largest employers in this subarea are Transportation/Distribution (25% of employment), Building/Construction/Real Estate (14%), Retail/Consumer Services (14%), Business Services (12%), and Industrial Supplies and Services (11%) |
| Monterey Corridor 4<br>1,300 jobs<br>94% Business Support Industries | The largest-employing industries are Retail/Consumer Services (26%), Building/Construction/Real Estate (23%), and Business Services (23%). |

| | |
|---|---|
| Northeast San Jose<br>9,300 jobs<br>80% Business Support Industries | This subarea is home to the largest single share of Corporate Office employment in San Jose: 15%. It is the second-most important home for industrial suppliers (following North San Jose 5), hosting 15% of all employment in Industrial Supplies and Services.<br><br>The largest share of employment in Northeast San Jose is in Building/Construction/Real Estate (23%), followed by Industrial Supplies and Services (15%), Retail/Consumer Services (11%), Transportation/Distribution (11%), and Corporate Offices (11%). |
| Central San Jose 1<br>11,000 jobs<br>91% Business Support Industries | This subarea is home to the single largest concentration of Building/Construction/Real Estate-related employment found in the employment subareas. Currently, 27% of employment in this subarea is in Building/Construction/Real Estate, 23% is in Retail/Consumer Services, and 15% is in Business Services. |
| Central San Jose 2<br>3,500 jobs<br>97% Business Support Industries | The largest share of employment in this subarea is in Business Services (40%), followed by Retail/Consumer Services (19%), and Transportation/Distribution (11%). |
| **Type 3: Subareas With A Mix Of Driving Industries And Business Support Industries** | |
| North First Street<br>9,200 jobs<br>54% in Driving Industries,<br>46% Business Support Industries | The largest employers in this subarea are Innovation Services (i.e.., technical services and high-end professional services) (27%), Business Services (14%), and Software (12%). |
| Downtown Core<br>20,500 jobs<br>53% in Driving Industries,<br>47% in Business Support Industries | Downtown is home to 20% of all Software employment in San Jose—the largest concentration of Software employment among all employment subareas. Downtown is also home to the single-largest share of Innovation Services employment: 26%. Downtown's largest employment sectors are Innovation Services (23% of Downtown employment), Software (18% of Downtown employment), and Retail/Consumer Services (18% of Downtown employment). |
| North San Jose 4<br>22,900 jobs<br>60% in Business Support Industries,<br>40% in Driving Industries | North San Jose 4 has the largest share of Miscellaneous Manufacturing jobs of any of the active employment subareas: 15% of total jobs in the sector. It is also home to the second-largest share of Electronic Component employment in San Jose: 28% of the City's total. This subarea is one of two that tie in importance as having the largest concentration of Transportation/Distribution employment in San Jose, hosting 13.8% of employment in this sector.<br><br>Employment in North San Jose is distributed across Transportation/Distribution (16% of jobs), Business Services (15%), Electronic Components (12%), and Retail/Consumer Services (11%). |

| | |
|---|---|
| North San Jose 5<br>25,900 jobs<br>57% in Business Support Industries,<br>43% in Driving Industries | This subarea is the largest employment subarea in San Jose.<br><br>North San Jose 5 is home to the largest single share of Electronic Component employment in San Jose: 37%. This area is one of two that tie in importance as the largest concentration of Transportation/Distribution employment in San Jose, hosting 13.5% of employment in this field. It is also home to the largest single share of Industrial Supplies and Services employment in San Jose: 21%. It is also home to the largest single share of Business Services employment in San Jose employment areas, 12%.<br><br>The largest sectors in this subarea are Business Services (16%), Electronic Components (14%), Transportation/Distribution (14%), and Semiconductors (13%). |
| North San Jose 6<br>13,300 jobs<br>62% in Business Support Industries,<br>38% in Driving Industries | The largest employers in this subarea are business services (20%), Transportation/Distribution (12%), Retail/Consumer Services (10%), and Software (9%). |
| **Type 4: Subareas Where Household-Serving Industry Employment Predominates** | |
| Downtown Frame<br>10,300 jobs<br>86% in Household Support Industries | The two largest sectors in this subarea are Civic (31%) and Retail/Consumer Services (25%). |
| Story Road<br>2,400 jobs<br>95% in Household Support Industries | The largest sectors in this subarea are Retail/Consumer Services (48%) and Transportation/Distribution (20%). |
| Monterey Corridor 3<br>1,400 jobs<br>86% in Household Support Industries | The largest concentrations of employment in this subarea are in Retail/Consumer Services (43% of subarea employment), Building/Construction/Real Estate (20%), and Transportation/Distribution (16%). |

Source: California Employment Development Department, 2002, Urban Explorer, Strategic Economics.

*Figure 2: Employment Subareas Classified According to Economic Development Strategy Typology*



**Finding 6: San Jose is projected to add approximately 141,000 net new jobs between 2000 and 2020.**

Based on ABAG projections, the City is expected to add 141,000 net new jobs over its 2000 level by 2020. This takes into account the jobs that have been lost since 2000, assuming a return to the 2000 level by 2008 or 2009 and roughly 2.7 percent annual average employment growth until 2020.

**Finding 7: The vast majority of the net job growth in the next 20 years will require construction of new space. The City will need approximately 50 million square feet of new space to accommodate the projected increase.**

Calculations based on the ABAG employment projections to 2020 show that 50 million square feet of new space will be necessary to accommodate the roughly 141,000 jobs that will be added after the City regains its 2000 employment level. It is likely that some new space will be built even before all the currently vacant space is re-absorbed (in roughly 2008 or 2009), since some the firms creating jobs before then will want to occupy new space instead of currently vacant space due to their specific corporate requirements.

**Finding 8: The estimated demand for new building space to accommodate employment growth through 2020 translates into demand for approximately 2,700 acres of land for new development.**

Although demand for employment land and new industrial/R&D/office space is currently slack, the employment projections strongly suggest that it will pick up towards the end of the decade when the supply of currently vacant space is expected to be absorbed.

Over half of the demand for new land—approximately 1,450 acres—is expected to be used for the Driving and Business Support Industries, the primary uses in most of the active employment subareas.

The demand for new retail space is also estimated to be significant (calculated at roughly 750 acres before considering Santana Row or the expansions at Valley Fair and Oakridge shopping centers) as is civic uses (over 400 acres). However, this growth need not be fully or even primarily accommodated in the employment subareas, as retailers and civic uses typically prefer locations near residential development.

**Finding 9: Employment uses are shifting towards a more efficient use of land, and therefore, less land is projected to be necessary in the future to support employment needs.**

The above allocation of 1,450 acres for the Driving and Business Support Industries assumes intensification in terms of both space per employee and building density, recognizing recent market trends towards higher-density employment in response to changing industry requirements and higher development costs. These are based on conversations with the City's development

community and appear to be realistic predictions of the direction that the market will move in the future. However, such intensification is not necessarily reflected in existing City policy such as the North San Jose Area Development Policy.

**Finding 10: If land is used more efficiently in the future, as assumed in these estimates, there should be more than enough vacant and underutilized land in the employment areas to accommodate the anticipated growth of Driving Industries and Business Support Industries through 2020.**

The current supply of vacant land in the employment subareas is almost 1,600 acres. However, it should be noted that roughly 20 percent of this land will never absorbed due to such factors as small parcel size or other characteristics that render the land unsuitable from a development perspective. Therefore, the amount of usable vacant land in the employment subareas that can actually accommodate growth is assumed to be about 1,250 acres.
The Driving Industries and Business Support Industries—the firms for which a location in the active employment subareas is most important—will require 1,450 acres through 2020, only slightly more land than the usable vacant 1,250 acres present in the active employment subareas,. Therefore, it is likely that much of the demand for new built space for these industries through 2020 can be accommodated on vacant land in the active employment subareas, although the exact amount depends on market conditions, i.e., how closely the areas in which vacant land is available align with the areas deemed desirable for the uses in question.

In the later years of the forecast period (i.e., closer to 2020), as suitable supplies of vacant land dwindle, pressure is likely to increase to redevelop functionally obsolete buildings with more intensive uses. This will lead to new construction on sites with older or marginal buildings within the existing employment subareas.

Vacant planned employment lands that are outside the active employment areas (e.g., Evergreen and North Coyote Valley) account for an additional 1,700 acres. While buildout of Evergreen and North Coyote Valley is unlikely by 2020, these acres may represent alternative locations for Driving Industries through 2020 and beyond.

The total of vacant and underutilized land in the employment subareas should meet the City's employment growth needs through 2020. However, this finding assumes more intense use of land and building space and careful management of the land supply.

**Finding 11: ABAG projects that approximately 63,000 new housing units in San Jose are needed between 2000 and 2020 to satisfy projected demand.**

Only about 27 percent of those units will be necessary to support demand for single-family homes including attached townhouses, as the vast majority of demand will be for higher density products. By the end of 2003, San Jose had issued building permits for 14,830 units (23 percent) of the 63,000-unit projection.

**Finding 12: Based on densities that are consistent with various residential unit types found in the General Plan, approximately 2,900 acres of land is needed to support the projected housing demand in San Jose.**

This land estimate is based on the projection that roughly one-quarter of the required new units are single-family homes, both detached and attached (townhouse) units. Despite their relatively small market share, these units will likely account for roughly two-thirds of the total projected land consumption.

San Jose currently has approximately 1,800 acres of vacant residential land with its Urban Service Area (USA) and has created additional land supply for housing by designating underutilized properties for residential use within the Downtown Core, transit corridors, and Specific Plan areas (e.g., Midtown).

**Finding 13: Of the 20 subareas under consideration, housing is clearly appropriate in seven and under certain circumstances, it could be considered in additional subareas.**

Portions of the Downtown Core, Downtown Frame, North San Jose 6, and the Midtown portion of Central San Jose 1 are already planned for high density housing and/or mixed use development. These subareas may be able to accommodate even higher densities on existing planned housing sites and/or add new high density housing sites.

Monterey Corridor 3, North First Street, and the Agnew site in North San Jose 2 could accommodate future housing development based on the land use, employment, and fiscal analyses. Under certain circumstances, housing could be considered in additional subareas (see Recommendation 4 for additional discussion of the subareas.) Therefore, San Jose can meet its future housing demand without converting prime lands for Driving and Business Support Industries to housing.

For example, available vacant or underutilized land in North San Jose 2 and North First Street alone could support as many as 19,000 units. This would satisfy over 40 percent of San Jose's total demand for multi-family housing over the next 20 years, while only occupying 122 acres in Type 1 and Type 2 subareas.

**Finding 14: There will be constant pressure to find more land to accommodate housing in San Jose, and that there will be considerable inherent tension in trying to adequately balance the needs of these uses, both of which are vital to the City's future.**

Land demand for housing through 2020 is 2,900 acres compared to 2,700 acres required to support job growth. Particularly with the current slow commercial real estate market and the amount of vacant commercial space, near-term demand for land for residential uses will be greater than demand for land for commercial development. There will be pressure to use available land in the active employment subareas for residential uses.

**Finding 15: The impact of new development on both the service costs borne by the City and the revenues collected by the City can vary significantly from subarea to subarea.**

The increment of new residents and employees that triggers certain major costs, most notably fire service costs, varies significantly among subareas. For example, the threshold for a new fire station in Monterey Corridor 2 is only half the level of North San Jose 5 (7,500 new residents and employees versus 15,000). Although fire capital costs are significant, it is the recurring cost of fire service (i.e., the annual operating expenses) that poses the main fiscal barrier to high-intensity development in North First Street and North San Jose 2.

There are also significant variations in the cost of parks, and in the cost and service population threshold of library services. These are explained more completely in the Technical Appendix.

**Finding 16: With the exception of neighborhood park costs, other service costs are triggered only by large increments of growth.**

This has significant implications for the fiscal balance of a scenario, particularly one in which the threshold for new service is met but development beyond that point is insufficient to generate enough revenues to offset those new costs. For example, in one development scenario (North First Street Scenario 2), the large development increment requires two new fire stations, the ongoing operations costs of which are the main factor behind a nearly $16 million negative balance between recurring costs and revenues. However, the second station only serves a small amount of development above the threshold that triggers additional service. If the scenario included about 1,000 fewer employees (roughly 300,000 sq. ft. of office space) only one new fire station would be required and the negative balance of recurring costs and revenues would drop to only about $2 to $3 million.

**Finding 17: Parks are among the largest capital costs associated with residential development.**

Depending on the mix of residential and commercial development in the particular development scenario tested in the fiscal model, parks can be the largest capital cost incurred by the City as a result of new development. Not only is the cost high, but unlike other costs, which only increase when a relatively high population threshold is met, parks costs increase more or less in direct proportion to changes in the population.

Fire costs can also be high, but in most of the subareas the growth increment required to trigger the addition of a new fire station is high enough that new fire costs only set in when the level of development is very high. Library costs, although high, require a very high population threshold and are not triggered in any of the scenarios. Police costs do not make a significant difference to the fiscal balance in any of the scenarios.

**Finding 18: One-time revenues from housing cannot, except in a few cases, cover the cost of the parks that must be built to serve that housing.**

This is due to the City's policy of not forcing residential development to bear the full cost of providing park facilities through the parkland impact fee. Only single-family houses and high-density condominiums are able to generate enough one-time revenues to cover the associated parks cost, and in the latter case, this is only true when the conveyance tax stemming from turnover (sales) is taken into account over the entire period through 2020.

**Finding 19: Commercial development generates significant one-time revenues but does not usually trigger the same level of capital costs as residential development.**

Significant capital costs can be incurred if development triggers new fire costs. However, because of the way that police, fire, and library costs are triggered, it is easier to control them through land use policy. This does not mean it is necessary to limit the amount of total development, but rather to create policies that add development in increments that either don't trigger new costs or that can generate sufficient revenues to cover those costs.

**Finding 20: The fiscal balance is determined by the overall mix of land uses in the subarea scenario, rather than by a single land use or parcel. In general, if there is more commercial/industrial development than residential development the scenario can yield a balance of one-time revenues and capital costs.**

It is important to note that the positive balance of one-time revenues generated by commercial/industrial development can be substantially offset by the capital costs of expanding fire service if the proposed development scenario creates enough employment in the subarea to push the total number of residents and employees high enough to require a capital outlay for a new fire station. There are also significant annual costs associated with expanded fire service.

The different service thresholds in the individual subareas highlights the need to consider scenarios in their specific context. For example, the growth increment that requires a new fire station is smaller in Monterey Corridor 2 than in the other subareas, meaning that the ability of one-time revenues from commercial/industrial development to offset the negative fiscal balance stemming from housing is less certain than in other subareas despite the lower cost of parks in Monterey Corridor 2.

**Finding 21: Redevelopment Project Areas affect the level of recurring revenues going to the General Fund.**

Because all of the property tax increment in a Redevelopment Project Area flows to the Redevelopment Agency, the level of recurring revenues collected by the General Fund is reduced, depending on the particular land use (development type) in question.

It should be noted, however, that the fact that a parcel is located in a Redevelopment Project Area does not mean that there are no recurring revenues flowing to the General Fund. The total of other recurring revenues can amount to a significant proportion of the property taxes or even exceed them, depending on the development type. For example, R&D buildings can generate significant revenues from their utility taxes—roughly half the revenues that would be generated by property taxes outside of a Redevelopment Project Area. In the case of retail, which generates sales tax, other recurring revenues usually far exceed property taxes.

**Finding 22: Development in a Redevelopment Project Area generates six to eight times as much property tax revenue for the City.**

This revenue does not go to the General Fund and it is used to finance affordable housing projects that are located throughout the City and support infrastructure and public facilities located within Redevelopment Project Areas.

For example, the Redevelopment Agency contributes funds towards the capital costs of providing new facilities, including parks, thus helping to make up for a shortfall of one-time revenues and/or removing some of the long-term burden from the General Fund to cover the costs of general obligation bonds for capital investments.

**Finding 23: In general, housing can be accommodated in certain employment areas identified as suitable without creating a fiscal drain to the City's General Fund, as long as it is added in the context of a comprehensive planning process that ensures a mix of uses and adequate revenues to support needed services.**

While scenarios were run for subareas that are not recommended for conversion (see Recommendation 4), these scenarios are informative of general fiscal relationships. For example, in North San Jose 5, a positive balance of both one-time revenues and costs and ongoing revenues and costs is always possible as long as development adds more employees than residents. Because only a small percentage of the subarea is included in a Redevelopment Project Area, the flow of recurring revenues to the General Fund can easily balance out the annual costs, and sufficient commercial development will yield a positive balance of one-time revenues and capital costs.

In North San Jose 2 and North First Street, a balance is harder to achieve because of the property tax diverted to Redevelopment Agency programs. Although the inclusion of significant commercial development balances out the capital costs associated with residential development, a large increment of commercial development generates significant recurring costs. This, combined with the fact that most of the property tax revenue flows to Redevelopment Agency programs, leads to a negative balance of General Fund recurring costs and revenues. Only a scenario with a relatively small increment of new development can avoid this, but such a scenario is not necessarily the most effective use of the land available in these subareas.

In Monterey Corridor 2 a similar situation exists, but balance can be achieved as long as no new fire station is needed. This means the overall increment of development must be relatively low.

Above the service population threshold for fire costs, additional development will tend to lead to greater negative imbalance of annual costs and revenues. Therefore, if employment intensification is planned for this subarea, the service costs issue would have to be closely studied.

**Finding 24: Retail development is an important consideration for quality of life as well as fiscal reasons.**

According to a recent study of San Jose's retail sector,[2] San Jose is not capturing its full retail sales potential, and increasing the retail base is an overarching goal of the City. In most of the employment subareas, retail can be an important component of any mix of uses, particularly one that includes residential development, since it provides essential services that can support a resident population. The sales tax generation of retail can provide an important boost to the recurring revenues of any development scenario whether or not it is built in a Redevelopment Project Area.

Although retail development is desirable in many subareas, this does not mean that large-scale community-serving retail is appropriate. In most cases retail development should be considered a supporting use that is part of a larger land use scheme, not a means to draw customers from outside the area.

[2] Metrovation and Bay Area Economics, San Jose Retail Model (Draft), October 2003.

## RECOMMENDATIONS

### Recommendation 1: Treat the existing supply of vacant land in the active employment areas as a unique and valuable asset.

Given the level of employment growth projected in San Jose by 2020 and the resulting demand for land, the declining amount of land available for development, and the uncertain economics of redevelopment of underutilized land, the supply of vacant land in the active employment areas constitutes a crucial asset for the City as it works to attract and retain a new generation of jobs. Great care should be used when making decisions about the use of this land, especially over the next few years. In the short term, the economy will still be recovering from the recent down cycle and there will be limited demand to build new industrial/R&D/office space, but strong ongoing pressure to add more housing.

### Recommendation 2: Conduct ongoing research to understand how the supply of vacant land matches the needs of employers.

In order to ensure that this asset is being used in the most effective way possible to strengthen the City's economy, the City should gain an even deeper understanding of the needs and preferences of the industries it wants to attract and retain, particularly since these needs and preferences change continually. Which industries will show a preference for an environment with a mix of uses and transit? Which ones will prefer a location that is separated from housing? Which ones will be willing to locate in an intensely developed area and which ones will continue to prefer a lower density campus-like environment? Which types of firms will want to locate near their peers versus serving as "pioneers" in subareas that do not currently host similar firms, and which types will be at a point in their development where they are willing and able to redevelop underutilized land instead of locating on vacant land or simply renting space in existing buildings?

Although individual firms will naturally differ in their preferences, such understanding can help the City manage its supply of vacant land (and easily developed underutilized land) and plan employment areas that effectively meet the needs of key industries.

### Recommendation 3: Actively encourage intensification of new development in order to use the existing supply of vacant and underutilized land efficiently.

San Jose's land supply is a competitive asset whose value to the city's economic future should be maximized. More intensive development means not only that more jobs can be accommodated, but also that over the long term businesses will have more choices of locations (i.e., particularly desirable locations within the City will be able to accommodate more jobs).

The estimates of land demand cited above assume intensification in the use of both built space and land. Although the former is primarily a function of real estate market conditions and the nature of the activities being carried out, and therefore largely outside the control of policy, the

City has tools to encourage more intensive use of land. Beyond General Plan and zoning changes, it is important to make investments in infrastructure that supports more intensive development, most notably transit but also parks and other amenities. As noted below, in some subareas Redevelopment revenues can help pay for these and other services.

Finally, effective planning is essential for a variety of reasons: it helps ensure an adequate mix of uses, it increases the likelihood that developers will move to new building types, and it makes it easier to ensure the quality of design that is particularly important for making high-intensity development work with transit.

**Recommendation 4: The integrity of many of the employment areas should be protected as locations for key industries and a wide range of economic activities.**

The chart below summarizes the classification of subareas and the conclusions and recommendations that apply to each type. The recommendations acknowledge the need to respond flexibly to changing economic conditions over time within key employment subareas. In some instances, the recommendations recognize potential future policy efforts to increase the employment densities and building intensities for Driving Industries.

## Type 1: Subareas Where Driving Industry Employment Predominates

*North San Jose 1, North San Jose 2, North San Jose 3, Edenvale 1, Edenvale 2*

Land supply in these subareas is critical to the future expansion of Driving Industries.

- A mix of uses, including housing and retail, is possible in North San Jose 2 on the Agnews site.
- Other large scale conversions to housing in North San Jose 3 need careful consideration in light of retaining existing or potential Driving Industry jobs through increases in FAR and/or employee densities in the North First Street corridor.
- Conversions in Edenvale 1 to housing, mixed housing/retail, and/or civic uses should only be considered as FAR and/or employee densities increase in this subarea.
- Supportive uses for work places, such as retail, should be considered as the work places for Driving Industries intensify in terms of FAR and/or employee density.
- The conversion of land currently planned for Driving Industries in North San Jose 1 to create additional land supply for Business Support and/or Household-Serving Industries should be carefully considered in light of the long term land supply needs of Driving Industries.

## Type 2: Subareas Where Business Support Industry Employment Predominates

*Airport, Central San Jose 1, Central San Jose 2, Monterey Corridor 1, Monterey Corridor 2, Monterey Corridor 4, Northeast San Jose*

Given the critical role that these subareas and the industries they host play in the overall economy, particularly supporting Driving Industries, these subareas should be preserved for employment uses.

- Central San Jose 1 within or near Midtown could be considered for an appropriate mix of residential, retail, and/or civic uses to support the Downtown.
- A portion of the Airport subarea (west of the railroad tracks, north of I-880) could be considered for residential uses in light of increased employment densities and/or building intensities of Driving Industries in the North First Street corridor.
- Other introductions of residential or civic uses should be discouraged in these subareas.

## Type 3: Subareas With A Mix Of Driving Industries And Business Support Industries

*North San Jose 4, North San Jose 5, North San Jose 6, North First Street, Downtown Core*

These subareas account for almost half of the total employment in the active employment subareas, have the highest employment densities, and the diverse business mix.

- The Downtown Core is appropriate and desirable locations for additional high density housing as well as civic, institutional, and destination retail uses.
- Housing and/or supportive retail for work places should be considered in North San Jose 4 and North First Street as the workplaces for Driving Industries intensify in terms of FAR and/or employee density within or adjacent to the North First Street corridor.
- North San Jose 5 should be considered for limited retail uses, but not housing.
- North San Jose 6 (Rincon South) is planned for a mix of housing and employment uses. Opportunities to add more high density housing and increase housing densities should be considered east of North First Street and/or north of Sonora on the west side of North First Street, , Opportunities to intensify work places, and add retail should also be considered to create a true mix of uses within this subarea.

| Type 4: Subareas Where Household-Serving Employment Predominates |
| --- |
| *Downtown Frame, Monterey Corridor 3, Story Road* |
| These subareas contain a relatively small proportion of total jobs and acreage.<br>• The portion of the Downtown Frame that contains the Julian-Stockton Redevelopment Project Area should not include housing.<br>• Story Road should be considered for retail uses, not housing.<br>• The remaining portion of the Downtown Frame and the Monterey 3 subareas can be considered as candidates for a major shift in land use orientation, allowing for intensive redevelopment that would include housing, as well as retail, civic, and institutional uses. |

**Recommendation 5: Consider the role that Redevelopment revenues can play in supporting the overall land use goals for the subareas, particularly in cases in which a shift towards higher-intensity uses and more coherent neighborhoods is envisioned.**

Redevelopment Agency funds are used to fund capital improvements for fire and police, as well as parks and other amenities and infrastructure that support higher-intensity development, including public spaces, retail, and mass transit.

Through Redevelopment, recurring revenues can be used to cover capital costs in a way that would be more difficult if the recurring revenues were flowing to the General Fund. This is true both because the presence of a Redevelopment Project Area means that the City captures more property tax and because Redevelopment Agency funds can be spent on capital projects in a more straightforward manner than General Fund revenues, i.e., without necessarily resorting to debt financing. Thus, although the Redevelopment Agency represents a very different source of funding than the General Fund, the revenues it collects in the subareas could be used to ease the pressure on the General Fund to finance many of the costs stemming from new development. This could be an important strategy for making high-intensity development in such areas as North First Street viable.

Finally, Redevelopment is an important source of financing for affordable housing and could help to catalyze the creation of neighborhoods, as it has done in the Downtown area. However, it is important to remember that a Redevelopment Project Area entails obligations as well as benefits in this regard, since 20 percent of all new housing built in the area must meet affordability standards.

**Recommendation 6: Only allow residential development in the employment subareas in conjunction with compatible R&D and office development, as well as supportive retail.**

The analysis shows that from a fiscal standpoint, housing can work, but only as part of a broader land use mix within a subarea that includes sufficient commercial development, including retail. The synergies among these different land uses may also yield benefits that are not captured in the

fiscal balance, such as reducing automobile usage, traffic congestion, and the cost of providing parking for employees and capturing a greater portion of retail spending by residents and employees.

**Recommendation 7: Ensure that any future conversion to residential/retail uses happens within an overall planning context rather than on piecemeal basis.**

Any land conversion should be part of a larger planning framework that can ensure both that the various land uses work together well and that the overall fiscal balance of the development is positive, even if not every element can cover the costs it generated. It is critical that new housing in these employment areas have the look and feel of "residential" neighborhoods, rather than forming isolated pockets of development.

Such a planning framework also helps to avoid conversions when there is no broader planning argument to introduce more housing into an employment area. Even if the fiscal scenario is positive, that alone is not enough to justify a fundamental shift in land uses.

**Recommendation 8: Look into the allocation of services to determine if current level of service standards and geographical distribution throughout the City are appropriate given the overall land use and economic development vision.**

Excess fire service capacity exists in North San Jose 5 and development can easily cover any additional annual fire costs through its contributions to the General Fund. However, there is less market support or planning rationale for high-intensity development that would trigger such costs. Because of the methodology used for calculating service costs and thresholds, different assumptions are applied to North San Jose 2 and North San Jose 5, despite the fact that they are not too distant from one another geographically.

These facts suggest that there may be opportunities to reorganize fire service delivery so that development in North San Jose 2 can benefit from expanded service without having to bear the entire cost of that service, especially if there is new development in North San Jose 5 that is generating a large positive balance of annual revenues.

Different service standards may be especially appropriate in the case of parks. The City's current park standards are designed for households with children. However, in some parts of the City where there are no single-family homes and very few households with children, different park standards may be appropriate. Different standards could be developed for different types of housing units or subareas in order to ensure that the supply of parks is appropriate for the particular subarea and type of development in question while also improving the fiscal balance associated with residential development. For example, in high-intensity areas with relatively few children, high-quality trails may be more important than active recreation spaces such as playing fields. Trails can be relatively parsimonious in their consumption of land while still serving a variety of open-space needs by permitting running, bicycling, or even commuting.

**Recommendation 9: Continue to encourage housing and retail development in appropriate locations.**

Housing is fundamental to the continued economic success of San Jose and the region, as stated in the Economic Development Strategy. The City should continue to encourage housing development in order to meet current and future demand, but as the above findings demonstrate, housing is not appropriate in all parts of the City, and care must be taken to ensure that when housing is built in employment subareas, it is done as part of a comprehensive development strategy.

Likewise, retail development makes a fundamental contribution to San Jose's fiscal base and to the services it needs to create a high-quality residential environment. However, like housing, retail development in inappropriate places can interfere with the ability of certain key employment subareas to fulfill their main role in the City's economy, which is to provide a place for important industries to operate. The City should meet its large-scale retail needs outside of such areas, while limiting retail development inside them to appropriately scaled projects built as part of an overall development mix.

# III. SAN JOSE'S JOBS AND EMPLOYMENT LAND

## SAN JOSE'S ECONOMY

After World War II San Jose grew quickly due to extensive annexations, rapid housing development, and commensurate population growth. By the 1970s, civic and political leaders recognized that residential growth alone would not sustain the City. With the adoption of General Plan '75, San Jose took a new strategic approach to land use planning and economic development by focusing on the creation of a strong and balanced economy as a complement to the City's existing residential development. A key part of that long-term strategy was to provide sufficient land supply through the General Plan to accommodate a wide range of job-generating activities. In the 1980s and 1990s this approach was a key part of San Jose's success in attracting the expanding high technology industries associated with "Silicon Valley." As other cities in the Valley have become more built out, San Jose has captured an increasing share of the region's employment and has become integral to the health of the regional economy. In 2001, the peak of the most recent economic boom, San Jose had over 380,000 jobs. While this number dropped off to about 355,000 jobs in 2002, the most recent year that data are available, by any measure the City continues to have a very significant economic base.

As a result of this employment growth, San Jose has become less of a "bedroom community" for the rest of Silicon Valley and more of an employment center in its own right. This is reflected in its changing ratio of jobs to employed residents. Whereas in earlier decades employed residents vastly exceeded jobs in San Jose, by 2000 San Jose was approaching a balance, with 0.86 jobs per employed resident, as shown in Table 1.[3] This ratio is projected to hold steady over the forecast period 2000-2020. By way of comparison, Palo Alto still provides more jobs than housing, reflected in its ratio of 2.58 jobs per employed resident.

*Table 1: Jobs to Employed Residents in San Jose*

| | 1990* | 1995* | 2000** |
|---|---|---|---|
| Jobs | 313,450 | 311,980 | 442,670 |
| Employed Residents | 427,758 | 430,300 | 516,452 |
| Ratio | 0.73 | 0.73 | 0.86 |

**Source: ABAG Projections 1998*
***Source: ABAG Projections 2003*

Table 2 shows San Jose's employment growth from 1993 through 2002 by industry.[4] Industries were defined for the purposes of the City's new Economic Development Strategy and for this

[3] The employment figure for the year 2000 in this table does not match the figure used in the rest of the report because it is from a different source. The main difference between the two sources is that the Association of Bay Area Governments (ABAG) employment data in this table refer to the City's entire Sphere of Influence, including unincorporated areas, whereas the California Employment Development Department (EDD) data used in the rest of the report refer only to the incorporated City of San Jose.
[4] The Technical Appendix provides further detail about this breakdown and the data.

project. In this report the individual industries have been aggregated into three broad groupings that parallel those used in the Economic Development Strategy.

The first group contains the "Driving Industries." These businesses sell the vast majority of their goods and services to customers located outside of the City, bringing in significant revenues that are spent locally and help drive the San Jose economy. All of the technology-related companies in San Jose are considered Driving Industries, as are some of the visitor-serving activities, such as hotels, that also attract revenues from outside the region. Driving Industries account for about one-third of San Jose's job base.[5]

The second group contains "Business Support Industries," i.e., companies that sell their goods and services to other firms within the local economy. These businesses include construction companies, transportation services, wholesale traders, business services, and other enterprises that support the Driving Industries. Business Support Industries slightly more than 30 percent of the City's total employment.

Finally, the third group contains the "Household-Serving Industries" that provide goods and services primarily to City residents based on the needs of their households rather than their place of work. Retail is the biggest sector in this group, accounting for almost 25 percent of total City employment, but civic and medical uses are also included in this category. Civic employment includes government, non-profit organizations, educational services, and utilities, among others.

The latter two groupings have been far more stable in recent years than Driving Industries, growing more slowly during the economic expansion of the 1990s but also shrinking much less during the subsequent slowdown. As discussed in the Economic Development Strategy, all three of these groups are important to the City's economy for different reasons. Driving Industries sell their products nationally and globally, bringing new revenue into the City. Business Support Industries, as the name implies, allow the Driving Industries to function efficiently and also are important sources of mid-tier jobs. Household-Serving Industries are essential for maintaining the City's quality of life.

Each of these groups is important, and it is also important for the City to maintain a healthy mix of all three categories since they complement one another either directly (as in the case of Business Support Industries and Driving Industries) or indirectly (as in the role of Household-Serving Industries in helping to maintain high quality of life, which is important for attracting and retaining the employees needed by the Driving Industries). Therefore, it is important to understand the spatial dynamics of each set of industries and how the City can best use its available land supply to host all three.

[5] The large increase in Bioscience employment from 2000 to 2001 is due to a change in the way certain R&D activities were classified in the SIC and NAICS systems and in the industry grouping used in this study. Bioscience employment is likely higher than shown in the period through 2000 and lower than shown after 2000. This does not substantially affect the subsequent analysis in this study. The Technical Appendix provides more details.

*Table 2: San Jose Employment by Industry, 1993-2002*

| Group/Industry | 1993 | ... | 1999 | 2000 | 2001 | 2002 | Industry/ Group Share of Total Jobs, 2002 |
|---|---|---|---|---|---|---|---|
| Driving Industries: | 64,721 | ... | 103,029 | 114,611 | 133,230 | 112,413 | 31.6% |
| *Bioscience* | 1,036 | ... | 1,407 | 917 | 5,916 | 8,016 | 2.3% |
| *Computer & Communications* | 21,537 | ... | 34,866 | 34,990 | 32,883 | 28,668 | 8.1% |
| *Corporate Offices* | | ... | | | 7,023 | 6,341 | 1.8% |
| *Electronic Components* | 6,675 | ... | 12,140 | 14,714 | 15,485 | 9,738 | 2.7% |
| *Innovation Services* | 15,132 | ... | 15,962 | 15,468 | 17,227 | 17,504 | 4.9% |
| *Semiconductors* | 10,808 | ... | 19,581 | 23,083 | 27,976 | 17,937 | 5.0% |
| *Software* | 5,744 | ... | 14,580 | 20,714 | 20,304 | 17,812 | 5.0% |
| *Visitor* | 3,789 | ... | 4,494 | 4,727 | 6,417 | 6,398 | 1.8% |
| Business Support Industries: | 102,513 | ... | 132,580 | 136,970 | 114,968 | 108,381 | 30.5% |
| *Building/Construction/Real Estate* | 15,743 | ... | 23,400 | 25,134 | 25,750 | 24,420 | 6.9% |
| *Business Services* | 30,200 | ... | 42,482 | 44,838 | 36,633 | 32,932 | 9.3% |
| *Financial Services* | 9,621 | ... | 7,843 | 8,709 | 9,001 | 9,092 | 2.6% |
| *Industrial Supplies and Services* | 9,689 | ... | 10,804 | 11,992 | 10,698 | 9,302 | 2.6% |
| *Transportation/Distribution* | 26,760 | ... | 36,878 | 37,785 | 27,036 | 26,051 | 7.3% |
| *Miscellaneous Manufacturing* | 9,176 | ... | 10,253 | 7,504 | 4,919 | 5,621 | 1.6% |
| *Other* | 1,323 | ... | 920 | 1,007 | 932 | 962 | 0.3% |
| Household Support Industries: | 142,488 | | 120,268 | 124,305 | 133,303 | 134,552 | 37.9% |
| *Civic* | 61,138 | ... | 32,568 | 34,395 | 34,901 | 36,391 | 10.2% |
| *Health Care* | 22,530 | ... | 17,998 | 18,939 | 19,707 | 20,227 | 5.7% |
| *Retail/Consumer Services* | 58,820 | ... | 69,702 | 70,972 | 78,694 | 77,934 | 21.9% |
| Total | 309,722 | ... | 355,877 | 375,886 | 381,501 | 355,345 | 100.0% |

*Source: California Employment Development Department, Strategic Economics*

*Note: Employment in "Civic" after 1993 appears to be an undercount due to data problems*

## SAN JOSE'S ACTIVE EMPLOYMENT LAND

San Jose's General Plan lays out the land use framework for the City by indicating the appropriate locations for each major land use. As Figure 3 shows, residential uses dominate the City, accounting for nearly 60 percent of the land within the Urban Service Area (USA), while parks and other public and quasi-public lands account for an additional 25 percent. Retail and service commercial uses typically follow major arterial streets and/or are located in areas that are easily accessible to residents, but account for only 5 percent of the land within the USA. The major "active employment land," i.e. those places where Driving Industries and Business Support Industries are currently concentrated, are located in four parts of the City: North San Jose (including the Airport area), Downtown, Monterey Corridor south of Downtown, and Edenvale. Other planned employment areas shown in Figure 3 include Evergreen and North Coyote Valley, which are discussed in more detail below.

Active employment land accounts for approximately 13,000 acres, representing 13 percent of the City's total land area, but contains more than half the City's total employment—54 percent—and 72 percent of the total employment in the City's Driving Industries. These areas contain the vast majority of the City's total employment in such industries as Electronic Component Manufacturing, Industrial Supplies and Services, and Transportation and Distribution. Table 3 shows the number of jobs in each industry and employment group in the City as a whole and in the active employment land.

A considerable amount of land in these active employment areas is also in Redevelopment Project Areas. The Redevelopment Project Areas were established in the late 1970s and 1980s as part of the City's explicit strategy to attract more employment. They have successfully attracted new jobs to San Jose and provided millions of dollars in tax increment monies that have been used to improve the City's infrastructure in Redevelopment Project Areas, revitalize the Downtown, and build affordable housing throughout the City.

As stated above, the active employment land analyzed in this report does not include the Evergreen and North Coyote Valley campus employment areas, which have been excluded because they are largely undeveloped at the present time.

Figure 3 also shows that there are pockets of employment land outside of these main active employment areas. These pockets have also been excluded from this analysis in order to focus on the larger contiguous employment areas.

While the active employment land represents a relatively small portion of the City's total land area (13 percent), 13,000 acres is significant in absolute terms. Moreover, the 13,000 acres includes many diverse areas with different characteristics. To understand the differences among the different areas of employment land, a more fine-grain analysis is necessary.

*Figure 3: Generalized Land Use Map Based on General Plan Land Use Designations*

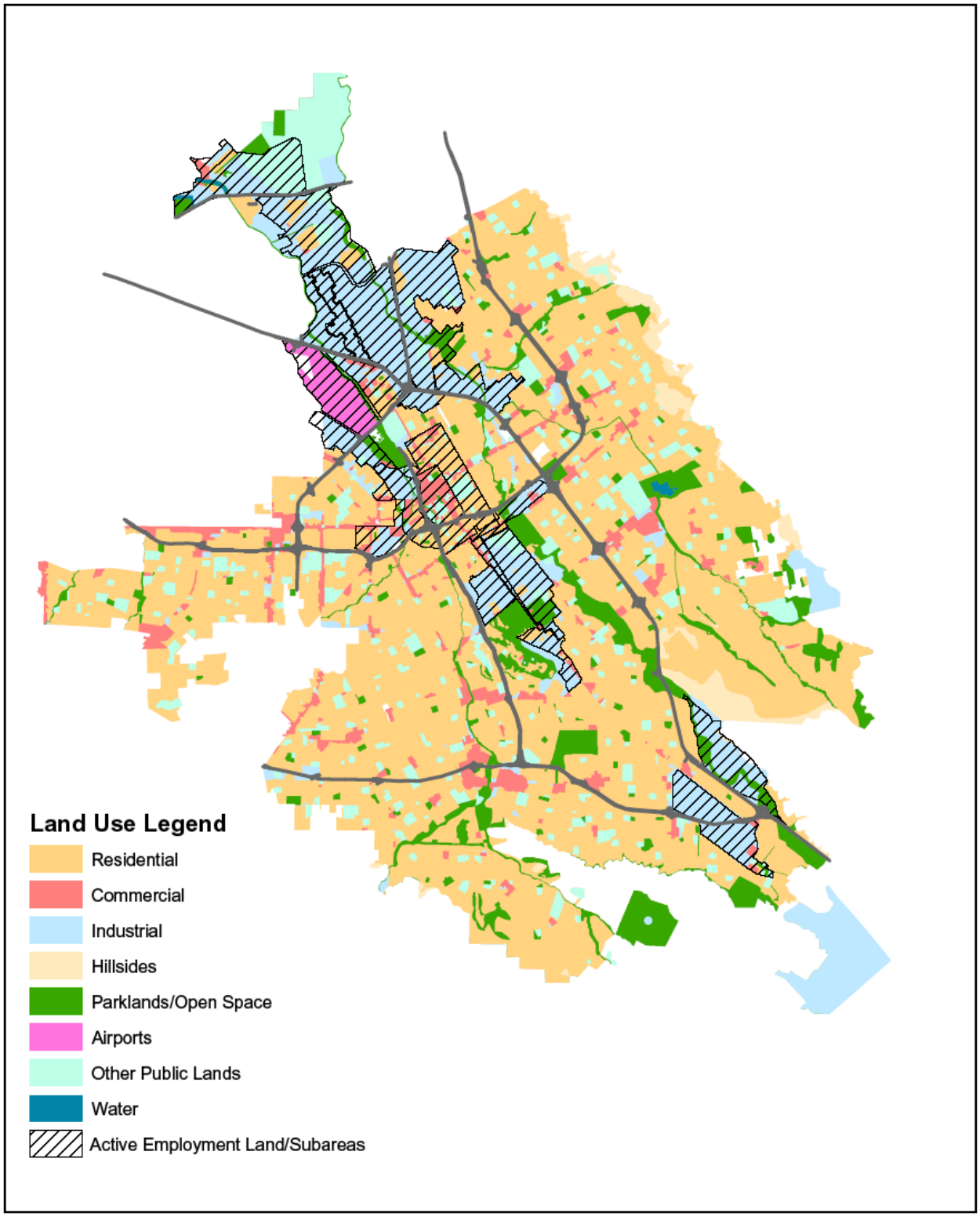


*Table 3: Total Employment for the City and Active Employment Land, 2002*

| | Total City Employment | Jobs in Active Employment Land | Active Employment Land as % of Total City |
|---|---|---|---|
| Driving Industries: | 112,413 | 81,199 | 72% |
| *Bioscience* | 8,016 | 5,089 | 63% |
| *Computer & Communications* | 28,668 | 21,013 | 73% |
| *Corporate Offices* | 6,341 | 4,904 | 77% |
| *Electronic Components* | 9,738 | 9,027 | 93% |
| *Innovation Services* | 17,504 | 12,043 | 69% |
| *Semiconductors* | 17,937 | 11,947 | 67% |
| *Software* | 17,812 | 12,818 | 72% |
| *Visitor* | 6,398 | 4,357 | 68% |
| Business Support Industries: | 108,381 | 71,873 | 66% |
| *Building/Construction/Real Estate* | 24,420 | 13,542 | 55% |
| *Business Services* | 32,932 | 20,941 | 64% |
| *Financial Services* | 9,092 | 4,379 | 48% |
| *Industrial Supplies and Services* | 9,302 | 8,460 | 91% |
| *Transportation/Distribution* | 26,051 | 21,198 | 81% |
| *Miscellaneous Manufacturing* | 5,621 | 3,087 | 55% |
| *Other* | 962 | 266 | 28% |
| Household Support Industries: | 134,552 | 38,630 | 29% |
| *Civic* | 36,391 | 12,038 | 33% |
| *Health Care* | 20,227 | 2,363 | 12% |
| *Retail/Consumer Services* | 77,934 | 24,229 | 31% |
| Total | 355,345 | 191,702 | 54% |

*Source: California Employment Development Department, Strategic Economics.*

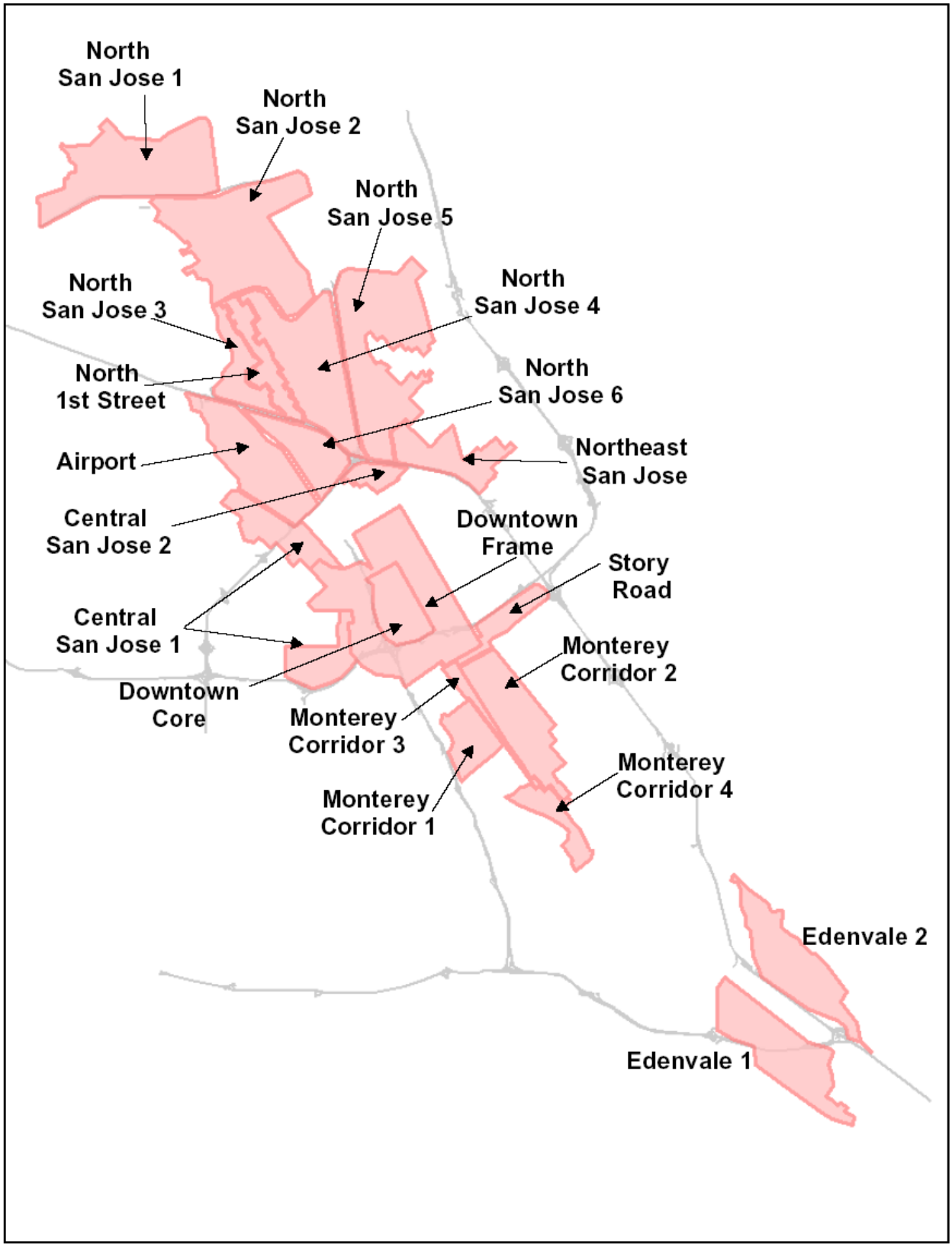
## ACTIVE EMPLOYMENT SUBAREAS

In order to better understand the relationship between the active employment land and San Jose's economy, it is useful to subdivide the active employment land into 21 subareas, as shown in Figure 4.[6]

Analysis of the subareas reveals that industry mix, building type, and other characteristics vary significantly from one subarea to another, giving each subarea an identifiable character and role within the City's economy. For example, some subareas support Driving Industries, while other areas have concentrations of Business Support Industries. Furthermore, some subareas are home to Driving Industry businesses that are located in office buildings, while in other subareas Driving Industry businesses, even those in the same sector, occupy research and development (R&D) space or industrial buildings. All of this indicates that businesses have many differing needs in terms of their location, building types, and work force composition that can only be accommodated by having a variety of land use options and opportunities.

[6] For information on how these subareas were defined, see the Technical Appendix.

*Figure 4: Active Employment Subareas*



## Subarea Typology

When the subareas are compared using a number of dimensions including acres, building types, and employment by the three major industry types (Driving Industries, Business Support Industries, and Household-Serving Industries), a clear pattern emerges. The subareas can be grouped into four major types, as described below and shown in Table 4 through Table 6. Table 4 summarizes basic employment and land use indicators for each of the subareas. Table 5 shows a detailed breakdown of each subarea's total employment by industry. Table 6 provides a rough breakdown of the land uses in each subarea using the percentage of parcels in each of the major land use categories: industrial, R&D, office, institutional, residential, and retail.[7]

Figure 5 shows the map of employment subareas with the classification of each subarea indicated.

*Type I: Subareas Where Driving Industry Employment Predominates*
*North San Jose 1, 2, and 3; Edenvale 1 and 2*

The criterion for inclusion in this group was at least 55 percent of total employment in Driving Industries.

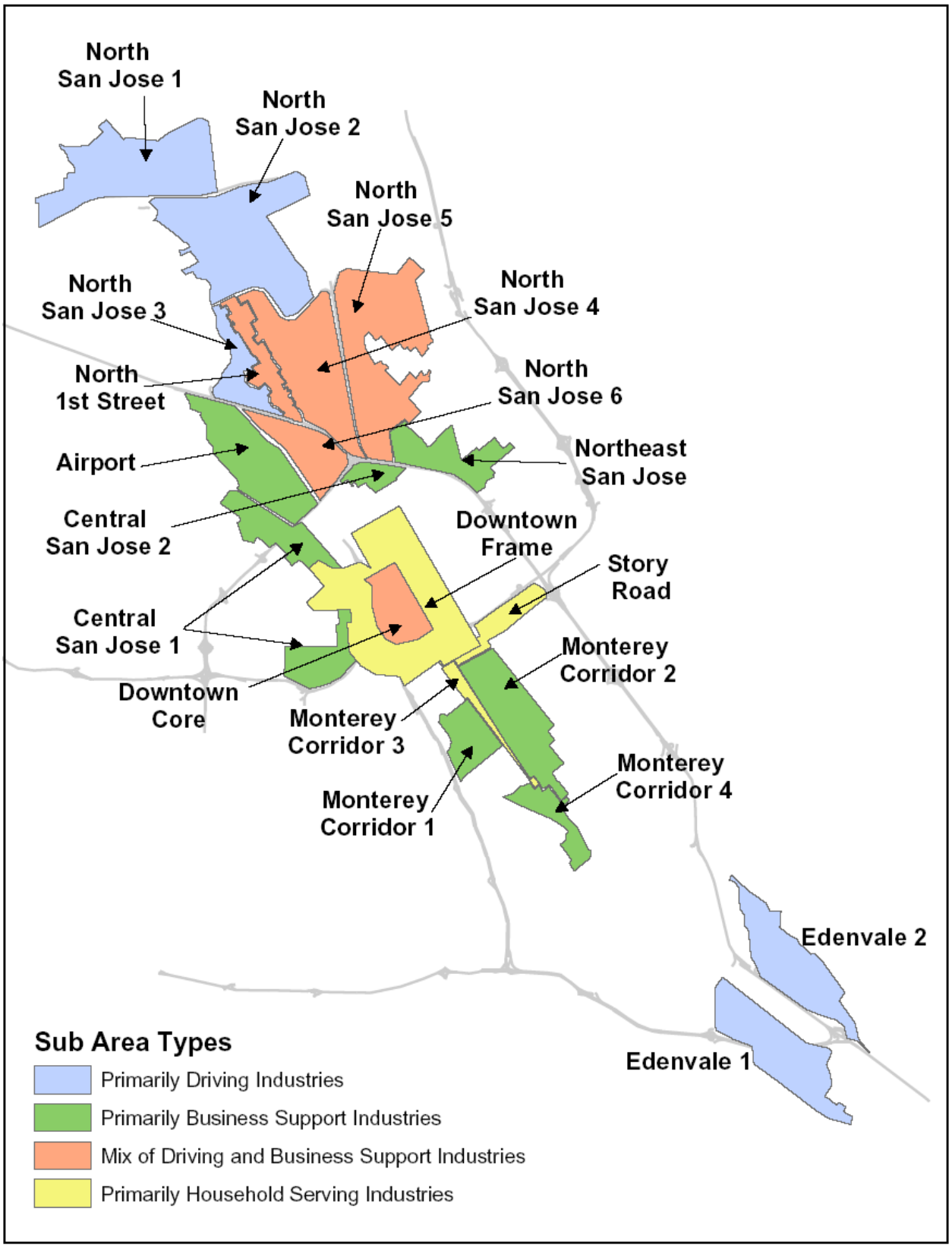
Three subareas—North San Jose 1, North San Jose 2, and North San Jose 3—are in the northern part of the City. Of these three, North San Jose 1 has the fewest total jobs and the lowest employment density per acre. However, this area also has the highest concentration of driving industry jobs (89 percent), and, as Table 5 shows, more than 70 percent of these jobs are in the Semiconductor industry. North San Jose 2 also has a very high percentage of its total jobs in Driving Industries, but the industry mix in this subarea is more varied than in North San Jose 1. Computers and Communications Hardware accounts for 41 percent of the jobs, Semiconductors accounts for over 14 percent, and Software accounts for almost 10 percent. The remaining jobs are distributed among a variety of other industries. North San Jose 3 has a similar industry mix to North San Jose 2.

Edenvale 1 and 2 have a slightly lower proportion of jobs in Driving Industries than the other three areas. The highest concentrations of these jobs in both subareas are in the Computer and Communications Hardware industry group.

It is also interesting to note the land use characteristics of these subareas: their share of total parcels in research and development (R&D) uses across all the subareas is higher than their share of parcels in office or manufacturing uses. However, as Table 5 shows, these areas all have a significant proportion of industrial parcels.

[7] The indicator used in Table 6 is a proxy for acres in each land use, which would have been a more suitable measure. The information in the table should therefore be interpreted with caution. For details on why this indicator was used, see the Technical Appendix.

*Figure 5: Employment Subareas Classified According to Economic Development Strategy Typology*



*Type 2: Subareas Where Business Support Industry Employment Predominates*
*Airport; Central San Jose 1 and 2; Monterey Corridor 1, 2, and 4; Northeast San Jose*

These subareas have over 60 percent of their employment in Business Support Industries.

Each one includes a significant proportion of jobs in Building, Construction, and Real Estate; Industrial Services and Supplies; and Transportation and Distribution. The only subarea with a significantly different employment mix is Central San Jose 2, which has a large proportion of Business Services jobs. While nearly all of these uses tend to be lower density and pay lower rents than the Driving Industries, they are all critical to the efficient functioning of both the Driving Industries and the Household-Serving Industries. If uses like these were to be displaced from San Jose, operating costs for Driving Industries and Household-Serving Industries could increase, and the City would lose critical suppliers of mid-wage jobs. Reflecting this lower-intensity use pattern, parcels with industrial land uses are more prevalent in these subareas than areas with other industry mixes.

*Type 3: Subareas With A Mix Of Driving And Business Support Industries*
*North San Jose 4, 5, and 6; North First Street; Downtown Core*

The five subareas categorized in this group contain a rough balance of Driving Industries and Business Support Industries.

Three of these areas, North San Jose 4, 5, and 6, have significant proportions of jobs in Electronic Components Manufacturing and Semiconductors. On the Business Support side, these subareas host a significant proportion of Business Services and Transportation and Distribution jobs.

The Downtown Core and North First Street subareas have a similar employment mix to each other, but are quite different from the other three subareas in this category. These two areas have a much higher percentage of jobs in Innovation Services (i.e., technical services and high-end professional services) in the Driving Industry category, and Business Services in the Business Support category. The differences among these subareas are also reflected in their land use mix: North First Street and the Downtown Core have a higher percentage of office uses than the other areas, which have more parcels with industrial uses.

*Type 4: Subareas Where Household-Serving Employment Predominates*
*Downtown Frame; Story Road; Monterey Corridor 3*

The Downtown Frame, Monterey Corridor 3, and Story Road were categorized as Type 4 subareas due to their high proportion of Household-Serving Industries. Although not necessarily a majority, Household-Serving Industries are the largest group in all these subareas.

Not surprisingly, the Downtown Frame has significant employment in the Civic category, while the other two subareas host mostly employment in the Retail and Consumer Services category.

*Table 4: Subarea Summary Information and Classification*

| | Land Use | | | | | | % Employment in all 21 Subareas | | | Subarea Share of Total Parcels in Employment Areas | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2002 Jobs | Acres | Jobs/ Developed Acre | Vacant Acres | % Vacant | % Total City Jobs | Driving Industries | Business Support | Household-Serving | Industrial | Office | R&D |
| **Type 1 Subareas** | | | | | | | | | | | | |
| *Edenvale 1* | *11,655* | *829* | *16* | *91* | *11%* | *3%* | *67%* | *13%* | *20%* | *2%* | *2%* | *9%* |
| *Edenvale 2* | *1,834* | *803* | *3* | *148* | *18%* | *1%* | *57%* | *24%* | *19%* | *2%* | *0%* | *8%* |
| *North San Jose 1* | *139* | *1,087* | *0* | *584* | *54%* | *0%* | *89%* | *5%* | *6%* | *4%* | *1%* | *4%* |
| *North San Jose 2* | *24,241* | *1,376* | *22* | *279* | *20%* | *7%* | *78%* | *13%* | *9%* | *2%* | *2%* | *28%* |
| *North San Jose 3* | *7,091* | *335* | *29* | *86* | *26%* | *2%* | *79%* | *18%* | *3%* | *2%* | *0%* | *3%* |
| **Type 2 Subareas** | | | | | | | | | | | | |
| *Airport* | *3,079* | *918* | *4* | *113* | *12%* | *1%* | *3%* | *65%* | *32%* | *1%* | *0%* | *0%* |
| *Central San Jose 1* | *11,008* | *857* | *13* | *24* | *3%* | *3%* | *9%* | *56%* | *34%* | *15%* | *23%* | *4%* |
| *Central San Jose 2* | *3,530* | *129* | *29* | *7* | *5%* | *1%* | *4%* | *76%* | *21%* | *4%* | *3%* | *0%* |
| *Monterrey Corridor 1* | *3,681* | *311* | *12* | *9* | *3%* | *1%* | *20%* | *63%* | *17%* | *6%* | *2%* | *1%* |
| *Monterrey Corridor 2* | *9,157* | *770* | *12* | *37* | *5%* | *3%* | *8%* | *67%* | *25%* | *11%* | *1%* | *0%* |
| *Monterrey Corridor 4* | *1,260* | *275* | *5* | *4* | *1%* | *0%* | *6%* | *61%* | *32%* | *2%* | *3%* | *0%* |
| *Northeast San Jose* | *9,259* | *479* | *20* | *5* | *1%* | *3%* | *21%* | *60%* | *19%* | *6%* | *2%* | *0%* |
| **Type 3 Subareas** | | | | | | | | | | | | |
| *Downtown Core* | *20,458* | *287* | *72* | *5* | *2%* | *6%* | *53%* | *23%* | *24%* | *4%* | *15%* | *0%* |
| *North First Street* | *9,176* | *315* | *34* | *47* | *15%* | *3%* | *54%* | *32%* | *14%* | *1%* | *2%* | *2%* |
| *North San Jose 4* | *22,855* | *1,067* | *22* | *31* | *3%* | *6%* | *41%* | *46%* | *13%* | *11%* | *3%* | *12%* |
| *North San Jose 5* | *25,902* | *1,444* | *19* | *66* | *5%* | *7%* | *43%* | *43%* | *14%* | *13%* | *3%* | *27%* |
| *North San Jose 6* | *13,345* | *384* | *35* | *2* | *0%* | *4%* | *38%* | *48%* | *14%* | *3%* | *7%* | *0%* |
| **Type 4 Subareas** | | | | | | | | | | | | |
| *Downtown Frame* | *10,297* | *812* | *13* | *16* | *2%* | *3%* | *15%* | *21%* | *64%* | *6%* | *24%* | *0%* |
| *Monterrey Corridor 3* | *1,346* | *106* | *13* | *3* | *3%* | *0%* | *14%* | *42%* | *44%* | *2%* | *4%* | *0%* |
| *Story Road* | *2,390* | *266* | *9* | *5* | *2%* | *1%* | *5%* | *43%* | *52%* | *2%* | *4%* | *0%* |
| Total All 21 Subareas | 191,702 | 12,850 | 382 | 1,561† | n/a | 54% | n/a | n/a | n/a | 100% | 100% | 100% |
| Rest of City | 163,644 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Total City | 355,345 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |

*Sources: California Employment Development Department, City of San Jose, Strategic Economics*

*†Note: Roughly 20 percent of this acreage will likely be unusable due to odd parcel configurations and small sizes. Therefore the usable vacant acreage is approximately 1,250 acres.*

*Table 5: Industry Share of Employment (Percent By Subarea)*

| | Type 1 Subareas | | | | | Type 2 Subareas | | | | | | | Type 3 Subareas | | | | | Type 4 Subareas | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group/Industry | Edenvale 1 | Edenvale 2 | N. SJ 1 | N. SJ 2 | N. SJ 3 | Airport | Central 1 | Central 2 | Monterey 1 | Monterey 2 | Monterey 4 | NE SJ | Dntn. Core | N. 1st St. | N. SJ 4 | N. SJ 5 | N. SJ 6 | Dntn. Frame | Monterey 3 | Story Road |
| Driving Industries: | 66.7 | 57.0 | 89.2 | 77.9 | 78.9 | 2.6 | 9.4 | 3.5 | 20.0 | 8.2 | 6.5 | 21.0 | 52.9 | 54.4 | 40.9 | 42.5 | 37.8 | 14.5 | 13.6 | 4.8 |
| *Bioscience* | 0.0 | 0.0 | 0.0 | 3.1 | 10.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 5.3 | 0.1 | 1.8 | 3.2 | 2.7 | 6.6 | 5.4 | 0.0 | 0.0 |
| *Computer & Communications* | 48.9 | 36.3 | 1.7 | 41.7 | 31.5 | 0.0 | 2.0 | 0.0 | 0.4 | 3.0 | 0.0 | 0.3 | 0.0 | 0.6 | 1.2 | 4.4 | 2.2 | 0.0 | 1.1 | 0.1 |
| *Corporate Offices* | 2.6 | 0.0 | 0.0 | 1.1 | 2.9 | 0.8 | 3.4 | 0.3 | 2.6 | 2.9 | 1.8 | 10.5 | 1.6 | 2.8 | 3.7 | 1.1 | 3.8 | 1.4 | 0.4 | 0.0 |
| *Electronic Components* | 3.2 | 0.0 | 0.0 | 3.4 | 5.3 | 0.2 | 0.1 | 0.7 | 4.2 | 0.6 | 0.0 | 3.9 | 0.1 | 4.2 | 11.7 | 13.8 | 0.5 | 0.0 | 1.7 | 3.8 |
| *Innovation Services* | 4.2 | 0.5 | 0.6 | 2.3 | 0.0 | 0.4 | 1.1 | 2.3 | 12.3 | 1.0 | 0.1 | 0.0 | 22.5 | 26.5 | 2.8 | 3.3 | 7.3 | 6.1 | 8.6 | 0.0 |
| *Semiconductors* | 4.4 | 2.5 | 71.5 | 16.5 | 20.2 | 0.2 | 1.2 | 0.0 | 0.2 | 0.4 | 0.0 | 0.2 | 0.1 | 5.3 | 7.1 | 12.7 | 1.8 | 0.0 | 0.0 | 0.7 |
| *Software* | 3.0 | 12.6 | 15.4 | 9.8 | 8.4 | 1.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.5 | 0.8 | 17.8 | 12.3 | 8.0 | 4.2 | 8.9 | 1.4 | 0.6 | 0.2 |
| *Visitor* | 0.5 | 5.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.1 | 0.2 | 0.4 | 4.0 | 0.0 | 10.7 | 0.8 | 3.2 | 0.3 | 6.7 | 0.2 | 1.3 | 0.0 |
| Business Support Industries: | 13.1 | 23.9 | 4.5 | 13.4 | 18.3 | 65.1 | 56.3 | 75.7 | 63.2 | 67.1 | 61.4 | 60.4 | 23.3 | 31.7 | 46.0 | 43.4 | 48.1 | 21.2 | 42.0 | 43.2 |
| *Building/Construction/Real Estate* | 2.2 | 0.5 | 0.0 | 0.0 | 0.4 | 0.8 | 26.7 | 14.1 | 19.6 | 14.7 | 23.4 | 23.1 | 3.6 | 1.4 | 5.7 | 4.9 | 8.1 | 3.8 | 20.1 | 4.7 |
| *Business Services* | 4.6 | 0.1 | 2.5 | 0.2 | 2.3 | 20.7 | 14.8 | 39.7 | 7.7 | 11.7 | 23.0 | 7.1 | 8.5 | 14.4 | 15.4 | 15.5 | 20.2 | 6.1 | 4.1 | 9.3 |
| *Financial Services* | 1.1 | 8.1 | 0.7 | 0.1 | 0.0 | 0.6 | 1.1 | 0.4 | 0.9 | 0.1 | 0.0 | 0.0 | 9.5 | 5.7 | 0.6 | 0.8 | 5.2 | 3.3 | 1.0 | 0.4 |
| *Industrial Supplies and Services* | 1.6 | 1.6 | 0.0 | 3.0 | 1.0 | 0.0 | 5.0 | 8.7 | 15.1 | 11.2 | 6.5 | 14.5 | 0.0 | 0.4 | 4.8 | 7.6 | 2.3 | 0.8 | 1.0 | 2.5 |
| *Transportation/Distribution* | 0.6 | 3.1 | 0.0 | 0.8 | 0.0 | 0.0 | 1.3 | 2.1 | 4.4 | 4.2 | 2.7 | 4.7 | 0.1 | 0.0 | 3.8 | 0.6 | 0.3 | 2.8 | 0.2 | 6.2 |
| *Miscellaneous Manufacturing* | 2.9 | 10.6 | 1.3 | 9.1 | 14.5 | 43.0 | 7.4 | 10.5 | 14.3 | 25.2 | 5.6 | 10.8 | 1.4 | 9.8 | 15.8 | 13.6 | 11.9 | 4.3 | 15.7 | 20.0 |
| *Other* | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.2 | 1.1 | 0.0 | 0.2 | 0.4 | 0.2 | 0.0 | 0.0 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 |
| Household Support Industries: | 20.2 | 19.0 | 6.3 | 8.7 | 2.8 | 32.3 | 34.3 | 20.8 | 16.8 | 24.7 | 32.1 | 18.6 | 23.8 | 13.9 | 13.0 | 14.1 | 14.1 | 64.2 | 44.3 | 52.0 |
| *Civic* | 3.7 | 0.0 | 0.0 | 5.9 | 0.0 | 5.1 | 8.0 | 1.3 | 0.4 | 7.1 | 5.7 | 6.6 | 7.3 | 5.2 | 1.8 | 6.1 | 3.6 | 31.4 | 0.0 | 2.7 |
| *Health Care* | 1.0 | 7.3 | 0.0 | 0.2 | 0.0 | 0.0 | 3.4 | 0.6 | 0.0 | 3.2 | 0.0 | 0.8 | 0.2 | 0.9 | 0.2 | 0.6 | 1.0 | 7.9 | 0.9 | 1.0 |
| *Retail/Consumer Services* | 15.6 | 11.7 | 6.3 | 2.6 | 2.8 | 27.2 | 22.9 | 18.8 | 16.4 | 14.4 | 26.4 | 11.1 | 16.3 | 7.8 | 11.0 | 7.4 | 9.5 | 25.0 | 43.4 | 48.3 |
| All Industries | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

*Source: California Employment Development Department, Strategic Economics.*

*Table 6: Distribution of Parcels by Land Use Category*

| | Percentage of Parcels In Major Land Use Categories | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Land Use Category | | | | | | | |
| Subarea | Industrial | Office | R&D | Institutional | Residential | Retail | Other/ Unknown | Total |
| **Type 1 Subareas** | | | | | | | | |
| *Edenvale 1* | *29%* | *14%* | *13%* | *2%* | *22%* | *3%* | *16%* | *100.0%* |
| *Edenvale 2* | *37%* | *1%* | *19%* | *3%* | *7%* | *0%* | *34%* | *100.0%* |
| *North San Jose 1* | *14%* | *3%* | *2%* | *1%* | *53%* | *0%* | *28%* | *100.0%* |
| *North San Jose 2* | *10%* | *5%* | *16%* | *1%* | *60%* | *0%* | *8%* | *100.0%* |
| *North San Jose 3* | *42%* | *8%* | *13%* | *0%* | *0%* | *0%* | *37%* | *100.0%* |
| **Type 2 Subareas** | | | | | | | | |
| *Airport* | *93%* | *0%* | *0%* | *0%* | *0%* | *0%* | *7%* | *100.0%* |
| *Central San Jose 1* | *26%* | *21%* | *1%* | *2%* | *42%* | *0%* | *8%* | *100.0%* |
| *Central San Jose 2* | *47%* | *15%* | *0%* | *1%* | *29%* | *0%* | *8%* | *100.0%* |
| *Monterey Corridor 1* | *52%* | *8%* | *1%* | *0%* | *30%* | *0%* | *8%* | *100.0%* |
| *Monterey Corridor 2* | *86%* | *5%* | *0%* | *0%* | *3%* | *0%* | *5%* | *100.0%* |
| *Monterey Corridor 4* | *36%* | *28%* | *0%* | *0%* | *25%* | *0%* | *12%* | *100.0%* |
| *Northeast San Jose* | *70%* | *9%* | *0%* | *1%* | *3%* | *0%* | *17%* | *100.0%* |
| **Type 3 Subareas** | | | | | | | | |
| *Downtown Core* | *12%* | *25%* | *0%* | *4%* | *30%* | *16%* | *14%* | *100.0%* |
| *North First Street* | *39%* | *44%* | *8%* | *5%* | *0%* | *0%* | *3%* | *100.0%* |
| *North San Jose 4* | *74%* | *11%* | *8%* | *0%* | *0%* | *0%* | *7%* | *100.0%* |
| *North San Jose 5* | *69%* | *8%* | *15%* | *1%* | *3%* | *1%* | *3%* | *100.0%* |
| *North San Jose 6* | *5%* | *14%* | *0%* | *0%* | *72%* | *0%* | *10%* | *100.0%* |
| **Type 4 Subareas** | | | | | | | | |
| *Downtown Frame* | *3%* | *8%* | *0%* | *2%* | *83%* | *1%* | *4%* | *100.0%* |
| *Monterey Corridor 3* | *26%* | *28%* | *0%* | *1%* | *36%* | *0%* | *9%* | *100.0%* |
| *Story Road* | *12%* | *14%* | *0%* | *0%* | *67%* | *0%* | *6%* | *100.0%* |
| **Total of Subareas** | **22%** | **12%** | **2%** | **1%** | **52%** | **2%** | **9%** | **100.0%** |

*Source: Santa Clara County Tax Assessor, Strategic Economics.*
*Note: Percentages may not appear to total to 100% due to rounding*

# IV. LAND DEMAND AND SUPPLY DYNAMICS

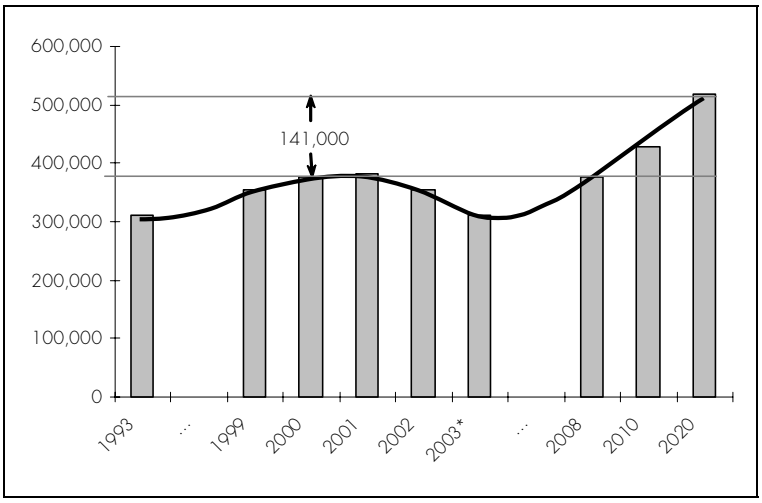
Estimates of future land demand based on projected industry mix and associated building occupancy trends can be useful for crafting appropriate land use policies for San Jose's active employment areas. The following analysis uses employment projections from the Association of Bay Area Governments (ABAG) through 2020 to estimate future land demand in San Jose by industry. This land demand estimate is then compared against land supply and the existing inventory of vacant buildings to better understand the City's capacity to accommodate ABAG's projected job growth through 2020, the timeframe of San Jose's existing General Plan. In addition, future housing demand and its concomitant land requirement are calculated to provide a basis for comparing future employment growth to future housing growth.

## PROJECTED EMPLOYMENT GROWTH

ABAG's most recent employment projections[8] show San Jose's economy adding approximately 141,000 jobs between 2000 and 2020. Driving Industries are projected to add approximately 50,000 new jobs during that period; Business Support Industries will add 44,000 new jobs; and Household-Serving Industries will add 47,000 new jobs.

It is important to note that the City's current 2003 employment level is below the 2000 level, so these figures represent net increases over the 2000 level, not the total number of jobs projected to be added from now to 2020. The ABAG projections assume that San Jose returns to 2000 job levels around 2008 or 2009, and then experiences job growth averaging 2.7 percent annually through 2020. San Jose in 2020, thus, has 141,000 more jobs than it had in 2000. Figure 5 shows employment trends in San Jose from 1993 to 2020.

*Figure 5: San Jose's Projected Employment, 2000-2020*




[8] Association of Bay Area Governments, *Projections 2003*, June 2003.

*Table 7: Projected Employment Increase by Industry, 2000-2010, 2011-2020*

| Group/Industry | 2000-2010 | 2011-2020 | 2000-2020 |
|---|---|---|---|
| Driving Industries | 18,594 | 31,744 | 50,337 |
| *Bioscience* | *6,984* | *6,984* | *13,968* |
| *Computer & Communications* | *210* | *3,601* | *3,811* |
| *Corporate Offices* | *99* | *1,696* | *1,795* |
| *Electronic Component* | *179* | *3,064* | *3,242* |
| *Innovation Services* | *45* | *769* | *814* |
| *Semiconductors* | *110* | *1,886* | *1,996* |
| *Software* | *10,926* | *13,042* | *23,968* |
| *Visitor* | *41* | *703* | *744* |
| Business Support Industries | 16,153 | 27,577 | 43,731 |
| *Building/Construction/Real Estate* | *594* | *1,014* | *1,608* |
| *Business Services* | *1,292* | *2,206* | *3,498* |
| *Financial Services* | *4,424* | *7,554* | *11,978* |
| *Industrial Supplies and Services* | *1,087* | *1,856* | *2,943* |
| *Miscellaneous Manufacturing* | *2,380* | *4,064* | *6,444* |
| *Other* | *3,110* | *5,310* | *8,420* |
| *Transportation/Distribution* | *3,265* | *5,575* | *8,840* |
| Household Supporting Industries | 17,343 | 29,609 | 46,952 |
| *Civic* | *7,285* | *12,437* | *19,723* |
| *Health Care* | *2,219* | *3,789* | *6,008* |
| *Retail/Consumer Services* | *7,839* | *13,382* | *21,221* |
| Total Employment Increase | 52,090 | 88,930 | 141,020 |

*Source: ABAG, Whitney & Whitney, Strategic Economics.*

## SPACE DEMAND BY INDUSTRY AND BUILDING TYPE

In order to translate employment projections into estimates of demand for built space and land, it is necessary to make assumptions about building occupancy and development intensity. A basic assumption underlying the demand projections in this report is that most industries will use both buildings and land more intensively over the next 20 years, e.g. that software firms will continue to shift from low-rise R&D space to low-rise office space to high-rise office, with higher building densities on land and higher employment densities within buildings.

Given changing building occupancy trends and development intensity over time, this analysis uses two sets of assumptions: one for the 2000-2010 time period and a different one for 2011-2020. These assumptions, shown in Table 8 and Table 9, are based on focus group discussions with San Jose commercial/industrial real estate brokers, developers, and businesses.

*Table 8: Future Distribution of Demand for Building Types, By Industry, 2000-2010, 2011-2020*

| | 2000-2010 | | | | | | | 2011-2020 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Group/Industry | Industrial/ Warehousing | R & D/ 'Heavy' Office | Low-Rise Office | Mid & High Rise Office | Retail | Institutional/ Other | Total | Industrial/ Warehousing | R & D/ 'Heavy' Office | Low-Rise Office | Mid & High Rise Office | Retail | Institutional/ Other | Total |
| **Driving Industries** | | | | | | | | | | | | | | |
| *Bioscience* | 20% | 30% | 50% | – | – | – | 100% | 15% | 20% | 65% | – | – | – | 100% |
| *Computer & Communications* | 20% | 30% | 50% | – | – | – | 100% | 15% | 20% | 65% | – | – | – | 100% |
| *Corporate Offices* | – | – | 40% | 60% | – | – | 100% | – | – | 40% | 60% | – | – | 100% |
| *Electronic Components* | 45% | 25% | 30% | – | – | – | 100% | 25% | 30% | 45% | – | – | – | 100% |
| *Innovation Services* | 10% | 10% | 50% | 30% | – | – | 100% | 5% | 5% | 50% | 40% | – | – | 100% |
| *Semiconductors* | 25% | 25% | 50% | – | – | – | 100% | 15% | 15% | 70% | – | – | – | 100% |
| *Software* | – | 20% | 55% | 25% | – | – | 100% | – | 10% | 50% | 40% | – | – | 100% |
| *Visitor Services* | – | – | – | – | 10% | 90% | 100% | – | – | – | – | 10% | 90% | 100% |
| **Business Support Industries** | | | | | | | | | | | | | | |
| *Building Construction/Real Estate* | 10% | – | 35% | 25% | – | – | 100% | 10% | – | 30% | 30% | – | – | 100% |
| *Business Services* | 20% | 10% | 35% | 35% | – | – | 100% | 20% | 10% | 30% | 40% | – | – | 100% |
| *Consumer Services* | 10% | – | 10% | 60% | – | 20% | 100% | 10% | – | 10% | 50% | 10% | 20% | 100% |
| *Financial Services* | – | – | 45% | 45% | 10% | – | 100% | – | – | 30% | 60% | 10% | – | 100% |
| *Industrial Supplies and Services* | 90% | 10% | – | – | – | – | 100% | 90% | 10% | – | – | – | – | 100% |
| *Miscellaneous Manufacturing* | 80% | 20% | – | – | – | – | 100% | 70% | 30% | – | – | – | – | 100% |
| *Transportation/Distribution* | 75% | 10% | 10% | 5% | – | – | 100% | 60% | 15% | 15% | 10% | – | – | 100% |
| **Household Support Industries** | | | | | | | | | | | | | | |
| *Civic* | – | – | 15% | 10% | – | 75% | 100% | – | – | 10% | 15% | – | 75% | 100% |
| *Health Care* | – | – | 40% | 10% | – | 50% | 100% | – | – | 40% | 10% | – | 50% | 100% |
| *Retail* | 5% | – | 2.5% | 2.5% | 90% | – | 100% | 5% | – | 2.5% | 2.5% | 90% | – | 100% |

*Source: Strategic Economics, Whitney & Whitney*

*Table 9: Building and Land Utilization Assumptions by Building Type, 2000-2010, 2011-2020*

| | Industrial/ Warehousing | R & D/ "Heavy " | Low-Rise Office | Mid & High Rise Office | Retail | Institutional/ Other |
|---|---|---|---|---|---|---|
| Square Feet Per Employee | | | | | | |
| *2000-2010* | *500* | *350* | *300* | *300* | *500* | *350* |
| *2011-2020* | *500* | *300* | *250* | *250* | *500* | *350* |
| Floor Area Ratio | | | | | | |
| *2000-2010* | *0.5* | *0.35* | *0.5* | *0.8* | *0.25* | *0.25* |
| *2011-2020* | *0.5* | *0.45* | *0.55* | *1.2* | *0.35* | *0.35* |

*Source: Strategic Economics, Whitney & Whitney, based on developer/industry focus groups.*

Increasing efficiency in the use of building space stems from two main changes. First, certain Driving Industries are showing a shift in the nature of their activities. Bioscience, for example, includes a growing amount of bioinformatics, which applies computer power and computational techniques to genetic information. Because this is essentially an office-based activity that does not require wet labs, the industry as a whole will use an increasing amount of office space, with less equipment and space per employee, as well as the industrial and R&D buildings traditionally associated with the industry.

Second, as other industries change and become more global in nature, they are choosing to retain only their highest-value activities in San Jose. This trend has been visible in the semiconductor industry for decades, which long ago moved its large-scale manufacturing out of Silicon Valley to lower-cost areas. In the future, it is likely that the San Jose functions of such industries as Semiconductors, Electronic Components, and Computer and Communications will include high-level activities such as corporate leadership, design, and software architecture, as well as a certain amount of prototyping, but very little manufacturing or "dirty" R&D. As a result, building space needs will continue to shift towards office and R&D buildings.

These changes, along with a rising cost of land, will drive an intensification of the development of land, as measured by increasing floor-area ratio (FAR), i.e., the amount of built space on any given parcel of land. Not only will there be more employees in a building of a given size, but it will be more feasible to build taller office and R&D buildings since there will be less need for the horizontal layout, loading docks, and other features of traditional industrial and R&D buildings. Adobe's headquarters in the downtown area represents a building type that can accommodate some high-tech uses in a high-rise format within an urban context. The trends above will drive more firms in the Driving Industries to move to this type of structure.

The Driving Industries are projected to have the greatest gains in building efficiency, since many of these businesses are well suited to operating in more vertical buildings. For example, R&D or "heavy office" space can include multi-story buildings that still have some of the features of industrial buildings such as roll-up doors, lab space, and/or reinforced floors capable of supporting heavy loads. "Heavy" office space is defined as having the extra power supply and heating/cooling systems necessary to support powerful computing work stations.

Business Support Industries are also projected to have some intensification in their building types, but by definition, these businesses tend to require more horizontal building space or outdoor storage areas to accommodate equipment and materials.

The Household-Serving Industries are expected to show the least amount of change in their building types over the next twenty years because they show little likelihood of seeing the same trends in space efficiency as the industries discussed above. A retail store will likely require a similar amount of space per employee in 2020 as it does today, although there will be some increase in FAR due to, for example, multi-story retail uses.

Even with these intensification trends, it is clear that, with a few exceptions, most of the Driving and Business Support Industries are expected to locate in industrial/R&D buildings and heavy and mid-rise offices, while the Household-Serving Industries are projected to use office buildings, retail space, and other institutional buildings.

Before applying the assumptions presented in Table 8 and Table 9 to ABAG's employment projections to estimate future demand for built space in San Jose, it is important to step back and consider this demand within a broader market context. In 2000, which is the first year of the ABAG employment forecast, San Jose's economy was booming: as Table 10 shows, vacancy rates were extremely low for all of the building types typically occupied by Driving Industries and Business Support Industries. Although this inventory is not complete either in terms of total supply or vacant space, it is the best available source of information regarding real estate market conditions in San Jose. At that time, the City had almost 99 million total square feet of space in all of the industrial/R&D/office buildings and only about 2 million square feet were vacant.

*Table 10: Building Space Inventory, 2000*

| | Industrial/ Warehouse | R&D Office/"Heavy" and Low-rise Office | Other Office | Total |
|---|---|---|---|---|
| Approximate Total Built Space | 37,709,145 | 41,682,907 | 19,297,872 | 98,689,925 |
| Vacant Space | 737,586 | 1,075,419 | 544,200 | 2,357,205 |
| Vacancy Rate | 2% | 3% | 3% | 2% |

*Source: Colliers International, Strategic Economics*

By 2003, the economic downturn was in full effect and vacant space, as shown in Table 11, had increased to 16.6 million square feet—a 600 percent increase in three years. While all categories of the industrial/warehouse/office space experienced huge increases in the volume of unoccupied space, the R&D/heavy/low-rise office buildings experienced the largest increases in both percentage and absolute terms, with about 9 million square feet of space vacant by 2003. In addition, Silicon Valley brokers indicate that there is additional unused space that is not on the market (so-called "phantom space"); however, there are no known data sources that count this extra vacant space.

*Table 11: Building Space Inventory, 2003*

| | Industrial/ Warehouse | R&D Office/"Heavy" and Low-rise Office | Other Office | Total |
|---|---|---|---|---|
| Vacant Space 2003 | 4,664,644 | 9,126,269 | 2,854,805 | 16,645,718 |
| Increase in Vacant Space | 3,927,058 | 8,050,850 | 2,310,605 | 14,288,513 |
| Percent Increase over 2000 | 532% | 749% | 425% | 606% |
| Obsolete Vacant Space 2003 | 900,000 | 1,800,000 | 300,000 | 3,000,000 |
| Vacant Usable Space | 3,764,644 | 7,326,269 | 2,554,805 | 13,645,718 |

*Source: Colliers International, Strategic Economics*

The 20-year employment forecast projects a net increase of 141,000 jobs over the 2000 level by 2020, irrespective of market fluctuations in specific interim years. In this sense, the current vacancy rate, while significant, is not particularly relevant to the long-term estimate of demand for land and built space. In other words, since San Jose's 2000 employment level essentially equaled the City's capacity (i.e., its supply of real estate was nearly full, as indicated by the very low vacancy figures), it seems reasonable to assume that virtually all the growth above and beyond the point where San Jose regains its 2000 employment level will require construction of new space.

In fact, new construction is likely even before the City regains its 2000 employment level, since the supply of currently vacant space is unlikely to be fully re-absorbed for two reasons. First, according to Colliers International, approximately 18 percent of the currently vacant space (3 million of 16.6 million vacant square feet) is functionally obsolete and unlikely to ever be occupied again. Therefore, this space should not be considered part of the available supply. Second, the vacancy level seen in 2000 was unusual, and in the future San Jose will likely see a more typical vacancy rate of about 5 to 10 percent, meaning that not all the currently vacant space will be absorbed before new construction is stimulated.

Therefore, the existing supply of vacant space can accommodate much of the City's job growth before 2008, but not all of it. Even some of the jobs created before 2008 will likely stimulate new construction, as some firms will prefer new space to existing vacant space. Although demand for industrial/R&D/office space is slack now, it will increase as employment rises and as the currently vacant space is absorbed. After 2008 most employment growth will translate into new construction.

Table 12 shows the space requirements needed to accommodate the projected net job growth through 2020 by industry and building type. In considering the information in Table 12, it is important to note that is a summary of the data and that the different employment densities and FAR assumptions have been applied for the appropriate timeframes to develop this overall demand estimate.[9]

[9] The Technical Appendix contains a description of the specific application of these assumptions.

*Table 12: Space Demand by Industry and Building Type, 2000-2020*

| Group/Industry | Industrial/ Warehousing | R & D/ "Heavy " Office | 2000-2020 Low-Rise Office | Mid & High Rise Office | Retail | Institutional/ Other | Total |
|---|---|---|---|---|---|---|---|
| Driving Industries | 2,113,107 | 2,945,524 | 7,226,498 | 2,476,718 | 37,183 | 234,256 | 15,033,286 |
| *Bioscience* | *1,222,214* | *1,152,377* | *2,182,517* | *0* | *0* | *0* | *4,557,108* |
| *Computer & Communications* | *291,061* | *238,097* | *616,635* | *0* | *0* | *0* | *1,145,792* |
| *Corporate Offices* | *0* | *0* | *181,434* | *272,150* | *0* | *0* | *453,584* |
| *Electronic Components* | *423,131* | *291,347* | *363,402* | *0* | *0* | *0* | *1,077,880* |
| *Innovation Services* | *21,468* | *13,105* | *102,858* | *80,941* | *0* | *0* | *218,373* |
| *Semiconductors* | *155,233* | *94,515* | *346,628* | *0* | *0* | *0* | *596,375* |
| *Software* | *0* | *1,156,083* | *3,433,025* | *2,123,626* | *0* | *0* | *6,712,734* |
| *Visitor Services* | *0* | *0* | *0* | *0* | *37,183* | *234,256* | *271,439* |
| Business Support Industries | 9,928,035 | 1,377,320 | 1,651,932 | 3,273,789 | 678,095 | 838,462 | 17,747,633 |
| *Building Const./Real Estate* | *80,419* | *0* | *138,452* | *120,629* | *0* | *0* | *339,500* |
| *Business Services* | *349,796* | *111,399* | *301,110* | *356,257* | *0* | *0* | *1,118,562* |
| *Consumer Services* | *598,901* | *0* | *321,573* | *1,740,597* | *377,679* | *838,462* | *3,877,212* |
| *Financial Services* | *0* | *0* | *583,786* | *867,959* | *300,416* | *0* | *1,752,161* |
| *Industrial Supplies & Services* | *2,899,651* | *205,211* | *0* | *0* | *0* | *0* | *3,104,861* |
| *Miscellaneous Manufacturing* | *3,102,350* | *695,561* | *0* | *0* | *0* | *0* | *3,797,911* |
| *Transportation/Distribution* | *2,896,918* | *365,149* | *307,012* | *188,348* | *0* | *0* | *3,757,427* |
| Household Support Industries | 530,523 | 0 | 1,097,246 | 906,398 | 9,549,410 | 5,692,205 | 17,775,782 |
| *Civic* | *0* | *0* | *638,766* | *684,957* | *0* | *5,177,165* | *6,500,887* |
| *Health Care* | *0* | *0* | *316,051* | *79,013* | *0* | *515,041* | *910,105* |
| *Retail* | *530,523* | *0* | *142,429* | *142,429* | *9,549,410* | *0* | *10,364,791* |
| Grand Total | 12,571,665 | 4,322,844 | 9,975,676 | 6,656,905 | 10,264,689 | 6,764,922 | 50,556,702 |

*Source: ABAG, Whitney & Whitney, Strategic Economics*

About one-third of this future demand is expected for retail and institutional space, the uses that currently have the lowest presence in the active employment land. The other two-thirds of the space demand, totaling approximately 33.5 million square feet, is projected for industrial/R&D/office buildings that would be occupied primarily by Driving Industries and Business Support Industries.

## EMPLOYMENT LAND DEMAND

Net new job growth will create demand for approximately 2,700 acres of land in San Jose by 2020, as shown in Table 13. This calculation is based on the above calculations of demand for new built space and the FAR assumptions depicted in Table 9. Over one-half of this land—roughly 1,450 acres—is expected to be used by the Driving Industries and Business Support Industries that are the primary occupants of most of the active employment subareas.

*Table 13: Land Demand (Acres) by Industry and Building Type, 2000-2020*

| Group/Industry | Industrial/ Warehousing | R &D / "Heavy " Off | Acres Low-Rise Office | Mid & High Rise Office | Subtotal | Retail | Institutional/ Other | Total |
|---|---|---|---|---|---|---|---|---|
| *Driving Industries* | 97 | 173 | 314 | 55 | 639 | 2 | 16 | 655 |
| *Bioscience* | 56 | 69 | 95 | 0 | 221 | 0 | 0 | 221 |
| *Computer & Communications* | 13 | 12 | 26 | 0 | 52 | 0 | 0 | 52 |
| *Corporate Offices* | 0 | 0 | 8 | 5 | 13 | 0 | 0 | 13 |
| *Electronic Components* | 19 | 15 | 15 | 0 | 50 | 0 | 0 | 50 |
| *Innovation Services* | 1 | 1 | 4 | 2 | 8 | 0 | 0 | 8 |
| *Semiconductors* | 7 | 5 | 15 | 0 | 27 | 0 | 0 | 27 |
| *Software* | 0 | 70 | 151 | 48 | 269 | 0 | 0 | 269 |
| *Visitor Services* | 0 | 0 | 0 | 0 | 0 | 2 | 16 | 16 |
| *Business Support Industries* | 456 | 77 | 72 | 75 | 680 | 47 | 63 | 743 |
| *Building Const./Real Estate* | 4 | 0 | 6 | 3 | 12 | 0 | 0 | 12 |
| *Business Services* | 16 | 6 | 13 | 8 | 44 | 0 | 0 | 44 |
| *Consumer Services* | 27 | 0 | 14 | 41 | 82 | 25 | 63 | 146 |
| *Financial Services* | 0 | 0 | 26 | 19 | 45 | 23 | 0 | 45 |
| *Industrial Supplies & Services* | 133 | 12 | 0 | 0 | 145 | 0 | 0 | 145 |
| *Miscellaneous Manufacturing* | 142 | 39 | 0 | 0 | 181 | 0 | 0 | 181 |
| *Transportation/Distribution* | 133 | 20 | 13 | 4 | 171 | 0 | 0 | 171 |
| *Household Serving Industries* | 24 | 0 | 48 | 20 | 93 | 719 | 429 | 521 |
| *Civic* | 0 | 0 | 28 | 15 | 43 | 0 | 390 | 433 |
| *Health Care* | 0 | 0 | 14 | 2 | 16 | 0 | 39 | 54 |
| *Retail* | 24 | 0 | 6 | 3 | 34 | 719 | 0 | 34 |
| Grand Total | 577 | 250 | 434 | 151 | 1,412 | 769 | 507 | 1,919 |

*Source: ABAG Projections 2003, Whitney & Whitney, Strategic Economics*
*Note: Numbers do not add to totals shown due to rounding*

These estimates of land demand can be compared to the almost 1,600 acres of vacant land in the active industrial areas, as shown in Table 4 on page 38. While at first glance it may appear that the supply of vacant land could easily accommodate the demand for Driving and Business Support Industries, several factors should temper this conclusion. First, retail and other uses, including housing, could absorb some of this vacant land. Retail uses alone will require roughly 700 acres of land to accommodate demand for new space, although this demand does not have to be accommodated in the active employment areas. Some of the retail demand has already been met due to the recent Valley Fair and Oakridge expansions. In addition, in order for the market to return to a normal vacancy rate of 5 to 10 percent, excess space must be built. The actual amount of land absorbed would therefore be higher than the 1,450 acres calculated above. Finally, some of the 1,600 vacant acres may not be buildable for any number of reasons including oddly configured parcels, poor access, etc. A previous study of land supply in San Jose concluded that approximately 20 percent of supply is never absorbed. Therefore, the true figure for supply may be lower (i.e., 1,250 acres), while the true figure for demand may be higher.

Equally importantly, demand may not match supply in spatial terms. Given the heterogeneity of the subareas, some may experience far more demand than others, and those may be precisely

the subareas with less vacant land. Supply and demand are very place-specific, whereas the numbers above are global throughout the subareas.

Thus, at some point in the future land demand is likely to be accommodated on sites that are in existing active employment subareas but are currently occupied by older buildings that are "underutilized" in economic terms and appropriate for redevelopment with newer and possibly more intensive uses. However, there are no reliable data on how much built space or land in San Jose is currently "underutilized." Traditional measures of underutilization are highly flawed and should only be used in situations where they can be verified with field observations. In most cases, even with fieldwork, the decision to define property as "underutilized" can be extremely subjective. This issue is further complicated by the nature of industrial space, which, even if it is not being used for its original purpose, is rarely completely vacant. Instead, property owners will rent space at prices that may be well below the market rate, but that may still yield a satisfactory return to that particular owner.

The preceding discussion underscores the value of vacant (and underutilized) land in key employment areas, as well as the need for land use policies that promote efficient use of the City's land supply. Although San Jose has enough land in the aggregate to accommodate projected employment growth in Driving and Business Support Industries through 2020, the surplus is not great. Other planned vacant lands outside of the active employment subareas include approximately 1,700 acres in North Coyote Valley and Evergreen. These lands may represent alternative locations for future employment growth through 2020 and beyond. Moreover, demand may be concentrated in a few areas rather than across the entire supply, and if firms cannot find space in those areas they may look outside the City rather than to other parts of San Jose where land supply does exist. Land use policy, primarily the encouragement and facilitation of intensification in key areas, will therefore play an important role in helping the City reach its economic potential.

## RESIDENTIAL UNIT AND LAND DEMAND

Although housing is not the primary focus of this analysis, market demand for housing is probably stronger than for any other product type in the Bay Area, and to the extent that there might be some "slack" in the employment land supply, at this moment in time it would most likely be residential development that would use this land. Table 14 shows that approximately 63,000 new housing units will be necessary in San Jose by 2020 to satisfy projected demand, according to an estimate based on ABAG population projections. According to calculations completed as part of this study, only about 27 percent of those units would be single-family homes (including attached townhouses), while the vast majority of demand would be for higher density products. This trend reflects changing demographic conditions in San Jose, including an aging population.[10]

Based on the residential densities envisioned in the City's General Plan, approximately 2,900 acres of land is needed to support the projected housing demand in San Jose from 2003 to 2020, as shown in Table 15. This is roughly the same amount of land that will be required for employment uses. Despite the fact that single-family homes represent only about one-quarter of the required new units, they account for 67 percent of the total projected land consumption.

San Jose's Vacant Land Inventory identifies approximately 1,800 acres of vacant land currently planned for residential use. Additional land supply exists within Specific Plan areas (e.g., Midtown), the Downtown Core, and transit corridors, which are planned for residential and/or mixed use development but are currently occupied by non-residential uses (e.g., surface parking lots).

[10] See the Technical Appendix for an explanation of this methodology.

*Table 14: Projected Housing Demand (Units), 2003-2020*

| | | Total | 2003-2010 | 2010-2015 | 2015-2020 |
|---|---|---|---|---|---|
| Projected Housing Supply by Major Unit Type | | | | | |
| Single Family Detached and Attached | | 16,868 | 10,749 | 3,704 | 2,415 |
| Multiple Family | | 45,853 | 25,081 | 11,112 | 9,660 |
| Total | | 62,721 | 35,830 | 14,816 | 12,075 |
| Allocation by Unit Type | | | | | |
| Single Family Detached | 75% | 12,651 | 8,062 | 2,778 | 1,811 |
| Single Family Attached (Townhouse) | 25% | 4,217 | 2,687 | 926 | 604 |
| Subtotal | 26.9% | 16,868 | 10,749 | 3,704 | 2,415 |
| Medium-Density Apartments | 37.5% | 17,195 | 9,405 | 4,167 | 3,623 |
| High-Density Apartments | 37.5% | 17,195 | 9,405 | 4,167 | 3,623 |
| High-density Condominiums | 12.5% | 5,732 | 3,135 | 1,389 | 1,208 |
| High Rise Apartments | 12.5% | 5,732 | 3,135 | 1,389 | 1,208 |
| Subtotal | 73.1% | 45,853 | 25,081 | 11,112 | 9,660 |

*Source: ABAG Projections 2003, U.S. Census Bureau, Whitney & Whitney*

*Table 15: Land Requirements (Acres) to Support Residential Demand, 2003-2020*

| | Units per Acre | Acres 2003-2020 | 2003-2010 | 2010-2015 | 2015-2020 |
|---|---|---|---|---|---|
| Single Family Detached | 8 | 1,581 | 1,008 | 347 | 226 |
| Single Family Attached (Townhouse) | 12 | 351 | 224 | 77 | 50 |
| Subtotal | | 1,933 | 1,232 | 424 | 277 |
| Medium-Density Apartments | 35 | 491 | 269 | 119 | 104 |
| High-Density Apartments | 50 | 344 | 188 | 83 | 72 |
| High-density Condominiums | 100 | 57 | 31 | 14 | 12 |
| High Rise Apartments | 100 | 57 | 31 | 14 | 12 |
| Subtotal | | 950 | 520 | 230 | 200 |
| Grand Total | | 2,883 | 1,751 | 655 | 477 |

*Source: ABAG Projections 2003, U.S. Census Bureau, Whitney & Whitney*

## ACCOMMODATING DEMAND FOR EMPLOYMENT, HOUSING, AND RETAIL LAND

By 2020, San Jose is expected to gain 141,000 new jobs and 63,000 additional housing units. Although the total land demand for employment uses and the demand for residential uses both exceed the supply of vacant land in the employment subareas, there is a relatively close match between vacant land supply in the subareas (1,600 total acres or 1,250 usable acres) and the citywide land demand for Driving Industries and the Business Support Industries (1,450 acres). .

Demand for Driving Industries and the Business Support Industries is expected to be primarily concentrated in the existing active employment subareas, although it is not entirely clear exactly which subareas would experience the highest demand for which building types. As the supply of vacant land decreases, particularly in the subareas experiencing the highest levels of demand, there will probably be increasing pressure to redevelop functionally obsolete buildings for more intensive uses or to expand into new employment areas such as Coyote Valley. These pressures would occur sooner if active employment land is redeveloped for non-employment uses.

Both housing and retail are crucial to the future of the City's economy, and it is important to find adequate land to accommodate their projected growth. Housing production is crucial for mitigating further cost of living increases, for maintaining quality of life in the City, and for the ability of employers to attract the types of workers they need. Retail makes an important contribution to both the City's fiscal and economic base and to its quality of life by providing both essential services and amenities that support housing and make San Jose an attractive place to live. However, a recent study has shown that San Jose is not capturing its full potential of retail sales, highlighting the need to develop more retail. [11]

Projected demand for residential land (2,900 acres) is slightly higher than the projected total demand for employment land (2,700 acres) and more than twice the amount of land required to support future job growth in the Driving Industries and Business Support Industries (1,450 acres). Projected demand for retail land (700 acres) represents a significant portion of the total demand for employment land.

This means that there will be constant pressure to find more land to accommodate housing and retail in San Jose, including in the employment subareas, and that there will be considerable inherent tension in trying to adequately balance the needs of these uses with the employment uses that form the backbone of the City's economy. The next chapter explores the fiscal implications of achieving balance among these uses in different ways within the active employment land. Further policy implications are addressed in Chapter 6.

[11] Metrovation and Bay Area Economics, San Jose Retail Model (Draft), October 2003.

# V. FISCAL ANALYSIS

## CITY BUDGET OVERVIEW

The City of San Jose is a charter city that provides a wide range of traditional municipal and public enterprise services. The City's finances are organized into a series of funds and account groups. The General Fund is the principal City operating fund. In FY 2002-0312, General Fund operating revenues totaled $551.1 million.[13] Departmental expenditures totaled $561.9 million.[14]

Table 16 summarizes the distribution of actual General Fund operating revenues for FY 2002-03, and changes from the prior fiscal year. Tax revenues (i.e., property, sales, utility use and other taxes) accounted for just over half of the total (53 percent). The sales tax was by far the most important source of tax revenues, accounting for about one-third (37 percent) more than what the City received from the property tax, and nearly twice the utility tax, the next two largest tax revenue sources. Most revenue sources declined from the previous year, resulting in an overall loss of 5.5 percent, and continued a downward trend since FY 2000-01.

*Table 16: City of San Jose General Fund Revenues, FY 2002-03 and FY 2001-02*

| Revenue Source/Expenditure Category | FY 02-03 (million $) | Percent of Total | Percent Change from FY 2001-02 |
|---|---|---|---|
| Sales Tax | $127.5 | 23.1% | -7.7% |
| Property Tax | $93.0 | 16.9% | 5.3% |
| Utility Tax | $65.8 | 11.9% | -1.6% |
| Transient Occupancy Tax | $5.8 | 1.1% | -14.7% |
| Franchise Fees | $32.1 | 5.8% | -6.7% |
| Licenses & Permits | $61.6 | 11.2% | 3.9% |
| Fines, Forfeitures & Penalties | $12.3 | 2.2% | 7.0% |
| Uses of Money & Property | $12.0 | 2.2% | -36.8% |
| Intergovernmental Revenues | $106.4 | 19.3% | -4.2% |
| Departmental Charges | $22.8 | 4.1% | -3.0% |
| Interest & Other Revenues | $11.9 | 2.2% | -51.4% |
| Total | $551.1 | 100.0% | -5.5% |

*Sources: City of San Jose Finance Dept. (FY 2002-03 unaudited actuals); City of San Jose, 2003-04 Operating Budget, History & Trend Information; HR&A, Inc.*
*Note: Totals may not sum precisely due to independent rounding.*

[12] FY 2002-03 is the most recent year for which unaudited actual, as distinguished from budgeted, revenue and expenditure values are available.
[13] Not including transfers and reimbursements ($92.3 million) and fund balance ($236.1 million).
[14] Not including other uses of funds ($158.2 million).

On the expenditure side, public safety (i.e., fire and police protection) accounted for about 58 cents out of every dollar of General Fund expenditures, as shown in Table 17. Community Services (i.e., conventions, arts and entertainment, environmental services, library, parks, recreation and neighborhood services, planning, building and code enforcement) was the next largest expenditure category, followed by capital maintenance (general services, public works and transportation) and general government departments. Overall, General Fund expenditures have continued to rise, even in the face of declining general revenues.

*Table 17: City of San Jose General Government Fund Expenditures, FY 2002-03 and FY 2001-02*

| Revenue Source/Expenditure Category | FY 02-03 (million $) | Percent of Total | Percent Change from FY 2001-02 |
|---|---|---|---|
| General Government | $61.9 | 11.0% | 1.1% |
| Public Safety | $323.8 | 57.6% | 7.7% |
| Capital Maintenance | $63.4 | 11.3% | -2.0% |
| Community Services | $112.8 | 20.1% | 0.6% |
| Total | $561.9 | 100.0% | 4.3% |

*Sources: City of San Jose Finance Dept. (FY 2002-03 unaudited actuals); City of San Jose, 2003-04 Operating Budget, History & Trend Information; HR&A, Inc.*

*Note: Totals may not sum precisely due to independent rounding.*

This General Fund revenue-expenditure imbalance has presented the City with significant challenges in balancing its overall budget. City management projects that structural imbalances between projected revenues and the future cost of maintaining existing service levels will be a continuing problem.[15] This is due to a combination of lingering problems with California's system of public finance, slow recovery of the regional economy from the events of September 11, 2001 and a severe downturn in its Driving Industries, and cost spikes for employee health insurance and pension contributions, among others.

While the City receives revenues from a variety of sources and activities, the annual amounts of those revenues, and their year-to-year fluctuations, are determined largely by forces that are external to it, and not subject to the City's direct control. These include the general condition of the world, national and state economies, which affect the employment outlook, consumer and business spending, interest and investment yield rates, inflation, and the volume of foreign trade. Population growth and demographic trends also exert strong influences on both the revenue and expenditure sides of the City budget.

The Economic Development Strategy explicitly recognizes these facts in its statement that the best way to maintain and improve the fiscal health of the City is to ensure a vibrant economy. This means that economic competitiveness, not fiscal concerns, should be the primary driver of land use policy. The City's land use policy should be designed to attract the types of businesses and

[15] City of San Jose, Adopted 2003-04 Operating Budget, Volume I, Chapter VI (General Fund Revenue Estimates), 2003, p. VI-1 to VI-7.

employees that will drive and support a strong economy by providing sufficient and appropriate employment uses and housing, creating vibrant neighborhoods, and ensuring that residents are well connected to jobs and services with a variety of transportation choices.

Nevertheless, fiscal implications should be one criterion used for setting land use policies for San Jose's employment areas. The other goals that will drive decisions about these areas are not necessarily incompatible with fiscally sound land use policies; indeed, in many cases they may be complementary, although revenues will rarely be maximized.

This chapter presents the results of the fiscal model that was constructed to understand the relative fiscal performance of different land use and development scenarios in selected active employment subareas. The analysis is limited to four subareas (Monterey Corridor 2, North First Street, North San Jose 2, and North San Jose 5), using empirical data to create a parcel-specific database in each of the four subareas. Therefore, these results should not be compared directly to any findings from other fiscal analyses that have been conducted for the City. This model tests specific development scenarios in specific subareas, and the ability to generalize these findings to the rest of the City is limited.

## FISCAL MODEL INTRODUCTION

The fiscal model was built for four specific subareas: Monterey Corridor 2, North First Street, North San Jose 2, and North San Jose 5. Substantial work was involved in preparing the database for every parcel within the subarea, as explained in the Technical Appendix.

These subareas, shown in Figure 6, were chosen because they represent three of the four subarea types described in Chapter 3: Driving Industries, Business Support Industries, and Driving/Business Support Industries Mix. A subarea was not selected from the Household-Serving Industries type because the fiscal and economic implications of additional conversions in this subarea type are not as critical as in the other types. This is due to the fact that Type 4 subareas, by definition, have a lower proportion of jobs linked to the City's Driving Industries. Therefore, conversion of employment land in these subareas would not displace critical industries or raise concerns about the City's revenue base.

The fiscal model is linked to a GIS-based interface that allows the user to query a database of parcels in the four subareas to determine the characteristics of parcels (size, existing use, assessed value, etc.) and to identify parcels that meet certain criteria. For example, parcels can be selected if they are vacant or considered underutilized on the basis of a low ratio of the assessed value of the improvements to the assessed value of the land (I/L ratio). The model then allows the user to construct development scenarios for each study area. These development scenarios specify a mix of land uses chosen from among ten different development "prototypes," which are based on actual new buildings in San Jose (and in one case in Mountain View). A parcel can be developed with one or more prototypes according to the percentages entered by the user.

*Figure 6: Employment Subareas Tested in the Fiscal Impact Model*

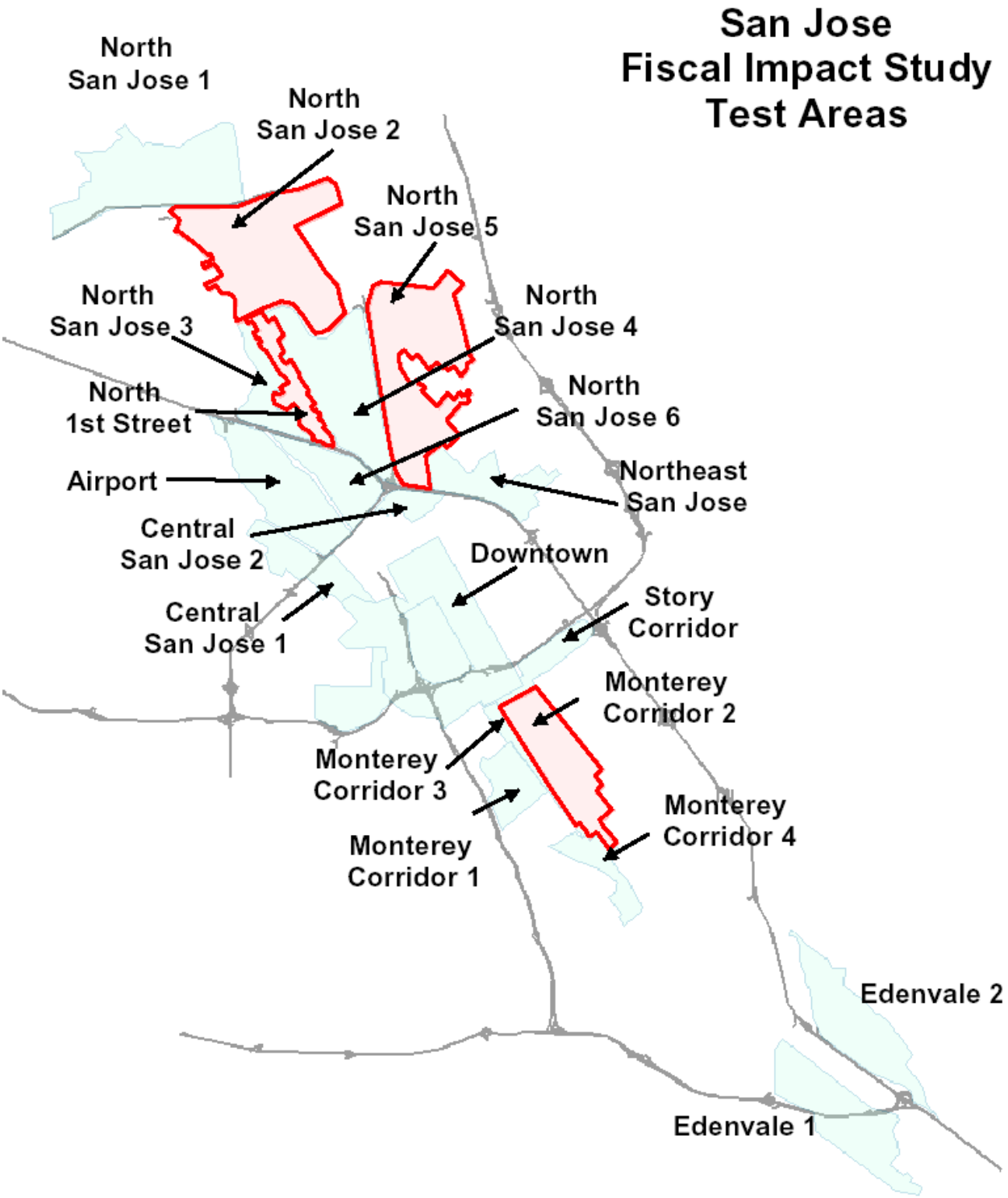



Table 18 shows the development prototypes used in the model. Complete data for the prototypes is presented in the Technical Appendix. All of these development types are based on actual

projects in San Jose (with the exception of the high-rise apartments, which are located in Mountain View). This ensures that the revenue assumptions made about the development occurring in the subarea are empirically based. For the sake of simplicity, all non-residential development types are referred to as "commercial."

*Table 18: Development Prototype Descriptions*

| Development Type | Density/FAR |
|---|---|
| Single-Family Residential (ownership) | 9 units/acre |
| Townhouses (ownership) | 13 units/acre |
| Medium-Density Apartments (rental) | 35 units/acre |
| High-Density Apartments (rental | 53 units/acre |
| High-density Condominiums (ownership) | 100 units/acre |
| High Rise Apartments (rental) | 111 units/acre |
| Low-Rise R&D/Office | 0.44 |
| Mid-Rise Office | 0.73 |
| High-Rise Office | 4.14 |
| Retail | 0.31 |

The model includes both a "static" version that assumes that all development takes place immediately and that calculates the one-time capital costs and revenues and the initial year of recurring costs and revenues, and a "dynamic" version that not only calculates the value of capital and recurring costs and revenues through 2020 but also allows the user to determine the phasing of the development, i.e., the start year and duration of development for each parcel. This report presents only the dynamic results, since they better reflect the cumulative revenues and costs over the study period and represent more realistic phasing assumptions.

Given current market conditions, residential parcels have been set to develop beginning immediately, with office and R&D parcels beginning to develop in 2009. Small parcels (less than three acres) are assumed to be built out in one year, medium ones (between three and eight acres) over two to three years, and large ones (more than eight acres) over a period of five years.

This fiscal model is unique in several key respects. First, it is far more spatially specific than most spreadsheet fiscal models, reflecting the actual attributes of each subarea. For example, in the revenue and cost assumptions account for the presence/absence of Redevelopment Project Areas, service cost differentials across different parts of the City, and other specific geographic assumptions.

Second, the model includes a user-friendly, GIS-based interface that allows the user to build and test development scenarios quickly and easily. The GIS component helps ensure that the development scenarios are realistic given the specific conditions in the subarea, such as existing development on the selected parcels, parcel size, and parcel location (i.e., proximity to major transportation infrastructure, incompatible uses, or other developable land). For example, parcels that were not considered suitable for residential uses for a variety of reasons were not considered as part of the total land available for housing.

Third, the model uses existing, rather than hypothetical, buildings as the basis for making assumptions about the fiscal impact of development scenarios. Scenarios are constructed using a fixed list of development "prototypes" (e.g., 35 unit per acre apartments and high-rise office) for which the property tax characteristics are known.

Finally, the model uses a "marginal" approach to estimate public service costs and revenues, because the analysis is very particular to the specific active employment subareas and not the City as a whole. The marginal (or incremental) approach examines the degree to which a project's service demands can be accommodated by existing service capacities, or would cause the need for an expansion of capacity. It relies, therefore, on case study analysis of service capacity for relevant services, which are place-specific. The marginal cost approach also ignores costs for services that historically do not actually change as each new project is developed.[16] It is also more consistent with the way traffic and other environmental impacts are calculated. On the other hand, it does not account for the sunk (i.e., already expended) cost of producing any existing surplus service capacity, nor the opportunity cost when a project uses up existing service capacity that would then no longer be available to a future project. The Technical Appendix provides more details on this marginal approach.

The remainder of this chapter summarizes the calculations in the model, presents the development scenarios for each subarea, and summarizes the results of running the fiscal model for each scenario. The tables presenting the results are located at the end of the chapter. The major findings are distilled and summarized in Chapter 2 along with the findings from the remainder of the report. The findings stem from both the specific scenarios that were tested and from more general observations that have emerged from the research and analysis completed over the course of constructing the model.

## COSTS AND REVENUES INCLUDED IN THE FISCAL MODEL

This section summarizes the one-time and recurring revenues and costs that are included in the model. The Technical Appendix contains a detailed explanation of each revenue and cost. These revenue and cost assumptions were reviewed by the City's Budget Office and by the relevant operating departments.

### One-Time Revenues

All one-time revenues are calculated for each parcel used in a land use scenario. In the static model, they are all calculated simultaneously. In the dynamic model, they are calculated in the year in which a parcel—or a portion of that parcel—is developed and adjusted for inflation and real estate value appreciation accordingly.

[16] For example, each new project proposed for industrially-designated land does not result in an actual increase in the cost to operate the City's general government departments (e.g., City Manager, City Attorney, or City Clerk), nor even its development-related operating departments (e.g., Public Works and Planning, Building and Code Enforcement Departments), whose project-related costs are generally offset by permit fees.

**Building and Structure Construction Tax** is applied to both commercial and residential construction and is a function of the assessed value of improvements at the time of construction.

**Commercial, Residential, Mobile Home Tax** is applied to both commercial and residential construction and is a function of the assessed value of improvements at the time of construction.

**Residential Construction Tax** is applied only to residential construction and is levied as a per-unit fee that varies by unit type.

**Construction Tax** is levied on all construction on a per-unit or per-square foot basis, depending on the type of project.

**Conveyance Tax** is paid any time a property is sold and is based on the total assessed value of the property. For the purposes of the model, all new development is assumed to be accompanied by a sale. This is the only one-time revenue that can be applied multiple times to a single property, since the model includes a calculation of turnover that simulates property sales, leading not only to an increase in assessed value but also to a new payment of conveyance tax.

**Parkland Impact Fee** applies only to residential prototypes and is based on both the unit type and the subarea where the development occurs.

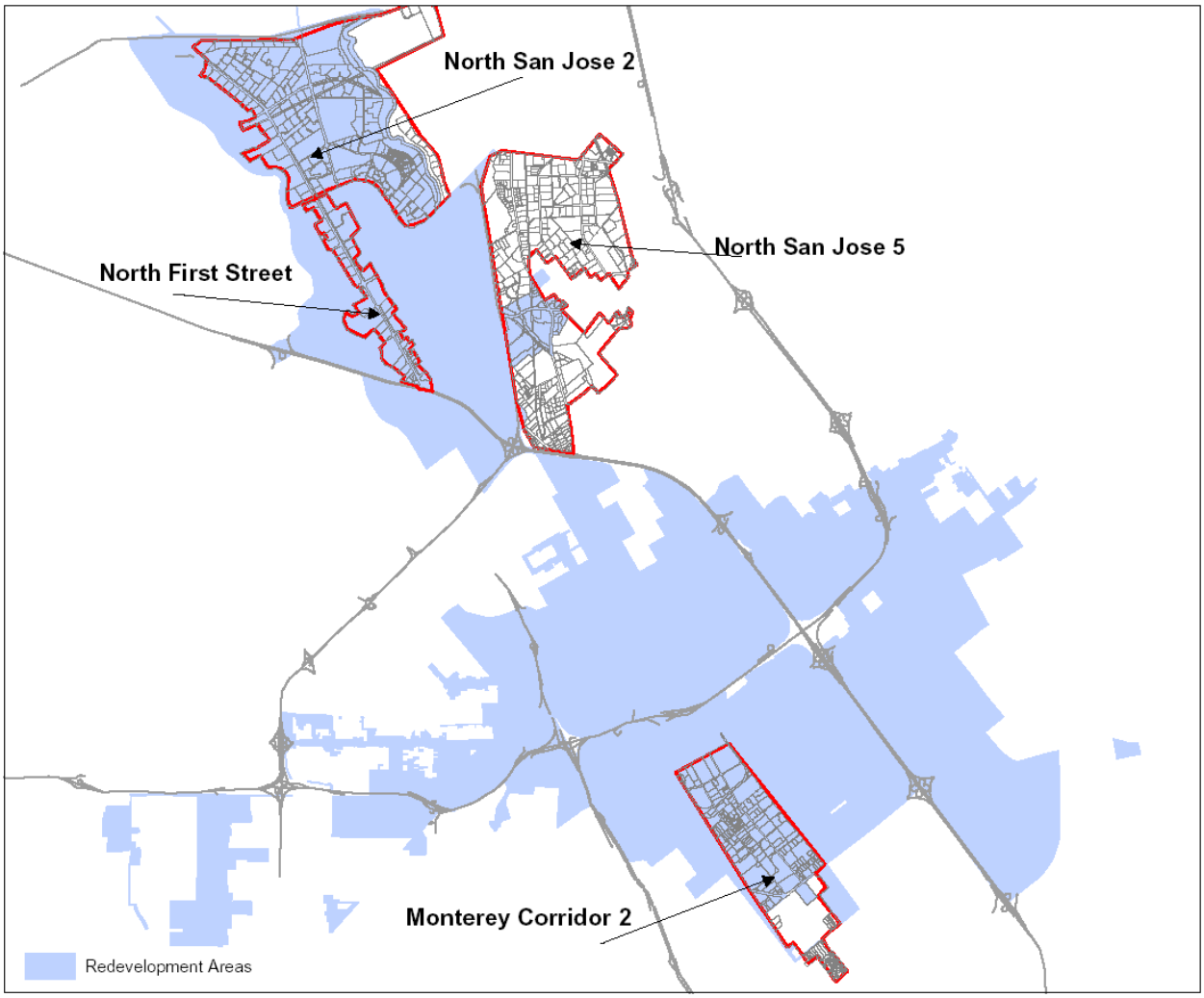
## Recurring Revenues

As with the one-time revenues, recurring revenues are calculated for each parcel. Because the static model does not take time into account, the revenues are all calculated simultaneously. In the dynamic model, they are calculated for every year in the 17-year time period. Before a parcel is developed, property tax is used as a proxy for the total existing recurring revenues from a parcel (due to unreliable data on other recurring revenues such as utility taxes). After the parcel is developed recurring revenues are calculated based on the assumed characteristics of that parcel.

**Property Tax** is the only recurring revenue that varies from subarea to subarea. This is due in part to slightly different shares of the tax collected by the City, but mostly to the presence or absence of Redevelopment Project Areas in each subarea. Parcels that are included in a Redevelopment Project Area generate far more property tax revenue for the City—slightly more than 1 percent of their assessed value every year compared to roughly one-seventh of that amount in non-Redevelopment Areas. However, this larger amount of revenue does not flow to the City's General Fund and has far more restrictions on its use. The Redevelopment Agency can use this revenue in many ways to assist development—by financing infrastructure and other public improvements or by subsidizing desired development—but the money is not generally available for recurring annual costs that must be met with General Fund revenues.

Figure 7 shows the overlap of the active employment subareas tested in the model and the City's Redevelopment Project Areas.

*Figure 7: Overlap of Subareas and Redevelopment Project Areas*




**Utility Tax** is a City tax on electricity, natural gas, water, telephone, and cable TV. Figures were calculated on a per-unit or per-square foot basis. Although water rates, and therefore taxes, do vary from one part of the City to another, the water tax is such a small portion of total recurring revenues that these variations were not taken into account in the model. Neither is the utility tax on telephone or cable TV use, which are also highly variable. For the purposes of the model, then, the utility tax calculation comprises only electricity, natural gas, and water taxes.

**Sales Tax** is calculated on a per-square foot basis for retail projects and for R&D projects, which are assumed to generate, on average, a small amount of business to business sales tax.

**Indirect Household Sales Tax** is an estimate of the amount of additional sales tax flowing to the City's General Fund as a result of increased household spending stemming from any new population added in a scenario. The calculation is calculated on a per-unit basis based on unit type (as a proxy for income) and takes into account whether or not the development scenario includes retail development. If it does, the level of indirect household sales tax is lower in order to

avoid double counting (i.e. counting both household spending and the sales tax generated by retail projects where that spending is most likely to occur).

**Business Tax** is based on the number of employees present in commercial/industrial prototypes.

**Franchise Fees** (for cable television, solid waste collection, etc.) are calculated based on total population (residents and employees) located on the parcel. The per-capita amount used is based on Citywide averages and takes into account the different fee generation of residents and employees.

**Fines and Forfeitures** (e.g., parking tickets) are calculated in the same way as franchise fees.

## Costs

All public service costs are calculated on an subarea-wide basis rather than at the parcel level because the service level requirements are based on the total population of a subarea. Thus, the model uses "triggers" to add a new park or a new fire station when the total number of new residents (or residents and employees) in a development scenario reaches a certain level. 62Table 19 shows these triggers and the associated service costs. All costs have two components: a one-time capital cost and a recurring operating cost. The Technical Appendix provides more details about how the incremental service cost triggers were selected and the details of the one-time and recurring costs for each public service.

**Fire Department** costs are based on the number of residents and employees added to a subarea in a scenario. Although the number of persons necessary to trigger a new fire station varies significantly from subarea to subarea, the costs do not vary once the trigger is met. Fire costs are high: they require a capital investment of $5.4 million (for land acquisition, construction, and purchase of fire trucks) to service a new increment of population and an ongoing operating cost of over $1.8 million annually for staff and supplies. However, the growth increment that triggers these costs is generally quite high.

**Police Department** costs are similar to fire costs, but with less variation in the trigger and much lower cost levels overall.

**Public Library** costs are incurred only for scenarios that include new residential development. Both the costs and the trigger vary from subarea to subarea, and the costs, particularly the capital investment, can be significant: up to $4,000,000 for land acquisition, construction, furnishings, and collections materials. Although there are problems in some of the subareas with a low level of service for the existing population, this is not taken into account in the model because it is assumed that only the cost of meeting the demand created by the new development scenario should be met by the revenues of the scenario; in other words, any unmet need is not the burden of new development.

*Table 19: Trigger and Cost Summary Table*

| Subarea | Trigger (Employees + Residents) | One-time costs | Annual costs |
|---|---|---|---|
| | | Fire | |
| NFS | 10,000 | $5,405,000 | $1,845,000 |
| NSJ2 | 10,000 | $5,405,000 | $1,845,000 |
| NSJ5 | 15,000 | $5,405,000 | $1,845,000 |
| MC2 | 7,500 | $5,405,000 | $1,845,000 |
| | | Police | |
| Subarea | Trigger (Employees + Residents) | One-time costs | Annual costs |
| | | $47,000 | |
| NFS | 5,000 | | $100,632 |
| NSJ2 | 5,000 | $47,000 | $100,632 |
| | | $47,000 | |
| NSJ5 | 5,000 | | $100,632 |
| MC2 | 3,500 | $47,000 | $100,632 |
| | | Parks | |
| Subarea | Trigger (Residents) | One-time costs | Annual costs |
| NFS | 167 | $1,600,000 | $7,500 |
| NSJ2 | 167 | $1,600,000 | $7,500 |
| NSJ5 | 167 | $1,600,000 | $7,500 |
| MC2 | 167 | $1,100,000 | $7,500 |
| | | Libraries | |
| Subarea | Trigger (Residents) | One-time costs | Annual costs |
| | | $4,000,000 | |
| NFS | 12,500 | | $250,000 |
| NSJ2 | 12,500 | $4,000,000 | $250,000 |
| | | $1,500,000 | |
| NSJ5 | 7,500 | | $150,000 |
| MC2 | 7,500 | $1,500,000 | $150,000 |

**Neighborhood Public Park** costs are also incurred only in scenarios with residential development The increment of population needed to trigger the construction of a half-acre neighborhood park is low (167 residents, based on the City's park planning standard of three acres per 1,000 population), and the cost itself high ($1.6 million in all but one of the subareas). Therefore, virtually any amount of housing included in a scenario leads to significant costs. In most scenarios, park costs are by far the highest cost.

Other project impacts, such as traffic impacts, for which environmental mitigation is typically required, are assumed to be paid for or provided by developers and are not assessed in the model. Similarly, it is assumed that all utility systems have sufficient capacity to accommodate the growth increments in the development scenarios.

The analysis assumes that these public services will continue to be delivered in the same way they are delivered today. The model can be used, however, to test the impacts of alternative service delivery models by altering the service triggers, their associated costs, or both.

## DEVELOPMENT SCENARIOS

The development scenarios are designed to test the fiscal impact of possible development scenarios in each of the four active employment subareas included in the model, but are not intended to represent a full range of possible development nor the effects of individual development projects. The model constitutes a tool that can be used by the City for additional analysis in the future.

Scenarios were defined based on the understanding of the subareas gained from the initial employment/land use analysis, and from knowledge of market conditions and the likely direction of future demand, which was gained from meetings with developers, real estate brokers, and corporate facilities managers.

The scenarios are based on assumptions about development on vacant and underutilized land in each subarea. Underutilized land was selected on the basis of I/L ratio and the FAR of the existing development. Although this is problematic for various reasons discussed in the Technical Appendix, it is useful for identifying the amount of land in each subarea that might be redeveloped as a result of projected future growth.

Not all scenarios for a given subarea are based on the same parcels. For example, one of the North San Jose 2 scenarios encompasses significantly more land than the other two. In other cases, the total acreage varies slightly from scenario to scenario simply because a small number of parcels may be developed in one case but not in the other. This is due to the way in which the overall concept of the scenario was translated into parcel-level development in each case.

Although the scenarios were built on the basis of specific parcels, it should not be assumed that those parcels are in any way subject to potential General Plan amendments. For this reason, the discussion of the scenarios shows the total land area devoted to each development type but not the specific parcels chosen. The actual future pattern of development in the subarea may be quite different than the one tested in the model, but the fiscal results are expected to be roughly the same if the scenario were to occur in reality.

The outcome of the scenarios for the General Fund depends on the specific parcels chosen for development and the presence/absence of Redevelopment Project Areas. Three of the subareas—North First Street, North San Jose 2, and Monterey Corridor 2—are entirely or almost entirely included in a Redevelopment Project Area, while North San Jose 5 has only a small portion of its parcels under Redevelopment. In the three former subareas, all of the parcels included in the scenario are in a Redevelopment Project Area, and in the case of North San Jose 5 all but one are not.

Property taxes account for roughly 45 to 65 percent of the recurring revenue generated by a prototype. The sole exception is retail projects, in which sales tax accounts for the vast majority of recurring revenue. When a parcel is located in a Redevelopment Project Area, the City's Redevelopment Agency rather than the General Fund receives the property tax revenue.

Therefore, in most such the General Fund receives less than half the recurring revenue from a parcel than it would in the case of a non-Redevelopment parcel.

Although the size of the service population is the principal determinant of costs, other factors also affect the final cost estimate displayed in the results. The exact mix of residential and commercial development does not affect the extent of the service obligations, which are determined simply by the total number of residents and employees added to the area, but it does affect the year in which capital costs are incurred and therefore the exact value of those costs in current dollars, as well as the total number of years that annual costs must be borne. Since residential development is assumed to begin before commercial/industrial development, scenarios with more housing than commercial development may show somewhat greater costs for fire and police than scenarios with the opposite ratio.

## FISCAL MODEL RESULTS

This model is tailored specifically to the four subareas that are being tested, with different cost and revenue assumptions for each subarea as appropriate. The scenarios designed to test the impact of a specific scenario in a specific subarea, and caution should be used when drawing broad generalizations or conclusions. Likewise, results should not be extrapolated to the City as a whole.

There are three main factors that affect the results of the fiscal model presented:

- First, the nature of the scenarios themselves reflects market conditions in each of the subareas. High-density residential and office development is considered feasible in North First Street and North San Jose 2, but not in the other subareas. By the same token, lower-density R&D and office buildings were deemed more appropriate for North San Jose 5 and Monterey Corridor 2, which have lower land values and are not as well served by transit.
- Second, the costs and, to a lesser extent, the revenues generated by a particular type of development vary from subarea to subarea. Service costs are different and are triggered by a different population threshold in each subarea, and one of the revenues that offsets those costs—the parkland impact fee—varies by subarea as well.
- Finally, the percentage of a subarea that is part of a Redevelopment Project Area is the most important single determinant of the long-term flow of funds into the General Fund. Because of the overlap of the subareas and the Redevelopment Project Areas, property taxes from new development in three of the subareas analyzed—North First Street, North San Jose 2, and Monterey Corridor 2—flow exclusively or nearly exclusively to the Redevelopment Agency, not to the General Fund. A Redevelopment Project Area also creates certain obligations and costs for the City, most notably the need to ensure that 20 percent of any new or rehabilitated housing units in the Redevelopment Project Area meet affordability standards. The model does not take these additional costs into account since it is primarily concerned with the impact of development on the General Fund and these costs are generally borne by developers and the Redevelopment Agency.

The following sections present the scenario results. Tables showing scenario definitions and detailed results are presented after the summaries.

## North First Street

The two scenarios constructed for North First Street both assume a significant amount of high-density development adding a large number of new residents and employees to the area. Both involve roughly 83 acres, slightly more than one quarter of the total land in the subarea.

*Scenario 1: Balanced Residential and Commercial Development*
*3,600 new housing units and 2.4 million square feet of new commercial space*

This scenario, with a roughly equal balance of new residents (7,750) and new employees (7,690), yields a positive balance of capital costs and one-time revenues, but a negative balance of annual costs and revenues. Although residential development rarely generates enough revenue to offset the capital cost of new neighborhood parks service, the commercial development in this scenario generates sufficient one-time revenues to offset that gap.

However, since the General Fund receives no property tax from new development, the annual revenues over the course of the period of analysis are not sufficient to cover the ongoing service costs, the largest of which is to operate a new fire station, plus three additional police patrol officers. Relatively significant reductions in the scale of the scenario are required to bring costs and revenues into better balance.

*Scenario 2: Intensive Commercial Development*
*3,210 new housing units and 4.3 million square feet of new commercial space*

This scenario has somewhat less residential development than the first, but nearly double the commercial development, yielding 6,740 new residents and 14,340 new employees. The magnitude of the surplus of one-time revenues is far larger, but so is the size of the shortfall between annual costs and revenues.

In this scenario, the service population exceeds the trigger for new police and fire service by only a small amount. Reducing the service population by about 1,000 would significantly reduce the negative balance of annual costs and revenues, but would not eliminate it. Shifting some of the high-rise apartment development to high-rise condominiums would close the gap further, but would also not eliminate it.

Other tested scenarios failed to eliminate the negative recurring General Fund balance. Because such a large share of annual property tax revenues supports Redevelopment activities (e.g., affordable housing production), it appears that the only way to avoid a negative balance of annual costs and revenues is to limit the overall development intensity to a level below the threshold for triggering fire station costs. Other General Fund revenues are being generated but not at sufficient levels to cover the costs.

These scenarios highlight one of the basic challenges in Redevelopment Project Areas: the annual revenues to the General Fund are often not sufficient to cover the ongoing costs of providing services to new development, to the extent those services continue to be delivered as they are today. This is particularly true in the case of an area like North First Street, where intensive development may be desirable to make efficient use of land and to maximize the benefits of the light rail line.

## North San Jose 2

Like North First Street, North San Jose 2 is a desirable location for high-tech commercial space and benefits from light rail service. The first of the North San Jose 2 scenarios tests the impact of development on 173 acres of land, including redevelopment of the 80-acre site now occupied by the Agnews Developmental Center. The second two scenarios omit the Agnews property and test development on roughly 95 acres.

*Scenario 1: Medium-Density Development, Residential Intensification*
*3,250 new housing units and 1.6 million square feet of new commercial space*

This scenario, which adds 7,800 new residents and a smaller but still significant amount of new employees (4,560), yields a large negative balance between capital costs and one-time revenues. This is due to the high cost of parks, which is not compensated for by sufficient revenues from commercial development.

The positive balance of annual General Fund costs and revenues is due primarily to the sales tax from the large amount of retail. The utility tax and business to business sales tax generated by the large amount of R&D development also contributes significantly to the annual revenue stream.

*Scenario 2: Residential and Commercial Intensification*
*2,830 new housing units and 2.6 million square feet of new commercial space*

This scenario assumes no development on the Agnews site and therefore involves much less land than Scenario 1, about 97 acres. In spite of this, the density of both residential and commercial development is high enough that the total amount of new development is larger, with somewhat fewer housing units but significantly more commercial space and employment. In total, the scenario adds roughly 6,290 new residents and 8,310 new employees.

The fiscal outcome of this scenario is nearly the opposite of the first one: the commercial development is sufficient to cover one-time parks costs without triggering excessive service capital costs of its own, but the high annual cost of fire service, combined with the property tax revenues flowing to Redevelopment Agency programs, yields a negative balance of annual costs and revenues, albeit not a large one. The fact that there is very little R&D space compared to the previous scenario also reduces the utility tax and sales tax revenues to the General Fund, although it is not clear that changing this proportion would yield a positive balance, since other annual

taxes that are based on the number of employees would be reduced due to lower employment densities.

*Scenario 3: Commercial Intensification, Low-Intensity Residential Development*
*588 new housing units and 1.8 million square feet of new commercial space*

This scenario uses the same land area as the previous one, but includes less development overall, and in particular less housing. The development would yield roughly 1,410 new residents and 5,480 new employees. This is the only scenario of the three to yield positive balances for both capital costs/one-time revenues and annual costs/revenues. This is primarily due to the fact that no new fire station is required.

These three scenarios confirm the findings from the North First Street scenarios: sufficient commercial development can offset the capital costs due to housing, but high-density development in Redevelopment Project Areas will not generally generate sufficient recurring revenues to cover the cost of the new service demands. Since North San Jose 2 shares some of the characteristics of North First Street that would make high-density development desirable, this issue represents a fiscal caution to creating appropriate land use policy.

## North San Jose 5

North San Jose 5 is the largest of the northern active employment subareas being tested in the model, but the one with the lowest percentage of vacant land. It is also the most "industrial," with very little existing housing and more industrial and R&D buildings than office space.

Unlike North First Street and North San Jose 2, which lend themselves to residential development and higher-density office development, North San Jose 5 is assumed to be a more appropriate location for intensified R&D development, especially redevelopment of underutilized parcels. Some parts of the subarea may also appropriate for housing, especially those that are close to existing residential areas and that could be integrated into a neighborhood framework.

*Scenario 1: Commercial Intensification, Low-Intensity Residential Development*
*1,150 new housing units and 2.4 million square feet of new commercial space*

The first scenario assumes a significant amount of new employment (7,330 employees), mostly in low- and mid-rise R&D and office space, and a modest amount of new residential development (3,440 new residents). It yields a positive balance across the board. In the case of capital costs and one-time revenues this is due to the high ratio of commercial to residential development, and in the case of annual costs and revenues it is the result of relatively low costs (i.e., some police and park staffing costs, but no new fire station), and high General Fund revenues.

*Scenario 2: Residential Intensification, Low-Intensity Commercial Development*
*2,960 new housing units and 1.1 million square feet of new commercial space*

This scenario is very nearly the opposite of the preceding one in terms of its commercial and residential intensities. Because the new residential population (7,630 new residents) greatly exceeds the number of new employees (3,400), there is a negative balance of capital costs and one-time revenues due to the high cost of parks. However, due to low annual costs and high revenues, there is a very large positive cumulative General Fund balance.

It is clear that, as in the other subareas, the number of new employees must exceed, or at least equal, the number of new residents. However, in North San Jose 5 the fact that the General Fund receives significant property fund revenues makes it far easier to balance out the ongoing service costs, which are in any case significantly less due to the fact that the fire station threshold is not met in either scenario.

It was decided not to test a higher-intensity scenario that would trigger new fire station costs because such a scenario was not deemed realistic for this subarea from a market standpoint.

## Monterey Corridor 2

*Scenario 1: Employment Intensification, Low-Intensity Residential Development*
*597 new housing units and 1.9 million square feet of new commercial development*

The first scenario adds a significant number of employees (5,310) and a small number of new residents (1,430) to the subarea. Because costs are low—there are no new fire costs and the capital cost for parks is lower in this subarea—the scenario yields a large positive cumulative balance of both capital costs/one-time revenues and annual costs and revenues, in addition to revenues generated to support the City's Redevelopment programs.

*Scenario 2: Medium-Intensity Development, Residential-Commercial Balance*
*1,590 new housing units and 1.2 million square feet of new commercial development*

The second scenario adds somewhat more total development than the previous one, but with a rough balance of new residents (3,940) and employees (3,520). It also avoids a negative balance in either of the categories, although the total service population is just short of the trigger for a new fire station.

*Scenario 3: Residential Intensification, Low-Intensity Commercial Development*
*2,310 new housing units and 710,000 square feet of new commercial development*

The third scenario, with only slightly more total development than the last one but significantly more housing (5,660 new residents, 2030 new employees), has a relatively small cumulative negative balance for capital costs and one-time revenues. The gap is not larger because of the lower capital cost of parks in Monterey Corridor 2 compared to other subareas. There is a

positive balance of annual costs and revenues despite the fact that the scenario triggers the need for a new fire station. This result is due, in part, to the significant sales tax generated by the retail component.

## Summary Tables

The tables below summarize the results of the model for the scenarios described above. The first part of each table, "Subarea Statistics," shows basic subarea characteristics, including the total land area in the subarea, the baseline property tax that would flow to the General Fund from the parcels included in the scenario through 2020 if there were no new development on those parcels, and the employment currently on the parcels included in the scenario.

The second part of the table, "Scenario Summary," shows the acres of land developed with each development prototype, the number of acres in Redevelopment Project Areas, and the number of new residents or employees generated by the development.

The third part of the table, "Fiscal Impact Summary," shows capital costs, one-time revenues, and the balance of the two; annual costs, recurring revenues, and the balance; and the amount of property tax increment (TI) flowing to the Redevelopment Agency programs. All these figures represent a cumulative total for the period of analysis and are expressed in 2003 dollars. Existing recurring revenues are not netted out of the total since the amount flowing to the General Fund is either a small percentage of the amount generated by the scenarios or, in the case of a Redevelopment Project Area, unknown due to the complexities of calculating the level of pre-Redevelopment property tax revenues to the General Fund. In the latter situation, the amount is expressed as zero and is assumed to be very small since the properties in question are vacant or underutilized (and therefore have low assessed values) and the General Fund revenues are calculated based on the assessed value at the time the Redevelopment Project Area was established, at which time the value of these properties was even lower.

Finally, the "Costs Analysis" section of the table breaks down the costs into capital costs and annual costs for each of the services—police, fire, parks, and libraries. It also shows the service population used to calculate the costs in that scenario, the trigger for new service for each cost, and the extent to which the service population exceeds the previous trigger level and falls short of the next one. This information is intended to clarify the extent to which a small modification in the scenario could significantly alter the outcome by, for example, reducing the service population below the previous trigger level.

## North First Street Scenario 1

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 315 | $0 | 293 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **82.8** | **82.8** | **3,597** | **7,749** | **2,347,717** | **7,688** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (50 units per acre) | 12.3 | 12.3 | 648 | 1,556 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 12.7 | 12.7 | 1,272 | 2,670 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 15.1 | 15.1 | 1,677 | 3,523 | 0 | 0 |
| Low-Rise Office/R&D | 7.7 | 7.7 | 0 | 0 | 149,305 | 427 |
| Mid-Rise Office | 16.2 | 16.2 | 0 | 0 | 512,357 | 1,708 |
| High Rise Office | 8.6 | 8.6 | 0 | 0 | 1,546,138 | 5,154 |
| Retail | 10.2 | 10.2 | 0 | 0 | 139,917 | 400 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$75,017,205** | **$56,798,367** | **$23,636,211** | **$5,417,374** |
| **Annual Costs and General Fund Revenues** | **$26,838,043** | **$11,630,869** | **$12,235,016** | **-$2,972,158** |
| **Revenues (TI) to RDA** | **n/a** | **$118,764,409** | **$77,130,415** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$3,107,031** | **$24,543,286** | **$74,204,931** | **$0** | **$101,855,248** |
| Capital Costs | $124,190 | $4,899,653 | $69,993,362 | $0 | $75,017,205 |
| Annual Costs | $2,982,841 | $19,643,633 | $4,211,569 | $0 | $26,838,043 |
| **Scenario Service Population*** | **15,144** | **15,144** | **7,749** | **7,749** | n/a |
| Population Trigger | 5,000 | 10,000 | 167 | 12,500 | n/a |
| Remaining Population After Trigger Met | 144 | 5,144 | 67 | Trigger not met | n/a |
| Population Increment Until Next Increase | 4,856 | 4,856 | 100 | 4,751 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## North First Street Scenario 2

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 315 | $0 | 293 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **82.8** | **82.8** | **3,211** | **6,743** | **4,342,916** | **14,341** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (50 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 14.1 | 14.1 | 1,413 | 2,968 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 16.2 | 16.2 | 1,798 | 3,776 | 0 | 0 |
| Low-Rise Office/R&D | 5.1 | 5.1 | 0 | 0 | 98,953 | 283 |
| Mid-Rise Office | 13.8 | 13.8 | 0 | 0 | 437,523 | 1,458 |
| High Rise Office | 20.1 | 20.1 | 0 | 0 | 3,621,632 | 12,072 |
| Retail | 13.5 | 13.5 | 0 | 0 | 184,808 | 528 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$70,713,619** | **$51,615,332** | **$47,344,537** | **$28,246,250** |
| **Annual Costs and General Fund Revenues** | **$42,284,827** | **$10,930,565** | **$15,560,155** | **-$15,794,108** |
| **Revenues (TI) to RDA** | **n/a** | **$97,662,123** | **$145,772,795** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$4,268,121** | **$43,865,899** | **$64,864,426** | **$0** | **$112,998,446** |
| Capital Costs | $166,644 | $9,536,635 | $61,010,340 | $0 | $70,713,619 |
| Annual Costs | $4,101,477 | $34,329,264 | $3,854,086 | $0 | $42,284,827 |
| **Scenario Service Population*** | **20,791** | **20,791** | **6,743** | **6,743** | n/a |
| Population Trigger | 5,000 | 10,000 | 167 | 12,500 | n/a |
| Remaining Population After Trigger Met | 791 | 791 | 63 | Trigger not met | n/a |
| Population Increment Until Next Increase | 4,209 | 9,209 | 104 | 5,757 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## North San Jose 2 Scenario 1

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 1376 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **173.0** | **173.0** | **3,250** | **7,801** | **1,595,684** | **4,559** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 59.7 | 59.7 | 2,080 | 4,993 | 0 | 0 |
| Apartments (50 units per acre) | 22.2 | 22.2 | 1,170 | 2,809 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 61.2 | 61.2 | 0 | 0 | 1,186,391 | 3,390 |
| Mid-Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 29.9 | 29.9 | 0 | 0 | 409,293 | 1,169 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$75,563,791** | **$47,381,385** | **$10,635,691** | **-$17,546,715** |
| **Annual Costs and General Fund Revenues** | **$26,417,149** | **$11,670,191** | **$21,144,670** | **$6,397,713** |
| **Revenues (TI) to RDA** | **n/a** | **$87,192,968** | **$47,892,760** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$2,359,948** | **$24,543,286** | **$75,077,707** | **$0** | **$101,980,940** |
| Capital Costs | $85,226 | $4,899,653 | $70,578,913 | $0 | $75,563,791 |
| Annual Costs | $2,274,722 | $19,643,633 | $4,498,794 | $0 | $26,417,149 |
| **Scenario Service Population*** | **12,360** | **12,360** | **7,801** | **7,801** | n/a |
| Population Trigger | 5,000 | 10,000 | 167 | 12,500 | n/a |
| Remaining Population After Trigger Met | 2,360 | 2,360 | 119 | Trigger not met | n/a |
| Population Increment Until Next Increase | 2,640 | 7,640 | 48 | 4,699 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## North San Jose 2 Scenario 2

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 1376 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **96.9** | **96.9** | **2,826** | **6,285** | **2,554,950** | **8,310** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (50 units per acre) | 22.2 | 22.2 | 1,170 | 2,809 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 9.7 | 9.7 | 970 | 2,037 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 6.2 | 6.2 | 686 | 1,440 | 0 | 0 |
| Low-Rise Office/R&D | 15.3 | 15.3 | 0 | 0 | 297,046 | 849 |
| Mid-Rise Office | 26.3 | 26.3 | 0 | 0 | 832,691 | 2,776 |
| High Rise Office | 7.1 | 7.1 | 0 | 0 | 1,288,257 | 4,294 |
| Retail | 10.0 | 10.0 | 0 | 0 | 136,955 | 391 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$62,885,946** | **$44,934,713** | **$24,701,668** | **$6,750,436** |
| **Annual Costs and General Fund Revenues** | **$24,145,069** | **$10,583,823** | **$11,927,959** | **-$1,633,288** |
| **Revenues (TI) to RDA** | **n/a** | **$95,411,803** | **$78,971,278** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$2,365,064** | **$22,771,003** | **$61,894,947** | **$0** | **$87,031,014** |
| Capital Costs | $85,269 | $4,810,483 | $57,990,194 | $0 | $62,885,946 |
| Annual Costs | $2,279,795 | $17,960,520 | $3,904,753 | $0 | $24,145,069 |
| **Scenario Service Population*** | **14,595** | **14,595** | **6,285** | **6,285** | n/a |
| Population Trigger | 5,000 | 10,000 | 167 | 12,500 | n/a |
| Remaining Population After Trigger Met | 4,595 | 4,595 | 106 | Trigger not met | n/a |

## North San Jose 2 Scenario 3

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 1376 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **95.1** | **95.1** | **588** | **1,411** | **1,800,846** | **5,480** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 6.2 | 6.2 | 215 | 517 | 0 | 0 |
| Apartments (50 units per acre) | 7.1 | 7.1 | 373 | 895 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 49.6 | 49.6 | 0 | 0 | 961,691 | 2,748 |
| Mid-Rise Office | 22.2 | 22.2 | 0 | 0 | 702,199 | 2,341 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 10.0 | 10.0 | 0 | 0 | 136,955 | 391 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$12,607,371** | **$8,762,695** | **$13,739,145** | **$9,894,469** |
| **Annual Costs and General Fund Revenues** | **$1,735,891** | **$2,316,687** | **$10,610,679** | **$11,191,475** |
| **Revenues (TI) to RDA** | **n/a** | **$23,702,538** | **$59,104,904** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$908,117** | **$0** | **$13,435,145** | **$0** | **$14,343,262** |
| Capital Costs | $40,322 | $0 | $12,567,050 | $0 | $12,607,371 |
| Annual Costs | $867,796 | $0 | $868,095 | $0 | $1,735,891 |
| **Scenario Service Population*** | **6,891** | **6,891** | **1,411** | **1,411** | n/a |
| Population Trigger | 5,000 | 10,000 | 167 | 12,500 | n/a |
| Remaining Population After Trigger Met | 1,891 | Trigger not met | 75 | Trigger not met | n/a |
| Population Increment Until Next Increase | 3,109 | 3,109 | 92 | 11,089 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## North San Jose 5 Scenario 1

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 1444 | $1,925,631 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **175.4** | **17.8** | **1,148** | **3,440** | **2,347,683** | **7,332** |
| Single-Family Detached Housing | 34.3 | 0.0 | 318 | 1,081 | 0 | 0 |
| Townhouses (12 units per acre) | 47.3 | 17.8 | 613 | 1,838 | 0 | 0 |
| Apartments (35 units per acre) | 6.2 | 0.0 | 217 | 521 | 0 | 0 |
| Apartments (50 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 52.4 | 0.0 | 0 | 0 | 1,015,568 | 2,902 |
| Mid-Rise Office | 31.9 | 0.0 | 0 | 0 | 1,010,795 | 3,369 |
| High Rise Office | 1.7 | 0.0 | 0 | 0 | 299,959 | 1,000 |
| Retail | 1.6 | 0.0 | 0 | 0 | 21,361 | 61 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$31,367,476** | **$26,035,182** | **$20,000,221** | **$14,667,927** |
| **Annual Costs and General Fund Revenues** | **$4,037,728** | **$13,884,209** | **$17,259,597** | **$27,106,077** |
| **Revenues (TI) to RDA** | **n/a** | **$10,480,920** | **$0** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$2,008,394** | **$0** | **$33,396,810** | **$0** | **$35,405,204** |
| Capital Costs | $82,263 | $0 | $31,285,213 | $0 | $31,367,476 |
| Annual Costs | $1,926,131 | $0 | $2,111,597 | $0 | $4,037,728 |
| **Scenario Service Population*** | **10,772** | **10,772** | **3,440** | **3,440** | n/a |
| Population Trigger | 5,000 | 15,000 | 167 | 7,500 | n/a |
| Remaining Population After Trigger Met | 772 | Trigger not met | 100 | Trigger not met | n/a |
| Population Increment Until Next Increase | 4,228 | 4,228 | 67 | 4,060 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## North San Jose 5 Scenario 2

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 1444 | $1,925,631 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **172.3** | **17.8** | **2,955** | **7,625** | **1,087,740** | **3,400** |
| Single-Family Detached Housing | 34.3 | 0.0 | 318 | 1,081 | 0 | 0 |
| Townhouses (12 units per acre) | 54.4 | 17.8 | 705 | 2,115 | 0 | 0 |
| Apartments (35 units per acre) | 19.4 | 0.0 | 677 | 1,624 | 0 | 0 |
| Apartments (50 units per acre) | 10.7 | 0.0 | 564 | 1,354 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 6.2 | 0.0 | 692 | 1,452 | 0 | 0 |
| Low-Rise Office/R&D | 16.1 | 0.0 | 0 | 0 | 311,805 | 891 |
| Mid-Rise Office | 19.4 | 0.0 | 0 | 0 | 614,565 | 2,049 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 11.8 | 0.0 | 0 | 0 | 161,370 | 461 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$71,255,807** | **$54,029,982** | **$8,050,186** | **-$9,175,640** |
| **Annual Costs and General Fund Revenues** | **$8,573,473** | **$27,632,325** | **$14,186,084** | **$33,244,936** |
| **Revenues (TI) to RDA** | **n/a** | **$10,480,920** | **$0** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$2,455,388** | **$0** | **$74,417,093** | **$2,956,799** | **$79,829,281** |
| Capital Costs | $86,030 | $0 | $69,810,022 | $1,359,756 | $71,255,807 |
| Annual Costs | $2,369,358 | $0 | $4,607,072 | $1,597,043 | $8,573,473 |
| **Scenario Service Population*** | **11,026** | **11,026** | **7,625** | **7,625** | n/a |
| Population Trigger | 5,000 | 15,000 | 167 | 7,500 | n/a |
| Remaining Population After Trigger Met | 1,026 | Trigger not met | 110 | 125 | n/a |
| Population Increment Until Next Increase | 3,974 | 3,974 | 57 | 7,375 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## Monterey Corridor Scenario 1

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 770 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **116.5** | **116.5** | **597** | **1,433** | **1,859,136** | **5,312** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Apartments (35 units per acre) | 17.1 | 17.1 | 597 | 1,433 | 0 | 0 |
| Apartments (50 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 87.7 | 87.7 | 0 | 0 | 1,699,164 | 4,855 |
| Mid-Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 11.7 | 11.7 | 0 | 0 | 159,973 | 457 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$8,679,435** | **$8,776,289** | **$12,857,128** | **$12,953,983** |
| **Annual Costs and General Fund Revenues** | **$1,649,558** | **$2,407,655** | **$10,793,385** | **$11,551,483** |
| **Revenues (TI) to RDA** | **n/a** | **$19,715,421** | **$28,274,236** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$821,051** | **$0** | **$9,507,941** | **$0** | **$10,328,992** |
| Capital Costs | $39,588 | $0 | $8,639,847 | $0 | $8,679,435 |
| Annual Costs | $781,463 | $0 | $868,095 | $0 | $1,649,558 |
| **Scenario Service Population*** | **6,745** | **6,745** | **1,433** | **1,433** | n/a |
| Population Trigger | 3,500 | 7,500 | 167 | 7,500 | n/a |
| Remaining Population After Trigger Met | 3,245 | Trigger not met | 97 | Trigger not met | n/a |
| Population Increment Until Next Increase | 255 | 755 | 70 | 6,067 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## Monterey Corridor Scenario 2

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 770 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **115.9** | **115.9** | **1,590** | **3,942** | **1,232,211** | **3,521** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 16.2 | 16.2 | 210 | 629 | 0 | 0 |
| Apartments (35 units per acre) | 19.2 | 19.2 | 671 | 1,610 | 0 | 0 |
| Apartments (50 units per acre) | 13.5 | 13.5 | 710 | 1,703 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 55.4 | 55.4 | 0 | 0 | 1,072,239 | 3,064 |
| Mid-Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 11.7 | 11.7 | 0 | 0 | 159,973 | 457 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$24,781,217** | **$24,491,812** | **$8,262,541** | **$7,973,136** |
| **Annual Costs and General Fund Revenues** | **$3,878,894** | **$6,314,080** | **$8,976,278** | **$11,411,464** |
| **Revenues (TI) to RDA** | **n/a** | **$50,981,804** | **$16,871,759** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$1,527,198** | **$0** | **$27,132,913** | **$0** | **$28,660,111** |
| Capital Costs | $78,207 | $0 | $24,703,010 | $0 | $24,781,217 |
| Annual Costs | $1,448,991 | $0 | $2,429,903 | $0 | $3,878,894 |
| **Scenario Service Population*** | **7,463** | **7,463** | **3,942** | **3,942** | n/a |
| Population Trigger | 3,500 | 7,500 | 167 | 7,500 | n/a |
| Remaining Population After Trigger Met | 463 | Trigger not met | 101 | Trigger not met | n/a |
| Population Increment Until Next Increase | 3,037 | 37 | 66 | 3,558 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

## Monterey Corridor Scenario 3

| Subarea Statistics: | Total Acres in Subarea | Baseline Property Tax To General Fund | Existing Employment on Scenario Parcels |
|---|---|---|---|
| | 770 | $0 | 0 |

| Scenario Definition: | Total Acres | Acres in Redevelopment | New Residential Development | | New Commercial Development | |
|---|---|---|---|---|---|---|
| | | | Units | Population | Square Feet | Employment |
| **Land Redeveloped in Scenario** | **116.4** | **116.4** | **2,307** | **5,662** | **710,878** | **2,031** |
| Single-Family Detached Housing | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Townhouses (12 units per acre) | 16.2 | 16.2 | 210 | 629 | 0 | 0 |
| Apartments (35 units per acre) | 60.1 | 60.1 | 2,097 | 5,033 | 0 | 0 |
| Apartments (50 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Condos (100 units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High-Rise Apartments (100+ units per acre) | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Low-Rise Office/R&D | 28.4 | 28.4 | 0 | 0 | 550,905 | 1,574 |
| Mid-Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| High Rise Office | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| Retail | 11.7 | 11.7 | 0 | 0 | 159,973 | 457 |

| Fiscal Impact Summary: | Costs (through 2020) | Revenues (through 2020) | | Balance |
|---|---|---|---|---|
| | | Residential | Commercial | |
| **Capital Costs and One-Time Revenues** | **$39,045,811** | **$34,293,720** | **$4,502,197** | **-$249,894** |
| **Annual Costs and General Fund Revenues** | **$12,150,963** | **$8,509,664** | **$8,376,708** | **$4,735,409** |
| **Revenues (TI) to RDA** | **n/a** | **$64,781,041** | **$11,805,247** | **n/a** |

| Costs Analysis: | Police | Fire | Parks | Library | Total |
|---|---|---|---|---|---|
| **Total New Costs Through 2020** | **$2,008,394** | **$11,236,006** | **$37,952,374** | **$0** | **$51,196,774** |
| Capital Costs | $82,263 | $4,230,116 | $34,733,432 | $0 | $39,045,811 |
| Annual Costs | $1,926,131 | $7,005,891 | $3,218,941 | $0 | $12,150,963 |
| **Scenario Service Population*** | **7,693** | **7,693** | **5,662** | **5,662** | n/a |
| Population Trigger | 3,500 | 7,500 | 167 | 7,500 | n/a |
| Remaining Population After Trigger Met | 693 | 193 | 151 | Trigger not met | n/a |
| Population Increment Until Next Increase | 2,807 | 7,307 | 16 | 1,838 | n/a |

**For police and fire, net of existing employment on redeveloped parcels.*

# VI. LAND CONVERSION ISSUES AND IMPLICATIONS

## CONSIDERATIONS FOR LAND USE CHANGE BY SUBAREA TYPE

There may be potential to use some land within the active employment subareas to accommodate residential and retail development, which raises the question of where this shift should occur and how much land should be reallocated. Because the four different subarea types identified in Chapter 3 have such different characteristics, these issues are considered individually for each subarea type. While the analysis did not consider the smaller pockets of employment land outside the main employment areas, it is important to remember that these areas also have the potential for conversion to residential and/or retail uses, thereby taking some of the pressure off the active employment subareas.

The recommendations acknowledge the need to respond flexibly to changing economic conditions over time within key employment subareas. In some instances, the recommendations recognize potential future policy efforts to increase the employment densities and building intensities for Driving Industries.

Table 20 summarizes the basic characteristics of each type of subarea. These characteristics, and the differences among the subarea types, are discussed below.

*Table 20: Subarea Characteristics*

| Subarea Type | Emp | % total Emp. | Developed Acres | % Devel. Acres | Emp. Density | Vacant Acres | % Total Vacant |
|---|---|---|---|---|---|---|---|
| Type 1 Subareas: Driving Industry | 44,960 | 23% | 3,241 | 29% | 14 | 1,189 | 76% |
| Type 2 Subareas: Business Support | 40,974 | 21% | 3,545 | 31% | 15 | 199 | 13% |
| Type 3 Subareas: Driving/Bus. Support Mix | 91,736 | 48% | 3,347 | 30% | 36 | 149 | 10% |
| Type 4 Subareas: Household Support | 14,033 | 7% | 1,160 | 10% | 12 | 24 | 2% |
| Total | 191,702 | 100% | 11,292 | 100% | 19 | 1,561 | 100% |

*Source: Strategic Economics*

### Subarea Type 1: Driving Industries

*North San Jose 1, 2, and 3; Edenvale 1 and 2*

The Type 1 subareas comprise 23 percent of total employment and 29 percent of the developed land in the active employment subareas, as shown in Table 20. The average number of employees per acre is somewhat below the average for all subareas, but is still higher than in the Type 2 or Type 4 subareas. However, these areas include 75 percent of the total vacant land within the employment subareas. Therefore the Type 1 subareas, based on the high proportion of Driving Industries and the significant amount of vacant land, represent a vital asset for San Jose's future economic expansion.

The Agnews site within North San Jose 2 is appropriate for additional high density housing as well as retail and limited civic uses. This is due to the presence of significant transit infrastructure and the significant amount of existing housing, which should, over time, make it possible to expect more supporting retail development to occur, thus creating a complete urban neighborhood. Based on the scenarios tested in Chapter 5, this area could support a significant number of new housing units, although there would be a capital cost deficit (principally for neighborhood parks) that would have to be offset through redevelopment.

Only under very specific conditions of increased employment intensity within the North First Street corridor should high density housing be considered for North San Jose 3. As land is used more efficiently for next generation Driving Industry workplaces along the light rail corridor, opportunities for appropriate mixes of uses may emerge for North San Jose 3 which would support the North First Street corridor.

Similarly, employment intensification of Driving Industries in Edenvale 1 may create future opportunities for an innovative mix of housing, support retail, and limited civic uses within this subarea.

While the existing General Plan land use designations in North San Jose 1 could accommodate some destination retail and civic uses, conversions of lands currently planned for Driving Industries to allow Business Support and/or Household-Serving Industries should be carefully evaluated in light of the long term land supply needs of Driving Industries.

Household support activities, including destination retail, civic, and institutional uses, should be excluded from the Type 1 subarea of Edenvale 2.

Despite the image of Driving Industries as "clean," some of them, most notably Bioscience, can involve hazardous materials. Even though these materials are highly regulated in terms of handling procedures, many companies still prefer to operate away from homes. The land supply in these Type 1 subareas is critical to the future expansion of Driving Industries for San Jose's economy and should be treated as a valuable economic development asset.

### Type 2 Subareas: Business Support Industries

*Airport; Central San Jose 1 and 2; Monterey Corridor 1, 2, and 4; and Northeast San Jose*

As Table 20 shows, the overall profile of these subareas is similar in numbers to the Type 1 subareas, except that the Type 2 subareas have a very limited vacant land supply. The other difference is in the land use patterns: the Business Support Industry subareas have a much higher percentage of traditional industrial uses than the Driving Industry subareas, as shown in Table 5. This land use pattern and the industry mix are the most vulnerable to displacement from uses like housing and even destination retail, such as power centers.

These other uses can have two negative impacts. First, both housing and destination retail can afford to pay more per square foot for land and/or buildings than traditional industrial uses.

Thus, if these new uses are introduced into an area that has been predominately industrial, they can drive land prices up and eventually make it too expensive for Business Support Industries to continue operating. Second, the introduction of new residents who might complain about noise, vibration, truck traffic, and other negative impacts of industrial activities on neighborhoods can erode the ability of industrial operations to function in the way that they need to. Experience in other areas shows that even when industrial uses predate housing, residents often end up complaining about those uses.

While buildings in these older employment areas may appear old or underutilized, in many cases, they tend to have the lowest vacancy rates citywide. These buildings are also highly flexible and can accommodate a wide range of uses, so that as the economy shifts and business use patterns vary, these areas can easily adopt to such change.

Based on the Business Support industrial nature of the Type 2 subareas and the critical role they play in the overall economy, particularly supporting Driving Industries, these subareas should be preserved for employment uses. No further residential, civic, and institutional uses should be allowed, and new supportive retail should be kept to a minimum. The only exceptions are (1) the Midtown portion of Central San Jose 2, which should be considered for additional housing, retail, and/or office uses given the proximity to the Downtown Core and the location of San Jose's main transit hub at the Diridon Station within Midtown; and (2) the portion of the Airport subarea west of the railroad tracks and north of I-880, which could be considered for housing in support of Driving Industry employment intensification in the North First Street corridor.

### Type 3 Subareas: Driving/Business Support Industries Mix

*North San Jose 4, 5, and 6; North First Street; Downtown Core*

The five subareas that make up this group account for almost half of the total employment in the active employment subareas, have the highest employment densities, and host a diverse business mix. While many of the uses in these subareas could be compatible with housing, it is North First Street and North San Jose 6 (Rincon South) are most appropriate for future high density housing and workplace supportive retail development because of their transit access and opportunity to capitalize on the Downtown as an easily accessible cultural and entertainment center. In addition to high density housing, civic, institutional, and destination retail should all be allowed in the Downtown Core, as these uses are compatible with this area's primary function in San Jose.

As employment intensification occurs in the North First Street corridor, high density housing could be considered in North San Jose 4 due to its relative proximity to the corridor.

Limited retail opportunities could be considered in North San Jose 5 without negatively impacting existing and future Driving and Business Support Industries. Housing should not be considered in North San Jose 5.

### Type 4 Subareas: Household-Serving Industries

*Downtown Frame; Story Road; Monterey Corridor 3*

The three subareas in this group represent a relatively small proportion of total jobs and acreage, as show in Table 20. The majority of the jobs in each subarea are in Household-Serving Industries, so they support San Jose's residents, not the City's businesses. Because these subareas contain such a small proportion of total Driving Industries and Business Support Industries, portions of the Downtown Frame (outside of the Julian-Stockton Redevelopment Project Area) and all of Monterey Corridor 3 should be considered as candidates for a major shift in land use orientation, allowing for intensive redevelopment that would include housing as well as destination retail, civic, and institutional uses. Although none of these areas are transit accessible, they could evolve into neighborhoods with a full complement of amenities, thereby creating potential for incompatibility issues with industrial uses. To the extent that such conflicts arise, the City could facilitate the relocation of these industrial uses to other locations. Story Road could be considered for retail uses, but not housing.

## SUMMARY AND IMPLICATIONS

Of the 20 active employment subareas under consideration, housing is clearly appropriate in portions of seven: North San Jose 2, North San Jose 6, North First Street, Downtown Core, Downtown Frame, Monterey 3, and the Midtown portion of Central San Jose 1. Housing in the additional subareas of North San Jose 3, North San Jose 4, and the western portion of Airport should only be considered as Driving Industry employment intensifies within the North First Street corridor. Similarly, if Driving Industry employment intensification occurs in Edenvale 1, then some housing/mixed use could be considered in that subarea. Other areas could entertain some introduction of retail uses, but not housing: North San Jose 1, North San Jose 5, and Story Road.

For example, based on the scenario developed for North San Jose 2 and North First Street and a rough target for residential redevelopment in some of the Type 4 subareas, this shift in land use policy could yield as many as 19,000 units. This would satisfy over 40 percent of San Jose's total demand for multi-family housing over the next 20 years, while only removing 122 acres from Type 1 and Type 2 subareas. Any residential development in the Downtown Core, or more intensive development in the Type 4 subareas, could increase this number even higher. At the same time, the other active employment subareas would have a clear mission to support San Jose's long-term economic growth and vitality without unnecessary pressure to accommodate incompatible or otherwise inappropriate uses.

# VII. TECHNICAL APPENDIX

The analysis and conclusions presented in the body of this report were based on several distinct but linked components:

1. A GIS database that contains information on the city as a whole and, in particular, the employment areas and that integrates land use, employment, and other data in a spatial format for the employment subareas.
2. An employment and land use analysis that, while using some of the same data as the GIS database, was conducted separately.
3. A fiscal impact model to test the impact of development and/or changes in land use in various employment areas on the city's General Fund.
4. A user interface that links the GIS database and the model together into an integrated, user-friendly format.

Each of these pieces builds on the others: the employment and land use analysis made extensive use of the GIS database and helped define the main questions to be addressed with the fiscal model, and the user interface provides a tool for the City to extend the analysis beyond what was done in this study.

This Technical Appendix describes the data sources, data manipulation, methodology, and assumptions embodied in each of these components. The programming underlying the integrated GIS tool and model is not described in detail, both because it is less relevant than data manipulation and calculation methodology and because much of it is proprietary.

## GIS DATABASE

Much of the analysis rests on the GIS database that was constructed in ArcGIS and Microsoft Access (MS Access). In addition to basic parcel information (area, location, address, Assessor's Parcel Number), this database contains data on land use, employment, population, vacant land, assessed value of parcels (land and improvements), and sales tax.

The GIS database has two main purposes. First, it allows parcel-specific spatial analysis that would be difficult or impossible using the data in a spreadsheet or table form. For example, employment data were analyzed to understand the geographic distribution of the numbers and types of jobs within the subareas.

Second, the GIS database facilitates the process of creating land use scenarios for the fiscal impact model, since it allows the user to build specific scenarios based on parcel sizes and patterns, existing uses, etc.

For both of these purposes, the different data sources were made compatible with one another, by matching each data source with the appropriate geographic unit, i.e., a parcel or a subarea.

## Data Sources

- City of San Jose
    - Parcel GIS layer
    - Vacant land inventory (VLI)
- First American Real Estate Solutions
    - Win2Data (Santa Clara County Assessor's Data, including land use and property tax)
- California Employment Development Department (EDD)
    - Employment data by firm
- California Board of Equalization
    - Sales Tax
- U.S. Census
    - 2000 population by Census block

## Analysis

*Selection of Areas for Analysis*

Although the GIS database contains a great deal of Citywide data, the focus of the analysis is on the active employment land and the subareas. These areas were identified and defined before the analysis, and subsequently a good deal of data manipulation was performed in order to facilitate the analysis, as described below.

The active employment land analyzed in the study comprises all of the major contiguous areas of industrially zoned land, minus the Evergreen and Coyote Valley areas, which are still largely vacant. The City tracks employment, land use, and other characteristics of these areas and selected them at the start of the project as the areas of interest.

*Definition of Subareas*

Subareas were defined by City staff in conjunction with the consultants. In some cases (e.g. Downtown Core and Downtown Frame) they coincide with planning areas defined in the General Plan. In other cases, they reflect the team's collective judgment about useful ways to break up the large areas of contiguous employment land based on concentrations of development, major roads and other infrastructure, and the like.

*Parcel Re-Drawing*

Though the overall parcel GIS layer for the City of San Jose is highly accurate (at least 90% to 95% correct), the nature of this project required 100% accuracy within the four active employment subareas analyzed in the fiscal impact analysis (Monterey Corridor 2, North First Street, North San Jose 2, North San Jose 5). Therefore, approximately 70 parcels (of a subset of

1,400) had to be redrawn in order to ensure that the GIS database accurately reflected the boundaries of the parcels in the subareas.

*Geocoding*

In order to perform subarea and parcel-specific analysis, address-based information had to be assigned, via geocoding, to parcels and subareas. In some cases this was straightforward while in others, such as in the case of employment data, it was more complex. Different levels of precision were used depending on the complexity of geocoding and the needs of the project.

- For the four subareas included in the fiscal impact model (Monterey Corridor 2, North First Street, North San Jose 2, North San Jose 5), which required the greatest degree of precision, geocoding was done via creation of a large address-to-Assessor's Parcel Number (APN)-to-subarea correspondence table. All data are geocoded to the parcel level.
- For the other subareas, many of the data are geocoded to the parcel level, but employment data are geocoded only to the subarea level, a level of precision sufficient for the purposes of the analysis.
- For the remainder of the city, data were aggregated into a "Rest of City" category since those areas are outside the specific employment subareas of interest.

*Land and Building Data*

The land use data in the Win2Data, while broadly accurate, were found to be of questionable accuracy in the case of individual parcels. This was particularly true in the case of vacant land information. Many parcels were classified as vacant in the Win2Data when in fact this was known not to be the case.

The City maintains a vacant land inventory (VLI) which is highly accurate, and this was used as the basis for classifying parcels as vacant. Any parcel that is labeled vacant in the GIS database or the user interface is classified as such in the VLI.

Other land use classifications could not be verified or corrected in the same manner and should be treated with caution. While it is likely that they reflect the broad breakdown of land uses in any given area, they may not be accurate at the parcel level. This may be due to a simple inaccuracy or it may be due to the lack of any clear definition about what constitutes, say, an "industrial" use versus an "R&D" use.

In addition, the building data (square feet, number of stories, etc.) were found to be unreliable. There was no way to correct this problem.

Although a good part of the data in the GIS database was found to be unreliable, this does not have a significant effect on the model results, since the most important information—the parcel sizes—was corrected. The main impact of the data inaccuracies on the model is that it makes the process of selecting parcels for development somewhat more difficult since criteria such as floor-

area ratio (FAR) that might normally be used as one part of a definition of underutilization must be treated with caution.

The assessed value data were assumed to be accurate even if the land use classification was not, since the Win2Data come from the Assessor's Office, the main goal of which is to maintain an up-to-date record of the value of properties. The main use of the assessed value data was to determine the value of the development prototypes, which are described in the section on the fiscal model.

The data inaccuracies were more problematic for the employment and land use analysis than for the model, as the section on that analysis describes.

*Parcel Sizes*

Parcel size data were not accurate in the Win2Data. Because the accuracy of the model depends on knowing the size of a parcel (and therefore the amount of development it can accommodate), the parcel sizes in the subareas to be included in the model were measured in ArcGIS using the polygons representing parcel boundaries, which were known to be accurate because of the verification and correction described above.

Because the process of hand correction described above was only done in the subareas to be tested in the model, similarly accurate parcel size measurements could not be produced for other subareas. The only exception is in the case of parcels in the employment subareas classified as vacant in the City's VLI, which were measured using the same method applied to all parcels in the four subareas tested in the model. This ensures an accurate measurement of the amount of vacant land in each subarea.

The total acreage of the other subareas was calculated by measuring GIS polygons drawn around the subareas, so these figures are considered highly accurate even though the acreage data on individual parcels in those subareas are unreliable.

## EMPLOYMENT AND LAND USE ANALYSIS

The employment and land use analysis is based on the data set put together in the GIS database, with the addition of some additional sources. The great advantage of the GIS database for this purpose was the ability to analyze the spatial characteristics of employment and the employment and land use characteristics of the different subareas.

## Data Sources

- Association of Bay Area Governments (ABAG)
    - Employment and population projections
- California Employment Development Department (EDD)
    - Employment data by firm
- First American Real Estate Solutions
    - Win2Data (Santa Clara County Assessor's Data, including land use and property tax)

## Analysis

*Employment by Industry*

The employment analysis uses data from the California Employment Development Department from 1993 through 2002. Data are provided on a quarterly basis, and the yearly figures given herein represent an average of all four quarters, with the exception of 2002, which is an average of the first three quarters of the year, the only data available at the time the analysis was conducted.

There are many different ways to group together industries, all with advantages and disadvantages depending on the goals of the analysis. The industry groups used in this analysis were developed in consultation with the City in an attempt to capture both the differences between "Driving" and "Local Support" industries and, to a lesser extent, the land use characteristics of different industries.

Data from the California Employment Development Department are categorized according to the Standard Industrial Classification (SIC) through 2000 (at the 4-digit level) and according to the North American Industrial Classification System (at the 6-digit level) for subsequent years.

The industry groupings were developed using the NAICS codes and a "bridge" developed by the Census Bureau was used, with slight modification, to create an equivalent grouping according to the SIC system. Although such a bridge is the best available method to compare data from the two different systems, it is not perfect. NAICS was developed first and foremost to adequately capture the structure of the modern North American economy, not to ensure backward compatibility with SIC. In many cases a single SIC category corresponds to several NAICS categories, or vice-versa. The bridge gives guidelines for distributing the employment in such cases, but the percentages are derived from national data and are not necessarily reflective of the local San Jose economy.

Fortunately most of these issues were avoided because the goal of this analysis was to group employment into industry groups. Therefore, in most cases in which there was no straightforward correspondence of individual SIC and NAICS categories, those categories were grouped together into the same larger industry group, obviating the need for a more detailed

breakdown/correspondence unnecessary. In the few cases in which this was not true it was generally decided not to split individual categories due to their small size.

The net result is that employment in individual industry groups is broadly comparable across both classification systems, but it should be understood that any trend spanning the period through 2000 and the period from 2001 and beyond should be treated with some degree of caution.

Several issues in particular affect the employment numbers.

- The employment categories corresponding to "Research and Development in the Physical, Engineering, and Life Sciences" were included in Innovation Services prior to 2001 (under the SIC system) and in Bioscience from 2001 on. Given the nature of the data, a decision about how to split the categories would have been necessary to divide up employment among those industries, such as the 50-50 split used by Joint Venture: Silicon Valley. While this methodology probably understates Bioscience employment during the first period and overstates it during the second, it does not substantially affect the subsequent analysis, such as the estimate of building space and land demand, since all the possible destination industries for these jobs are included in Driving Industries and therefore subject to the same assumed growth rate. However, building occupancy assumptions do vary somewhat from industry to industry.
- There is no equivalent in SIC for the "Corporate Offices" category in NAICS. These jobs were classified as auxiliaries in the SIC System and grouped with the industry in question, so employment included in this NAICS code could potentially include any SIC code. In the case of San Jose, however, it appears that the Corporate Offices category that first appears in 2001 is composed mostly of employment formerly located in the Business Services category, which probably explains most of the significant drop in employment in that category from 2000 to 2001.
- Employment data from 1994 through 1998 were deemed unreliable because of an unexplained drop in total employment during that time and are not shown.
- Employment in the "Civic" category drops from 1993 to the period from 1999-2002. Because the figure is relatively constant from 1999 to 2002, this does not appear to be the result of a SIC-NAICS issue. Instead, it appears that the data undercount employment in education, which is part of the Civic category. This undercount, estimated at 30,000 jobs, is accounted for in the employment projections as described below.

*Subarea Analysis*

The starting point for the subarea analysis was the list of "industrial areas" as defined by the City. Because these areas contain employment that is not primarily "industrial" in the traditional sense, but rather R&D-oriented and, in some areas, primarily office-oriented, it was decided that the term "employment areas" was more appropriate.

Employment subareas were defined by dividing the larger employment areas on the basis of major roads and infrastructure (e.g. light rail), local character (e.g. a higher share of office

buildings), and similar criteria. These criteria were somewhat subjective since the detailed analysis of subarea character was completed after the subareas were defined.

The data presented for the different subareas in Table 3, Table 4, and Table 5, beginning on page 33, are highly reliable given the work that was done to ensure the accuracy of geocoding, the acreage of subareas, and the use of the City's VLI. The only figures that should be treated with caution are the numbers on the share of parcels in each subarea occupied by various building types/land uses given in Table 4 and Table 6, which begin on page 38.

The choice of percentage of parcels rather than percentage of total area was chosen because of the lack of reliable data on parcel sizes in the subareas where no hand correction was performed. Since parcel sizes vary significantly, this is only a broad measure of the mix of land uses and caution should be used when interpreting this figures. In addition to the fact that the percentages are not based on land area, it is unclear, as mentioned earlier, how parcels were classified in the Win2Data. Some of the land use classifications may be inaccurate or out of date, and in any case there is no clear definition of any of the land use types. There is significant overlap of industrial and R&D buildings on the one hand, and of R&D and office buildings on the other, and the flexibility of many buildings allows different users to use them in different ways. Therefore, a building that is classified as industrial may in fact be used for R&D purposes, with a high percentage of office space.

The subarea typology was developed after examining the subarea data. Subareas with at least 55 percent of their employment in Driving Industries were classified as Type 1, those with at least 60 percent in Business Support Industries were classified as Type 2, those with a balance of Driving Industries and Business Support Industries were considered Type 3, and the remainder, those with a majority of jobs in Household-Serving Industries, were categorized as Type 4.

*Employment and Employment Land Demand Projections*

Employment distribution was derived from the City of San Jose 2001 employment distribution format and splits jobs into Driving Industries and Local Support Industries (the aggregate of Business Support Industries and Household-Serving Industries). Baseline total employment was 381,502: 133,231 for Driving Industries, 248,271 for Local Support Industries. The following adjustments were made to this baseline estimate:

- The 932 "Other" jobs were deleted, as these were agricultural sector employment totals.
- The "Retail/Consumer Services" Employment category was split into two categories: a Retail (51,000) category and a Consumer Services (27,694) category.
- Reflecting an estimated undercount of 30,000 employees in the governmental sector, the Civic employment sector was increased by 30,000 jobs.

The 2001 adjusted employment distribution for the City of San Jose as identified above was then applied to the ABAG control total of urban jobs in the San Jose Sphere of Influence for 2000, thus deriving a baseline urban job count for the San Jose Sphere of Influence as of 2000. The baseline ABAG job count was 440,600. After inspection of this data base, a further adjustment

was made between Retail and Consumer Services sectors: the Retail sector was increased by 10,000 jobs and the Consumer Services sector reduced by 10,000 jobs in order to better reflect ABAG's estimates for the Retail and Services sectors.

The ABAG projections of total urban employment were utilized as control totals for determining projected San Jose Sphere of Influence employment for the period 2000 – 2020. Based upon discussions with the Planning Department, the percentage growth of Driving Industries was set at rates slightly higher than Local Support Industries, as shown in Table 21. Net projected employment growth by industry sector is summarized in the body of the report.

*Table 21: Assumed Industry Growth Factors, 2000-2010 and 2010-2020*

| | Percent Growth Factors | |
|---|---|---|
| | 2000-2010 | 2010-2020 |
| Driving Industries | 13.00% | 18.60% |
| Local Support Industries | 11.30% | 17.80% |

Occupancy characteristics of the projected employment with respect to future employee space requirements by building type were based on surveys of the consultant team, the San Jose Planning Department, and industry representatives. Table 8 on page 43 reflects the inputs from these three sources in terms of percent allocations by employment sector and building type.

Space requirements per employee for projected future employment were derived from similar surveys, though filtered by the consultant team's prior primary research in downtown San Francisco and other published materials covering employment densities in similar contexts. Land requirements for each building type based upon projected FAR were derived in a manner similar to employment occupancy characteristics and space requirements. Space requirements per employee and FAR assumptions are shown in Table 9 on page 44.

Sensitivity testing of the various parameters suggested that the aggregate land requirement projections were not substantially affected by high and low estimates provided by the various survey sources. Effectively, virtually all forecasts in building type, employee density, and FAR provided by survey respondents produced results that remained within 10 percent of the land requirements presented in the summary analysis.

The figures for total building stock and vacancy shown in Table 10 on page 45 and Table 11on page 46 were compiled by Strategic Economics and the City from data supplied by Colliers International. The estimate of obsolete vacant space was also provided by Colliers International.

Finally, future employment projections, estimates of building space and land demand, and figures on currently vacant and obsolete space were used in conjunction with one another to shed light on the likely timing of demand for vacant and underutilized land, as described in the body of the report.

*Housing and Residential Land Demand Projections*

Projections of housing and residential land requirements were calculated as follows.

Historical data for population, population in households, household, household size covering period 1990, 2000, and 2003 derived from U.S. Census; California Department of Finance, Demographic Research Unit; and ABAG published sources.

Projections of population, households, household size and household population for San Jose Sphere of Influence over the period 2000–2020 provided by ABAG. Projections of 2005–2020 population for the City of San Jose provided by ABAG Smart Growth Projections. City of San Jose projections of household population, household size and total households developed by Whitney and Whitney, Inc. based upon historic trends and anticipated changes in housing stock to higher density uses are shown in Table 22 through Table 25.

*Table 22: Population Growth Trends, Santa Clara County And City Of San Jose*

| | | | | Net Change, 1990-2003 | | |
|---|---|---|---|---|---|---|
| Geographic Area | 1990 | 2000 | 2003 | Total | Annual | Annual Percent |
| County of Santa Clara | 1,497,577 | 1,682,585 | 1,729,917 | 232,340 | 17,872 | 1.1% |
| City of San Jose | 782,225 | 893,889 | 924,950 | 142,725 | 10,979 | 1.3% |
| City as Percent of County | 52.2% | 53.1% | 53.5% | 61.4% | | |
| Rest of Santa Clara County | 715,352 | 788,696 | 804,967 | 89,615 | 6,893 | 0.9% |

Source: US Census; ABAG; California Department of Finance, Demographic Research Unit; Whitney & Whitney

*Table 23: Population Growth Projections, Santa Clara County, City of San Jose, San Jose Sphere of Influence*

| | | | | | | Projected Change 2003-2020 | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | 2005 | 2010 | 2015 | 2020 | Total | Annual | Annual Percent |
| Santa Clara County | 1,729,917 | 1,788,300 | 1,887,400 | 1,977,700 | 2,089,400 | 359,483 | 21,146 | 1.1% |
| City of San Jose | 924,950 | 956,800 | 1,010,700 | 1,044,300 | 1,069,200 | 144,250 | 8,485 | 0.9% |
| City as Percent Share | 53.5% | 53.5% | 53.5% | 52.8% | 51.2% | 40.1% | 40.1% | |
| San Jose City | 973,700 | 1,006,000 | 1,067,800 | 1,128,700 | 1,207,100 | 233,400 | 13,729 | 1.3% |
| Non-San Jose Population | 48,750 | 49,200 | 57,100 | 84,400 | 137,900 | 89,150 | 5,244 | 6.3% |
| City as Percent Share | 95.0% | 95.1% | 94.7% | 92.5% | 88.6% | 61.8% | 61.8% | |

Source: ABAG; California Department of Finance, Demographic Unit; Whitney & Whitney.

*Table 24: Population In Households And Average Household Size, Santa Clara County And City Of San Jose*

| | | | | Net Change, 1990-2003 | | |
|---|---|---|---|---|---|---|
| Geographic Area | 1990 | 2000 | 2003 | Total | Annual | Annual Percent |
| County of Santa Clara | | | | | | |
| Population in Households | 1,463,219 | 1,652,871 | 1,699,660 | 236,441 | 18,188 | 1.2% |
| Households | 520,180 | 565,863 | 582,252 | 62,072 | 4,775 | 0.9% |
| Average Household Size | 2.81 | 2.92 | 2.92 | 0.11 | 0.01 | 0.3% |
| City of San Jose | | | | | | |
| Population in Households | 771,095 | 884,079 | 913,942 | 142,847 | 10,988 | 1.3% |
| Households | 251,050 | 276,598 | 286,435 | 35,385 | 2,722 | 1.0% |
| Average Household Size | 3.07 | 3.20 | 3.19 | 0.12 | 0.01 | 0.3% |
| City as Percent of County | 52.7% | 53.5% | 53.8% | 60.4% | | |
| Rest of Santa Clara County | | | | | | |
| Population in Households | 692,124 | 768,792 | 785,718 | 93,594 | 7,200 | 1.0% |
| Households | 269,130 | 289,265 | 295,817 | 26,687 | 2,053 | 0.7% |
| Average Household Size | 2.57 | 2.66 | 2.66 | 0.08 | 0.01 | 0.2% |

Source: US Census; ASBAG; California Department of Finance, Demographic Research Unit; Whitney & Whitney.

*Table 25: Household Growth Projections, Santa Clara County, City of San Jose, San Jose Sphere of Influence*

| | | | | | | Projected Change 2003-2020 | | |
|---|---|---|---|---|---|---|---|---|
| | 2003 | 2005 | 2010 | 2015 | 2020 | Total | Annual | Annual Percent |
| Santa Clara County | | | | | | | | |
| Population in Households | 1,729,917 | 1,757,400 | 1,856,500 | 1,946,500 | 2,057,900 | 327,983 | 19,293 | 1.03% |
| Households | 582,252 | 596,760 | 629,360 | 662,090 | 702,370 | 120,118 | 7,066 | 1.11% |
| Average Household Size | 2.97 | 2.94 | 2.95 | 2.94 | 2.93 | -0.04 | 0.00 | -0.08% |
| City of San Jose | | | | | | | | |
| Population in Households | 913,942 | 945,800 | 1,000,600 | 1,034,400 | 1,059,600 | 145,658 | 8,568 | 0.87% |
| Households | 286,435 | 297,421 | 315,647 | 327,342 | 336,381 | 49,946 | 2,938 | 0.95% |
| Average Household Size | 3.19 | 3.18 | 3.17 | 3.16 | 3.15 | -0.04 | 0.00 | -0.08% |
| City as Percent of County | 49.2% | 49.8% | 50.2% | 49.4% | 47.9% | 41.6% | | |
| San Jose Sphere of Influence | | | | | | | | |
| Population in Households | 962,092 | 994,200 | 1,056,000 | 1,116,800 | 1,195,100 | 233,008 | 13,706 | 1.28% |
| Households | 301,596 | 309,580 | 328,860 | 349,590 | 375,940 | 89,505 | 5,265 | 1.61% |
| Average Household Size | 3.19 | 3.21 | 3.21 | 3.19 | 3.18 | -0.01 | 0.00 | -0.02% |
| Sphere of Influence as Percent of County | 51.8% | 51.9% | 52.3% | 52.8% | 53.5% | 74.5% | | |

Source: ABAG; California Department of Finance, Demographic Research Unit; Whitney & Whitney.

Housing growth trends by unit type (Table 26) for the period 1990–2003 are based upon data from U.S. Census, ABAG and California Department of Finance. Changes in housing supply and the composition of this change (Table 27 and Table 28) are based upon the same data sources.

*Table 26: Housing Growth Trends, Santa Clara County And City Of San Jose*

| | | | | Net Change, 1990-2003 | | |
|---|---|---|---|---|---|---|
| Geographic Area/Unit Type | 1990 | 2000 | 2003 | Total | Annual | Annual Percent |
| County of Santa Clara | | | | | | |
| Single Family Detached | 296,325 | 319,230 | 329,224 | 32,899 | 2,531 | 0.81% |
| Single Family Attached (Townhouse) | 45,975 | 51,822 | 53,051 | 7,076 | 544 | 1.11% |
| Two to Four Units in Structure | 40,485 | 45,423 | 46,753 | 6,268 | 482 | 1.11% |
| Five or More Units in Structure | 111,405 | 130,362 | 147,197 | 35,792 | 2,753 | 2.17% |
| Mobile Homes | 25,990 | 21,705 | 19,654 | -6,336 | -487 | -2.13% |
| **Total Units** | **520,180** | **568,542** | **595,879** | **75,699** | **5,823** | **1.05%** |
| City of San Jose | | | | | | |
| Single Family Detached | 147,164 | 160,253 | 164,542 | 17,378 | 1,337 | 0.86% |
| Single Family Attached (Townhouse) | 23,883 | 27,117 | 27,573 | 3,690 | 284 | 1.11% |
| Two to Four Units in Structure | 19,836 | 22,650 | 23,262 | 3,426 | 264 | 1.23% |
| Five or More Units in Structure | 45,572 | 55,712 | 65,463 | 19,891 | 1,530 | 2.83% |
| Mobile Homes | 13,763 | 10,685 | 11,024 | -2,739 | -211 | -1.69% |
| **Total Units** | **250,218** | **276,417** | **291,864** | **41,646** | **3,204** | **1.19%** |
| City Share of All Housing Units | 48.1% | 48.6% | 49.0% | 55.0% | | |

Source: US Census; ABAG; Whitney & Whitney

*Table 27: Changes In Composition Of Housing Supply*

| | 1990 | | 2000 | | 2003 | |
|---|---|---|---|---|---|---|
| Unit Type | Number | Percent | Number | Percent | Number | Percent |
| Single Family Detached | 147,164 | 58.8% | 160,253 | 58.0% | 164,542 | 56.5% |
| Single Family Attached (Townhouse) | 23,883 | 9.5% | 27,117 | 9.8% | 27,573 | 9.5% |
| Subtotal, Single Family Units | 171,047 | 68.4% | 187,370 | 67.8% | 192,115 | 65.9% |
| Two to Four Units in Structure | 19,836 | 7.9% | 22,650 | 8.2% | 23,262 | 8.0% |
| Five or More Units in Structure | 45,572 | 18.2% | 55,712 | 20.2% | 65,463 | 22.5% |
| Subtotal Multiple Family Units | 65,408 | 26.1% | 78,362 | 28.3% | 88,725 | 30.4% |
| Mobile Homes | 13,763 | 5.5% | 10,685 | 3.9% | 10,685 † | 3.7% |
| Total Units | 250,218 | 100.0% | 276,417 | 100.0% | 291,435 | 100.0% |

Source: US Census; ABAG; Whitney & Whitney

† Total from 2000 Census per discussions with City of San Jose Planning Department.

*Table 28: Composition Of Net Additions To Housing Inventory*

| Unit Type | Total 1990 | Total 2000 | Net Increase | Percent Distribution | Total 2000 | Total 2003 | Net Increase | Percent Distribution |
|---|---|---|---|---|---|---|---|---|
| Single Family Detached | 147,164 | 160,253 | 13,089 | 50.0% | 160,253 | 164,452 | 4,199 | 28.0% |
| Single Family Attached (Townhouse) | 23,883 | 27,117 | 3,234 | 12.3% | 27,117 | 27,573 | 456 | 3.0% |
| Subtotal, Single Family Units | 171,047 | 187,370 | 16,323 | 62.3% | 187,370 | 192,025 | 4,655 | 31.0% |
| Two to Four Units in Structure | 19,836 | 22,650 | 2,814 | 10.7% | 22,650 | 23,262 | 612 | 4.1% |
| Five or More Units in Structure | 45,572 | 55,712 | 10,140 | 38.7% | 55,712 | 65,463 | 9,751 | 64.9% |
| Subtotal, Multiple Family Units | 65,408 | 78,362 | 12,954 | 49.4% | 78,362 | 88,725 | 10,363 | 69.0% |
| Mobile Homes | 13,763 | 10,685 | -3,078 | -11.7% | 10,685 | 10,685 † | 0 | 0.0% |
| Total Units | 250,218 | 276,417 | 26,199 | 100.0% | 276,417 | 291,435 | 15,018 | 100.0% |

Source: US Census; ABAG; Whitney & Whitney
† Total from 2000 Census.

Current occupancy characteristics of the housing supply are based upon ABAG/California Department of Finance estimates. Measures of current undersupply of vacant and available units are derived from consultant team's application of industry-based standards for a "Balanced Housing Market" of 2 percent vacancy rate for owner-occupied units and 5 percent vacancy rate for rental units (Table 29). These standards reflect a housing market where there is sufficient choice for households seeking units, yet the occupancy rates are high enough to encourage new construction in response to anticipated demand.

Projected demand for new housing, shown in Table 30, is based upon three factors: net demand from new household formation, i.e. growth in households per the household growth projection; allowance for balance in the market, i.e. an increase in market vacancy rates to the standards noted above; and allowance for replacement of obsolete units, computed here on the probable recycling of existing units that are 60 years old or greater per the U.S. Census. The combination of these factors yields a total net new housing requirement for the San Jose market.

*Table 29: Occupancy Characteristics and Estimates of Current Housing Undersupply*

| Current Occupancy Characteristics | 2000 | | | 2003 Estimate | | |
|---|---|---|---|---|---|---|
| All Dwelling Units | | | 281,841 | | | 291,864 |
| | Percent | Number | | Percent | Number | |
| Owner-Occupied Units | 61.8% | 170,950 | | 61.8% | 177,030 | |
| Renter-Occupied Units | 38.2% | 105,648 | | 38.2% | 109,405 | |
| All Occupied Units | | | 276,598 | | | 286,435 |
| All Vacant Units | | | 5,243 | | | 5,429 |
| Vacancy Rate | | | 1.9% | | | 1.9% |

Estimate of Current Undersupply of Vacant Units, 2003

| Tenure Type | Occupied Units | "In Balance" Vacancy Rate† | "In Balance" Vacant Units |
|---|---|---|---|
| Owner-Occupied Units | 177,030 | 2.0% | 3,613 |
| Renter-Occupied Units | 109,405 | 5.0% | 5,758 |
| Vacant Units in "Balanced Market" | | 3.2% | 9,371 |
| Existing Vacant Units | | | 5,429 |
| **Estimate of Current Undersupply of Units** | | | **3,942** |

*Source: US Census; ABAG; Whitney & Whitney*

*† The "In Balance" vacancy rate in concept allows for a sufficient number of vacant units within the market area to permit both existing residents and entering households to have some range of choice in their selection of housing. Forpurposes of this analysis it is assumed that in this market an "in balance" vacancy rate is 2.0% for owner-occupied units and 5.0% for renter-occupied units.*

*Table 30: Annual Housing Requirements (Units), 2003-2020*

| Source | Total | 2003-2010 | 2010-2015 | 2015-2020 |
|---|---|---|---|---|
| Net Demand from New Household Formation (Table 4) | 49,946 | 29,212 | 11,695 | 9,039 |
| Allowance for Vacancy, Including Current Undersupply (Table 8) | 5,523 | 4,867 | 370 | 286 |
| Allowance for Annual Replacement of Obsolete Units at rate of 1.0% of units older than 60 years | 7,250 | 1,750 | 2,750 | 2,750 |
| **Total** | **62,719** | **35,829** | **14,815** | **12,075** |
| **Annual Requirement** | **3,689** | **5,118** | **2,963** | **2,415** |
| Rounded | 3,700 | 5,100 | 3,000 | 2,400 |

Source: ABAG; Whitney & Whitney; Strategic Economics

Table 31 and Table 32 show how the projected number of required units are distributed into gross unit types. The allocation allows for an increasing share of market demand to be accommodated by higher density (multiple-family) unit types. This projected growth in the relative

share of higher density housing is supported by the building permits and proposed residential development programs currently under review in the City as well as by the decreasing amount of land available for lower density residential development. Table 33 subdivides these larger categories into a more refined distribution of unit types arranged by density.

Table 34 then determines residential land requirements for each unit type and for the total market. Two sets of assumptions are involved: the first relates to the distribution of units by type; the second relates to the density of development by unit type. The assumptions developed by the consultant team following discussions with the Planning Department are shown in Table 33 and Table 34.

*Table 31: Allocation by Unit Type for Calculation of Residential Land Requirements*

| | 2003-2010 | 2010-2015 | 2015-2020 |
|---|---|---|---|
| Single Family Detached and Attached | 30% | 25% | 20% |
| Multiple Family | 70% | 75% | 80% |

Source: ABAG; Whitney & Whitney; SE.

*Table 32: Housing Demand by Gross Unit Type*

| | Units | | | |
|---|---|---|---|---|
| Housing Type | Total | 2003-2010 | 2010-2015 | 2015-2020 |
| Single Family Detached and Attached | 16,868 | 10,749 | 3,704 | 2,415 |
| Multiple Family | 45,853 | 25,081 | 11,112 | 9,660 |
| Total | 62,721 | 35,830 | 14,816 | 12,075 |

*Source: Whitney & Whitney; Strategic Economics.*

*Table 33: Housing Demand by Unit Type and Density*

| | | Units | | | |
|---|---|---|---|---|---|
| Housing Type | | Total | 2003-2010 | 2010-2015 | 2015-2020 |
| Single Family Detached | 75% | 12,651 | 8,062 | 2,778 | 1,811 |
| Single Family Attached (Townhouse) | 25% | 4,217 | 2,687 | 926 | 604 |
| Subtotal | | 16,868 | 10,749 | 3,704 | 2,415 |
| Medium-Density Apartments (rental) | 38% | 17,195 | 9,405 | 4,167 | 3,623 |
| High-Density Apartments (rental | 38% | 17,195 | 9,405 | 4,167 | 3,623 |
| High-density Condominiums (ownership) | 13% | 5,732 | 3,135 | 1,389 | 1,208 |
| High Rise Apartments (rental) | 13% | 5,732 | 3,135 | 1,389 | 1,208 |
| Subtotal | | 45,853 | 25,081 | 11,112 | 9,660 |

*Source: Whitney & Whitney; Strategic Economics.*

*Table 34: Land Demand By Housing Type*

| Housing Type | Units per Acre | Total | Acres 2003-2010 | 2010-2015 | 2015-2020 |
|---|---|---|---|---|---|
| Single Family Detached | 8.0 | 1,581 | 1,008 | 347 | 226 |
| Single Family Attached (Townhouse) | 12.0 | 351 | 224 | 77 | 50 |
| Subtotal | | 1,933 | 1,232 | 424 | 277 |
| Medium-Density Apartments (rental) | 35.0 | 491 | 269 | 119 | 104 |
| High-Density Apartments (rental | 50.0 | 344 | 188 | 83 | 72 |
| High-density Condominiums (ownership) | 100.0 | 57 | 31 | 14 | 12 |
| High Rise Apartments (rental) | 100.0 | 57 | 31 | 14 | 12 |
| Subtotal | | 950 | 520 | 230 | 200 |
| Total | | 2,883 | 1,751 | 655 | 477 |

*Source: Whitney & Whitney; Strategic Economics.*

## FISCAL IMPACT MODEL

The fiscal impact model is actually two separate versions of the same model: a "static" version and a "dynamic" version. The static version assumes that development all occurs at the same time and calculates costs and revenues for a single year. Although recurring costs and revenues are calculated, the figures given represent only a rough estimate of the annual level of costs and revenues that would result from the development scenario in question. Because the dynamic model was considered to yield more useful results, the results of the static model are not included.

The dynamic version of the model, which is in essence an extension of the static model, allows the user to define, for each parcel, the starting year of each development type and the duration of development. This allows the creation of more realistic scenarios by, for example, embodying the assumption of a weak commercial real estate market for the foreseeable future but a strong residential market.

In addition to incorporating different assumptions about the phasing of development, the dynamic version also takes into account inflation, real estate appreciation, and property sales, and gives total costs and revenues for the entire period through 2020.

This section reviews the data sources used for the model, the development prototypes and other assumptions, and the model calculations.

## Data Sources

- City of San Jose
  - Prototype project data
- California Board of Equalization
  - Sales tax data
- Utility companies (PG&E, San Jose Water, San Jose Municipal Water)
  - Gas, electric, and water usage, charges, and tax figures
- GIS database

## Prototypes

The model allows the user to select from a menu of different development types that can be programmed for any given parcel to yield the amount of development, number of residents and employees, and ultimately the costs and revenues associated with that development. For example, if a 5-acre parcel is assigned the low-rise office/R&D development type, the square footage of new development will be calculated based on the floor area ratio (FAR) of the prototype, and employment, assessed value, utility taxes, and all other sources of revenues will also be calculated according to the normalized (per square foot or per employee) values of the prototype.

The key values—density and assessed value—were derived from existing, recently built "prototype" projects in San Jose. These prototype projects were selected by City staff in conjunction with the consultants because they were considered the most likely types of development to occur in the subareas being tested. Table 35 identifies the prototype project on which each development type is based, and Table 36 provides the characteristics of each development type used in the model. Explanations of the process used for calculating or estimating each of the values of these characteristics are given below.

*Table 35: Development Prototype Projects*

| Development Type | Prototype(s) |
|---|---|
| Single-Family Residential (ownership) | Project at Mirabeau Lane/Arabelle Way |
| Townhouses (ownership) | Almaden Lake Homes |
| Medium-Density Apartments (rental) | Avalon on the Alameda; Almaden Lake Village |
| High-Density Apartments (rental | Villa Torino |
| High-density Condominiums (ownership) | Paseo Plaza |
| High Rise Apartments (rental) | Avalon on the Peninsula (Mountain View) |
| Low-Rise R&D/Office | Aspect Communications |
| Mid-Rise Office | The Concourse at San Jose International |
| High-Rise Office | 10 Almaden Blvd. |
| Retail | Westgate; El Paseo de Saratoga |

*Table 36: Characteristics of Development Prototypes*

| Development Type | Density (units/acre or FAR) | Assessed Value (Improvements) | Assessed Value (Total) | Utility Users Tax | Sales Tax | Household Size | Square Feet per Employee | Turnover Period | Indirect Household Sales Tax 1 | Indirect Household Sales Tax 2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Single-Family Detached Housing | 9.28 | $349,913 | $534,348 | $113.190 | | 3.4 | | 7 | $284.65 | $185.02 |
| Townhouses (12 units per acre) | 12.96 | $179,298 | $319,005 | $72.032 | | 3 | | 7 | $244.78 | $159.11 |
| Apartments (35 units per acre) | 34.87 | $157,314 | $170,747 | $58.435 | | 2.4 | | 10 | $204.20 | $132.73 |
| Apartments (50 units per acre) | 52.66 | $163,931 | $181,199 | $36.148 | | 2.4 | | 10 | $222.38 | $144.55 |
| High-Rise Condos (100 units per acre) | 100.00 | $162,413 | $307,156 | $36.148 | | 2.1 | | 7 | $237.49 | $154.37 |
| High-Rise Apartments (100+ units per acre) | 111.05 | $134,337 | $160,574 | $36.148 | | 2.1 | | 10 | $232.58 | $151.18 |
| Low-Rise Office/R&D | 0.44 | $148 | $199 | $0.188 | 0.03 | | 350 | 8 | | |
| Mid-Rise Office | 0.73 | $150 | $249 | $0.087 | | | 300 | 8 | | |
| High Rise Office | 4.14 | $228 | $252 | $0.087 | | | 300 | 8 | | |
| Retail | 0.31 | $54 | $109 | $0.187 | 3.56 | | 500 | 8 | | |

*Density*

This is simply the gross density of the prototype project (i.e. including the land used for roads and other shared facilities), as recorded on the project information sheets supplied by the City. Density is given as units per acre for residential projects and floor area ratio (FAR) for non-residential projects. In one case—the high-rise condominiums—the density has been increased from 73 to 100 units per acre since no appropriate project of the desired density was identified. This does not have a significant effect on the outcome since all other figures in the prototype table are calculated on a per-unit basis.

*Assessed Value (AV)*

This value for the prototype projects was taken from the Win2Data derived from data from the Santa Clara County Assessor's Office. In addition to providing total AV, the Assessor separately assesses land and improvements, and the latter is used in the model to calculate certain revenues. The value was converted to a per-unit or per-square foot basis based on the information in the project sheets supplied by the City.

*Utility Users Tax (UUT)*

The UUT in San Jose amounts to 5 percent of total utility charges. The figure in the prototype table is an estimate of the tax paid by residential and commercial users of water, electricity, and gas and represents an average per-unit or per-square foot figure. The City's parcel-based data on UUT appeared to be unreliable for the purposes of this project, so utility taxes were estimated from data supplied by PG&E and the two water companies (San Jose Water and San Jose Municipal Water) that serve the model test areas.

The water companies provided usage figures and meter sizes for different types of residential properties—single-family detached, low-density garden apartments, high density apartments, etc.—and usage estimates for the prototypes were derived from these data. The single largest factor behind the different levels of water usage is the variation in the amount of outdoor landscaping. Based on the usage figures and the meter charge the per-unit water charge and tax were estimated. The average of the two companies' charges was used because the subareas included in the fiscal model are roughly equally split between the two service areas.

Commercial properties are less straightforward because water usage varies by building type but also by activity. The water companies provided both average per square foot usage figures for different types of businesses and actual usage figures for a list of firms for which employment levels were known. Using these data, estimates representing an average level of water usage per square foot for each development prototype were derived.

For gas and electric taxes similar sources were used. Average residential charges were straightforward to obtain, and the amount was adjusted to account for different unit types and sizes and different household sizes. For commercial users, PG&E provided actual tax figures by NAICS code, as well as the figures for a list of users for which employment was known. The NAICS data were aggregated into the same industry groups used in the employment analysis and the industry groups were matched to their "typical" building type (e.g., Innovation Services to office, Electronic Component Manufacturing to R&D) in order to calculate the average tax per employee for each building type. The tax per square foot was derived on the basis of average employment densities. These figures were checked against the figures for specific users, and against known average usage levels for office users, in order to verify that they were in the right range. Table 37 shows the breakdown of utility taxes associated with each development type.

*Table 37: Utility Taxes by Development Type*

| Development Type | Water | PG&E | Total |
|---|---|---|---|
| SFR (ownership) | $21.58 | $91.61 | $113.19 |
| 12 du/ac (ownership) | $13.73 | $58.30 | $72.03 |
| 35 du/ac (rental) | $11.14 | $47.30 | $58.44 |
| 50 du/ac (rental) | $6.89 | $29.26 | $36.15 |
| 100 du/ac (condo) | $6.89 | $29.26 | $36.15 |
| High Rise Residential (rental) | $6.89 | $29.26 | $36.15 |
| 2-3 story r&d | $0.02 | $0.17 | $0.19 |
| 8-10 story office | $0.01 | $0.08 | $0.09 |
| High Rise Office | $0.01 | $0.08 | $0.09 |
| Retail | $0.02 | $0.17 | $0.19 |

*Sales Tax*

Sales tax is for two types of projects: retail stores and low rise office/industrial buildings, which are assumed to generate a certain amount of business-to-business tax. The figure for the latter was calculated from a selection of projects in the Board of Equalization data provided by the city. The figure per employee was converted to a per-square foot figure on the basis of average employment densities.

The retail sales tax figure ($3.56 per square foot) was calculated based on per-square foot sales figures for a mix of retail establishments similar to what can be expected in the land use scenarios tested in the fiscal impact model. When national sales figures were used, they were adjusted to reflect conditions in San Jose.

*Household Size*

Household sizes in the prototypes are derived from U.S. Census data for 2000 that provide a cross-tabulation of Occupied Housing Units by Unit Type (units in structure), Tenure (own v. rent) and household size. Baseline data were provided by City of San Jose Planning Services Division, October 2002.

*Square Feet per Employee*

The square feet per employee figure used in the model are the same ones used in the land demand estimates. The process for estimating these is described above.

*Turnover Period*

The turnover period for buildings represents the average length of time between sales.

For residential projects, the turnover period was estimated based on published data from the real estate industry as well as conversations with brokers and City staff.

For office, R&D, and retail projects, an attempt was made to estimate the turnover rate based on records of previous sales, but brokerage firms were unable to provide data on average turnover rates and it would have been prohibitively time-consuming to analyze records from the Assessor's Office. The figure of eight years was vetted by a number of commercial brokers as a reasonable average length of time between sales. It should be noted that the actual number used in the model has relatively little influence on the results since the development type selected has far more impact than the turnover period.

*Indirect Household Sales Tax*

Indirect Household Sales Tax is calculated on a per-unit basis to account for the indirect impact that increased population can have on sales tax by increasing overall retail spending in San Jose. The amount is calculated based on unit type (as a proxy for income) and whether or not there is a retail component to the scenario. If there is one, the level of indirect household sales tax is lower in order to avoid double-counting the impact of spending by residents of the area. A detailed explanation of the calculation is given on page 109.

## Other Assumptions

*Inflation*

The inflation rate of 2.5 percent was chosen based on the 10-year average for the San Francisco Bay Area from the U.S. Bureau of Labor Statistics. Although inflation is currently much lower, a

rate was chosen that would represent average inflation over the period of the model (2003-2020).

*Real Estate Appreciation Rate*

This figure represents the annual appreciation of real estate market values and is used to calculate the market value of new construction in the future, as well as the market value of properties that are sold and that therefore appreciate beyond the 2 percent rate mandated by Proposition 13. The figure of 4 percent was chosen based on the average regional housing appreciation rate for the last 10 years from the Bureau of Labor Statistics. An index of the historical increase in construction costs from Engineering News Record was judged too low given market conditions, and the 4 percent figure was deemed the best overall average. Although it may not adequately reflect the rapid rise in market values of the late 1990s, it is unlikely that future increases will be as dramatic.

*Discount Rate*

The discount rate of 4.4 percent is based on the 10-year Treasury Bond rate as of December, 2003.

## Scenario Definition

*Selection of Subareas for Analysis*

The four subareas selected for fiscal analysis (Monterey Corridor 2, North First Street, North San Jose 2, and North San Jose 5) were chosen because they represent the full range of different types of subareas. Monterey Corridor 2 contains primarily older industrial buildings, North First Street is home to the most intensive development and is the most office-oriented of the subareas, North San Jose 5 contains modern new industrial buildings, and North San Jose 2 show a mix of all these other characteristics. The four subareas were therefore considered to represent a range of different conditions that can be found on San Jose's employment land.

*Selection of Parcels*

Parcels were selected using the GIS database and interface. The list of parcels considered candidates for development or redevelopment in any subarea included both vacant parcels and those with an improvement to land (I/L) ratio of less than 0.9. Certain parcels were removed from the list on the basis of their small size, location within the subarea (e.g., if they were isolated from other developable parcels), or feedback from City staff. In other cases, parcels were added at the request of City staff, such as in the case of the Agnews Developmental Center.

*Land Use Scenario Definition*

The land use scenarios to be tested in each subarea were developed in consultation with City staff. The number of parcels from the list of available ones that were included in the scenario

depended on the magnitude and density of development in the scenario. Since three of the four subareas are essentially entirely contained within Redevelopment Project Areas, and the fourth is largely outside them, the choice of parcels from the above list does not have an effect on the model results. In other words, with only a few exceptions the recipient of the property tax revenues is a function of the subarea in question rather than the particular parcel within the subarea on which development occurs.

The user defines the development mix on each parcel, the starting year for each development type (by parcel), and the duration of the development. It is assumed that the starting year represents a full year of development. In other words, if development begins in 2004 and the duration is one year, the development is completed in 2004; if the duration is three years, it is completed in 2006. For development with a duration of more than one year, an equal amount of development (in terms of units or square feet) is assumed to be built every year, so that if the start year is 2006 and development lasts five years, 20 percent of the development occurs in each year from 2006 to 2010. For example, a scenario definition might appear as in Table 38.

*Table 38: Sample Scenario Definition*

| APN | Parcel Size (Acres) | Percentage Developed | Development Type | Start Year | Duration |
|---|---|---|---|---|---|
| 111-11-111 | 20 | 50 | 35 units/acre apartments | 2004 | 3 |
| 111-11-111 | 20 | 25 | Townhouses | 2004 | 1 |
| 111-11-111 | 20 | 25 | Mid-rise office | 2008 | 2 |
| 222-22-222 | 5 | 100 | High-rise condominiums | 2004 | 2 |
| 333-33-333 | 3 | 100 | Retail | 2006 | 1 |

## Model Calculations

Nearly all of the revenue calculations are performed at the parcel level. This is necessary to calculate property tax, which depends on whether an individual parcel is located in a Redevelopment Project Area, and it also facilitates certain other calculations, including the impact of property turnover on assessed value. Costs are calculated at the scenario level because, unlike revenues, they are triggered by the total service population, not individual development projects.

After extracting parcel characteristics (acres, existing assessed value, existing jobs, Redevelopment status, tax rate factor) from the database, the model calculates, for each parcel, the amount of development yielded based on the acreage and the development type, and the corresponding population and employment. For example, the scenario defined above would yield the development and phasing shown in Table 39.

*Table 39: Sample Development "Output" and Phasing of Scenario*

| Development Type | Acres | Units/SF | Population/ Employment | Start Year | End Year | Amount built per year |
|---|---|---|---|---|---|---|
| 35 units/acre apartments | 10 | 349 units | 837 | 2004 | 2006 | 116 units |
| Townhouses | 5 | 65 units | 194 | 2004 | 2004 | 65 units |
| Mid-rise office | 5 | 158,239 sf | 527 | 2008 | 2009 | 79,120 sf |
| High-rise condominiums | 5 | 500 units | 1,050 | 2004 | 2005 | 250 units |
| Retail | 3 | 41,087 sf | 117 | 2006 | 2006 | 41,087 sf |

Revenue and cost calculations are performed as described below.

**Assessed Value (AV)** is the basis for a number of revenue calculations. In some cases the value of improvements is used, and in other cases the total assessed value of the project. The static version of the model calculates total and improvement AV by simply multiplying the number of units or square feet by the per-unit or per-square foot AV from the prototype table.

The process is more complex in the dynamic model. For each year, the model calculates the new and cumulative AV for each parcel. New AV is based on the percentage of the development built in any given year. For example, in the case of the office development above, new AV in 2008 is calculated as 50 percent of the AV in the static model. This value is then inflated to 2008 market value according to the formula FV = PV * (1 + i)^n where FV is future value (in this case the value in the year the project is built), PV is present value (value based on 2003 prototypes), i is the real estate appreciation rate and n is the number of years that have passed.

Cumulative AV in a given year is calculated by inflating the previous year's cumulative AV by 2 percent and adding the AV of any new development. If the starting year for development is later than the year of the calculations (i.e., if there is no scenario development on the parcel yet), the model simply inflates the initial AV from the database by 2 percent each year until development begins. In the above case, the cumulative AV of the parcel through 2007 would simply be the initial AV of the parcel inflated by 2 percent per year. In 2008, the first year of development, the cumulative AV would be equal to new AV as calculated above. In 2009 the cumulative AV would be equal to the 2008 value inflated by 2 percent plus the new 2009 value (i.e., the remaining 50 percent of the total development) calculated according to the same formula given above, but inflated by an additional year (n+1). From that point on cumulative value would be calculated as the previous year's value inflated by 2 percent, until there is a sale.

In order to properly account for the increase in assessed value, and therefore property tax, stemming from the sale of properties, the model assumes that properties turn over (i.e. are sold) at different frequencies and recalculates the AV accordingly.

Ownership residential properties (single-family homes, townhouses, and high-rise condominiums) turn over every seven years. The model treats all units, even ownership units, built on a single parcel as a unit for calculation purposes (i.e. it does not "subdivide" the parcel, even if single-family homes are built on it). Therefore, instead of calculating turnover at the unit level, the model inflates one-seventh of the total value of the construction on the parcel in question every year by

the real estate appreciation factor rather than the 2 percent limit stipulated by Prop. 13. This begins as soon as a portion of the property is built out and continues every year, thus simulating the constant turnover of single-family residential properties an average of once every seven years. Units are assumed to be sold beginning one year after their completion. Therefore, in the scenario above, one-seventh of the value of the 250 condominium units built in 2004 will be appreciated by 4 percent instead of 2 percent in 2005, and in 2006 one-seventh of the value of the total 500 units will be appreciated by 4 percent.

All other development types, including rental apartment projects, are treated as indivisible units that can only be sold as a whole. In other words, all of the development on a parcel is sold at the same time even if it is composed of multiple buildings built over several years. For these projects, it is assumed that property owners will hold the property for the average length time after the project is fully built out. For example, the office project above is completed in 2009, the first year it can be sold is 2017, the eighth full year of tenure.

When an apartment or commercial project is sold, its value is inflated to market value by inflating the assessed value by the real estate appreciation rate from the prototype value in the base year of 2003 (or the last year sold) to the current year. In other words, the value is the same as a new project of the same parameters built in that year. A real estate conveyance tax is also levied based on the new assessed value of the property.

**Building and Structure Construction Tax** is based on the assessed value of improvements at the time of construction. The static model calculates this tax all at once and the dynamic model calculates it for the year that a parcel or any portion of a parcel is developed, based on the new assessed value of improvements in that year.

For commercial projects the tax is calculated as 1.5 percent of the assessed value of improvements. For residential projects it is calculated as 1.75 percent of 88 percent of the assessed value of improvements. Since AV figures are inflated in each year's calculation, no additional adjustments are made to account for taxes levied in the future.

The calculation of this tax based on 88 percent of the assessed value of improvements is specified by the formula in San Jose Municipal Code Sections 4.46.050(A)(1) and 4.47.040(A)(1), which define the tax rates for the Building and Structure Construction Tax and the Commercial, Residential, Mobile Home Tax, respectively.

**Commercial, Residential, Mobile Home Tax** is based on the assessed value of improvements at the time of construction. It is calculated in the same way as the above tax, except that for commercial projects it totals 3 percent of assessed value of improvements and for residential projects 2.75 percent of 88 percent.

**Residential Construction Tax** is applied only to residential construction and is levied as a per-unit fee that varies by unit type. Single-family detached units (Development Type 1) are charged $180 and all other unit types pay $90 or $99. The model calculates the tax for all unit types other than single-family detached using an average of $95. In the dynamic model this amount is

inflated to the appropriate year under the assumption that over time all taxes will be periodically adjusted to keep their real value approximately constant.

**Construction Tax** is levied on all construction at a rate of $.08 per square foot for commercial development, $150 per single-family detached unit, and $75 or $82.50 for other units. The model calculates the tax on other units using an average rate of $79. In the dynamic model this amount is inflated to the appropriate year.

**Conveyance Tax** is charged at a rate of $3.30 for every $1,000 of assessed value. It is levied every time a property is sold. For the purposes of the model, all new development is assumed to be preceded by a sale. In addition, the tax is calculated every time a turnover is assumed. Since it is based on AV, no adjustment is made for inflation or appreciation.

**Parkland Impact Fee** is paid by residential development and is based on both the unit type and the area of the City where the development occurs. The revenues are inflated to the appropriate year in the dynamic model. Table 40 shows the fee charged by subarea and unit type.

*Table 40: Parkland Impact Fees by Subarea and Unit Type*

| Subarea | Single-Family Detached | Condo/ Townhouse | Apartment |
|---|---|---|---|
| North First Street | $11,930 | $10,080 | $7,980 |
| North San Jose 2 | $11,000 | $9,300 | $7,350 |
| North San Jose 5 | $12,550 | $10,600 | $8,400 |
| Monterey Corridor 2 | $11,000 | $9,300 | $7,350 |

**Property Tax** is based on the cumulative AV in the year in question. If the parcel is in a Redevelopment Project Area, the Redevelopment Agency receives 1.04 percent of the total AV and the General Fund receives nothing. Otherwise, the General Fund receives a portion of 1 percent of the total AV, which varies depending on the tax rate area. The tax rate factor averages about 15 percent, meaning that on the average non-Redevelopment parcel the property tax generated is about 0.15 percent of total AV.

Since AV is calculated for each year in question, no adjustment is made to the property tax figure to account for inflation or appreciation.

The Redevelopment Agency collects property tax increment on a Project Area basis. However, the model uses parcel-level property tax increment as a proxy.

**Utility Tax** is calculated using the per-unit and per-square foot figures in the prototype table and adjusted for inflation. 95 percent occupancy is assumed.

**Sales Tax** is calculated on a per-square foot basis for retail projects and for R&D projects according to the prototype table and adjusted for inflation. 95 percent occupancy is assumed.

**Business Tax** is based on the number of employees present in commercial/industrial prototypes. The tax is calculated as a flat fee of $150 for firms with fewer than eight employees, $150 plus $18 per employee for eight to 1,397 employees, and $25,150 for firms with more than 1,397 employees. 95 percent occupancy is assumed, and the value is inflated to the year in question.

Although the tax is charged to individual businesses, the model calculates it at the parcel level since there is no way of knowing whether the space built on a parcel will be occupied by a single business or multiple businesses. Therefore, in certain situations the model may underestimate the revenue (e.g. a parcel with 2,000 employees in two firms will be assumed to yield the maximum of $25,150 rather than the amount that would be charged to two separate firms), but this is not a significant problem since the business tax is not a large part of the recurring revenue stream.

**Franchise Fees** are calculated based on total population (residents and employees) located on the parcel. The per-capita amount used ($30.79) is based on Citywide averages and takes into account the different fee generation of residents and employees based on the time spent in San Jose. The calculation of the per-capita level for both franchise fees is shown in Table 41. 95 percent occupancy is assumed, and franchise fees are inflated to the year in question.

**Fines and Forfeitures** are calculated in the same way as franchise fees using the per-capita figure of $11.76 and inflated to the appropriate year. 95 percent occupancy is assumed. The calculation is shown in Table 41.

*Table 41: Calculation of Per-Capita Fees*

| Item | Value |
|---|---|
| 2002 City employment | 381,000 |
| Employee-Population Equivalency Factor (8/24 hours) | 0.33 |
| Employee-Population Equivalents | 125,730 |
| 2002 City Population per DOF | 916,500 |
| Total City Service Population | 1,042,230 |
| Franchise Fee Revenue, 2002-03 Estimated Actual | $32,092,363 |
| Per-Capita Revenue Based on City Service Population | $30.79 |
| Fines & Forfeitures Revenue, 2002-03 Estimated Actual | $12,253,993 |
| Per-Capita Revenue Based on City Service Population | $11.76 |

**Indirect Household Sales Tax** is calculated on a per-unit basis to account for the indirect impact that increased population can have on sales tax by increasing overall retail spending in San Jose. The estimates of sales tax revenue to the City of San Jose from spending by households in each residential prototype was calculated from a combination of imputed household income, national consumer expenditure patterns by income category and retail sales characteristics for San Jose. For for-sale prototypes, household annual income was estimated from total annual housing costs, including assumptions for mortgage (80 percent x actual sale price), property insurance and real

estate taxes (after the homeowner deduction), all of which equal 35 percent of total household income. For rental prototypes, household annual income was based on actual annual rent and an allowance for utility costs all equal to 30 percent of total household income. The portion of annual household income spent for items generally subject to sales tax was derived from US Bureau of Labor Statistics national surveys of household expenditure patterns by household income category. The portion of those taxable expenditures made in San Jose, and the 1 percent sales tax on them, was estimated by HR&A, Inc., based on annual taxable expenditures in the City, as reported to the State of California, and the City's supply of retail outlets. Where applicable, 35 percent of estimated taxable sales (and sales tax revenue) was deducted when a Study Area land use scenario involved a combination of residential and retail uses, to avoid double-counting sales tax from spending by households in the scenario and sales tax generated by the scenario's retail uses.

The sales tax generation per household for both situations is given in the prototype table, and an example of the calculation method is show in Table 42 through Table 44. These calculations apply to the single-family detached residential prototype, with an assumed family income of $90,000 and over.

*Table 42: Indirect Household Sales Tax Generation Part 1*

| Household Spending Category | Amount | Percent | Taxable ? |
|---|---|---|---|
| Hhld. Income Before Taxes | $139,342 | | |
| Personal Taxes | $12,555 | | |
| Income After Taxes | $126,787 | | |
| Annual Consumer Expenditures | $87,319 | 100.0% | |
| Food Away from Home | $4,956 | 5.7% | Yes |
| Alcoholic Beverages | $863 | 1.0% | Yes |
| Household Furnishings & Equipment | $4,145 | 4.7% | Yes |
| Housekeeping Supplies | $1,039 | 1.2% | Yes |
| Apparel & Services | $4,546 | 5.2% | Yes |
| Transportation | $14,703 | 16.8% | Yes |
| Entertainment-Equipment & Services | $2,764 | 3.2% | Yes |
| Personal Care Products & Services | $985 | 1.1% | Yes |
| Tobacco Products | $284 | 0.3% | Yes |
| Reading | $326 | 0.4% | Yes |
| Miscellaneous | $1,571 | 1.8% | Yes |
| Subtotal Taxable | $36,182 | 41.4% | |
| | | | |
| Food at Home | $4,766 | 5.5% | No |
| Other Housing Costs | $21,803 | 25.0% | No |
| Health Care | $3,182 | 3.6% | No |
| Entertainment-Fees & Admissions | $1,766 | 2.0% | No |
| Education | $1,799 | 2.1% | No |
| Cash Contributions | $3,847 | 4.4% | No |
| Personal Insurance and Pensions | $13,964 | 16.0% | No |
| Subtotal Non-Taxable | $51,127 | 58.6% | |

Source: 2000-2001 Consumer Expenditure Survey, U.S. Bureau of Labor Statistics; HR&A, Inc.

## *Table 43: Indirect Household Sales Tax Generation Part 2*

| Retail Sales Category | San Jose Taxable Retail Sales (BOE, 2001) | SC County Retail Sales (BOE, 2001) | City/County | % Resident Spend in SJ (HR&A) | Amount Spent in San Jose |
|---|---|---|---|---|---|
| Apparel and Accessory Stores | $334,087,000 | $883,398,000 | 37.8% | 85.0% | $283,973,950 |
| Automotive Dealers | $1,582,391,000 | $3,561,230,000 | 44.4% | 75.0% | $1,186,793,250 |
| Automotive and Home Supply Stores | | | | 90.0% | $0 |
| Drug and Proprietary Stores | | | | 90.0% | $0 |
| Eating and Drinking Places | $896,298,000 | $2,239,031,000 | 40.0% | 75.0% | $672,223,500 |
| Food Stores | $417,951,000 | $860,852,000 | 48.6% | 90.0% | $376,155,900 |
| Furniture and Home Furnishings Stores | $376,544,000 | $968,206,000 | 38.9% | 90.0% | $338,889,600 |
| Home Appliance, Radio, and T.V. Stores | | | | 90.0% | $0 |
| Gasoline Service Stations | $763,075,000 | $1,387,644,000 | 55.0% | 90.0% | $686,767,500 |
| General Merchandise (incl. Dept. Stores) | $1,213,970,000 | $2,720,353,000 | 44.6% | 85.0% | $1,031,874,500 |
| Hardware, Lumber and Garden Stores | $726,447,000 | $1,316,587,000 | 55.2% | 80.0% | $581,157,600 |
| Other Retail Stores | $1,617,105,000 | $3,999,403,000 | 40.4% | 90.0% | $1,455,394,500 |
| Total Retail Sales | $7,927,868,000 | $17,936,704,000 | 44.2% | | $6,613,230,300 |
| Percent San Jose Hhld. Taxable Purchases Made in San Jose | | | | | 83.4% |

## *Table 44: Indirect Household Sales Tax Generation Part 3*

| | |
|---|---|
| # Units | 1 |
| Average Selling Price | 534,347 |
| Mortgage % | 80% |
| Annual Mortgage Payment | $33,930 |
| Property Tax Rate | 1.15% |
| Homeowner's Deduction/Unit | $7,000 |
| Property Tax/Yr./Unit | $6,064 |
| Property Insurance/Yr./Unit | $3,000 |
| HOA Dues/Year/Unit | $3,000 |
| Total Housing Cost/Year/Unit | $45,995 |
| Total Housing Cost/Household Income | 35% |
| Required Household Income/Unit | $131,414 |
| Total Hhld. Income for All Units | $131,414 |
| | |
| TOTAL PROJECT | |
| Total Project Household Income | $131,414 |
| Annual Hhld. Spending/Total Hhld. Income | 63% |
| Annual Hhld. Spending | $82,351 |
| Total Taxable Spending/Total Spending | 41% |
| Total Annual Taxable Spending | $34,123 |
| % Taxable Spending Inside San Jose | 83% |
| Total Annual Taxable Spending in San Jose | $28,465 |
| % Taxable Spending In/Outside Alternative | |
| Inside Land Use Alternative's Retail | 35% |
| Inside Remainder of San Jose (net new) | 65% |
| Annual 1% Net New City Share | $185.02 |
| **Per Unit** | **$185.02** |

*Cost Calculations*

All costs are calculated on an area-wide basis rather than at the parcel level because the level-of-service requirements are based on the total population of an area. Thus, the model uses "triggers" to add a new park or a new fire truck are met when the total number of new residents (or residents and employees) in a subarea reaches a certain level. All costs have two components—a one-time capital cost and a recurring operating cost—which are inflated to the year of incidence in the model. With the exception of police service, all capital costs are calculated in the model one year before the year in which the trigger is met. Recurring costs begin in the year when the trigger is met.

Costs and triggers vary from subarea to subarea due to the level of existing service and the cost of providing new service (e.g. the cost of acquiring land for parks). The triggers and costs for the subareas included in the model are shown in Table 19 on page 62.

The section on Methodology for Estimating Service Costs below provides more detail on the nature of service provision in the subareas and the methodology for calculating the costs and triggers.

*Final Calculations*

Once the above calculations have been executed, the static model is complete and results can be displayed.

For the dynamic model, the final step involves calculating the net present value of each year's costs and revenues and summing them to produce results in 2003 dollars. The standard formula is used for this purpose, along with the discount rate as discussed earlier.

Total one-time revenues can be compared to total capital costs, and total recurring revenues to the General Fund to total ongoing costs.

## Methodology for Estimating Service Costs

The fiscal impact analysis focuses on four departments with capital and operating and maintenance (O&M) budgets that are directly impacted by new growth (Police, Fire, Parks & Neighborhood Services, and Library). These four Departments account for 72 percent of General Fund departmental expenditures (FY 2002-03 estimated actual), or 56 percent of the entire General Fund operating budget. These Departments are also considered "quality of life" services that are critical to attracting both businesses and residents to the City.

Budgets for all of the other City Departments do not vary significantly with increases in new development (e.g., General Government departments), or they receive fee revenues that are intended to offset service costs (e.g., Public Works and Planning, Building & Code Enforcement).

At this level of analysis it is not possible to determine whether the land use alternatives would require any significant changes to existing infrastructure, so no such costs have been included.

For purposes of this analysis, we have treated the service demands associated with the land use alternatives for each Study Area as net growth relative to the 2020 General Plan and ABAG forecasts. In fact, were these alternative development patterns to occur, the new growth would substitute for an equivalent, or near equivalent, amount of growth that is already forecast to occur elsewhere in the City.

Service demands, and the costs of meeting them, are very place-specific. The cost factors used in this analysis of alternative land use scenarios for the four Study Areas do not necessarily apply to other areas of the City with industrially zoned land.

The net fiscal impacts of a proposed development project is calculated by subtracting any recurring annual costs to provide public services to the project from the tax and other revenues it generates. The net result depends entirely on how the accounting is performed, and whether "average" or "marginal" public service costs are used in the calculation.

Fiscal impact studies often use the "average" cost approach, because it is easier to calculate. In general, the average cost approach consists of dividing each line item of a city budget (usually only the General Fund line items) by the city population, and sometimes including the non-resident working population expressed as a resident population equivalent. This results in the project being charged for an average share of annual city costs, whether or not city costs actually change as a result of the project.

The "marginal" (or incremental) cost approach, in contrast, examines the degree to which a project's service demands can be accommodated by existing service capacities, or would cause the need for an expansion of capacity. It relies, therefore, on case study analysis of service capacity for relevant city services, which can be place-specific. The marginal cost approach also ignores costs for services that historically do not actually change as each new project is developed.[17] It is also more consistent with the way traffic and other environmental impacts, are calculated. On the other hand, it does not account for the sunk (i.e., already expended) cost of producing any existing surplus service capacity, nor the opportunity cost when a project uses up existing service capacity that will then no longer be available to a future project.

In general, the average cost approach is better suited to analysis of large-scale, long-term public investment decisions involving the City as a whole, such as the fiscal impacts of alternative General Plan buildout scenarios, annexations of large land areas, or development scenarios of large, undeveloped areas (e.g., Coyote Valley). In the Project Team's view, the "marginal" cost approach is the appropriate basis for estimating public service costs in this study, because the

[17] For example, each new project proposed for industrially-zoned land does not result in an actual increase in the cost to operate the City's general government departments (e.g., City Manager, City Attorney, City Clerk), nor even its development-related operating departments (e.g., General Services, Public Works, Planning, Building and Code Enforcement Departments), whose project-related costs are generally offset by permit fees and/or impact fees.

analysis is very particular to the City of San José's industrially-zoned lands and not the City as a whole.

The following sections describe the specific service costs included in the model and the information used to compile the numbers used in the model calculations.

*Fire*

Services Provided to New Development

Direct services primarily include responding to calls for emergency medical service (EMS), false alarms, fire suppression and hazardous materials management. Fire Code compliance is provided on a fee-for-services basis, and is not included in this analysis. Costs for fire prevention services (i.e., public education, outreach and fire investigations) and strategic support (i.e., top command structure and Department-wide support services), which are provided on a citywide basis, do not vary directly with new development and are not included in this analysis.

Performance Objective and Resource Planning Units

Fire station location decisions and station staffing are planned to meet a citywide performance goal of responding to 83 percent of all emergency calls for service within eight minutes, curb to curb. Availability of back-up responding resources is also an important consideration. Response times are affected by a number of factors including service call type, frequency and time of day, street traffic volumes, and back-up responsibilities to other stations. Fire stations are sized to accommodate either a single engine company or engine and truck company. Each company consists of a Fire Chief, firefighter crew and vehicles. Some stations also house a Battalion Chief or Urban Search and Rescue unit.

The 2000 bond program will pay for the capital costs to add four new stations in the City. One additional new station is being paid for by a developer (Communications Hill). Four stations will be relocated, and 25 stations will be remodeled. The analysis assumes these stations will be completed as planned. Personnel costs for the new stations, however, have not been budgeted yet due to funding limitations. For purposes of this analysis, we assume that these staffing costs will be funded during the next few years. The new, relocated and remodeled stations were planned to respond to current service demands, and may not be sufficient to accommodate future growth under the General Plan.

Land Use-Related Service Indicators

The Fire Department does not track service demand by land use. In general, the Department averages about 50 total service calls per 1,000 population (residential and business), on an annual basis, and about two-thirds of those calls are for EMS services. On average, responses to false alarms and actual fires at non-residential locations tend to utilize more equipment than calls from residential sources, due to the higher expected concentration of people needing protection and/or the unknowns associated with fires in non-residential structures. False alarm calls get the

same equipment and personnel response as an actual fire. High-rise structure fire risk can be mitigated with installation of proper equipment and access systems through appropriate building design, and these types of structures do not necessarily require the need for special fire-fighting truck equipment.

Current and Planned Resources in the Four Study Areas

- Study Area North San Jose 2 and North San Jose 3 (No. 1st Street) are currently served by Station #29. Calls-for-service volume is relatively low (1,249; 63 percent EMS), but response times are affected by its large area and the high volume of street traffic during working hours. Station #29 is a three-company station (engine, truck and hazardous materials) and includes a Battalion Chief. The planned expansion of Station #25 in Alviso will provide additional resources to assist this area.

- Study Area North San Jose 5 is currently served by Station #5 (engine and truck company) and #23 (single engine), along with a new station at Berryessa (single-engine). Calls-for-service volumes at the existing stations are 2,220 and 1,538, respectively (69-78 percent EMS).

- Study Area Monterey Corridor 2 is served by Station #26, which is a single engine company. Its call volume (3,031; 81 percent EMS) is the fifth highest in the City. The new station at Communication Hill will serve primarily new development on the Hill and back-up support to the Station #26 service area. No other planned facilities will provide significant relief to Station #26.

Capital and O&M Cost Impacts of Study Area Alternative Land Use Scenarios

Discussions with Fire Department resource planners suggest that, considering existing and planned new service capacities, an additional engine company would be required when: 1) land use scenarios in North San Jose 2 and North 1st Street reach 10,000 additional population and/or employees; 2) when land use scenarios in North San Jose 5 reach 15,000 additional population and/or employees; and 3) when land use scenarios in Monterey Corridor 2 reach 7,500 additional population and/or employees.

Fire Station Capital and Operating Cost Calculation Factors

Costs to add a new single-engine fire station include:

- One-time capital costs for land, building construction, replacement hose, safety gear, furnishings, and a fully-equipped new engine.
- Recurring O&M costs to support four personnel and miscellaneous equipment.

*Police*

Services Provided to New Development

Direct services include proactive patrolling for defined subareas of the City, reactive responses to emergency and non-emergency service calls, and traffic safety services. Other forms of crime prevention services (e.g., public education and outreach; proactive community policing) are delivered as part of the patrol task. Costs associated with investigative services, special events services and strategic support are provided on a citywide basis. They do not vary directly with new development, and are therefore not included in this analysis. Regulatory services (e.g., background investigations, inspections and issuance of certain permits) are largely supported by fee revenues, and are not included in this analysis.

Performance Objectives and Resource Planning Units

Non-centralized police services are delivered primarily through a system of patrol "beat" teams, which are organized to provide an appropriate span of supervisory control (6-9 officers per sergeant), achieve target response times to priority service calls, and provide back-up support to adjacent beats when officers there respond to a service call. The response time target for priority one calls (imminent threat to life, or major property damage or less) is six minutes. The response time target for priority two calls (actual or potential injury or property damage) is eight minutes.

Patrols are conducted by one-officer police cars on a 24-hour basis that requires, on average, 3.2 officers. Response times are affected by the size and characteristics of the beat and traffic conditions, number, type and time of call, and street traffic volumes, among other factors. Due to multiple considerations, establishing new beats is rare, whereas it is more common to add officers to existing beats to address changes in local conditions, including new development.

The 2000 bond measure is intended to fund citywide Police Department facilities (e.g., an operations center, police training, public safety driver training and traffic and street improvements). It appears these facilities are needed to meet current service demand and may not be sufficient to accommodate future growth.

Land Use-Related Service Indicators

The Police Department does not track calls by land use, but rather by type of service call and by beat and reporting district (collections of beats).

Current Resources in the Four Study Areas

- Study Area North San Jose 2 and North San Jose 3 (No. 1st Street) are currently patrolled by a single officer in beat R1. This is an unusually large area that includes most of North San Jose north of Trimble Road and west of Interstate 880, including Alviso north to the City limits. There were 237 crimes reported during the first quarter of 2003, primarily

auto burglary, disturbing the peace, grand theft, non-injury traffic accidents, and vandalism.

- Study Area North San Jose 5 is patrolled by single officers in beats R2 and R4. There were 503 crimes reported in these two beats during the first quarter of 2003, primarily injury and non-injury traffic accidents, auto burglary, auto theft, narcotics, and vandalism.

- Study Area Monterey Corridor 2 is patrolled by a single officer in beat L3. There were 367 crimes reported in this beat during the first quarter of 2003, primarily auto burglary, auto theft, non-injury traffic accidents, vandalism, simple assault, missing juvenile, narcotics, and hit and run.

Capital and O&M Cost Impacts of Study Area Alternative Land Use Scenarios

Discussions with Police Department resource planners suggest that the an additional police officer and his/her associated costs will be required when land use scenarios reach the following levels: 1) 5,000 additional population and/or employees in North San Jose 2, North San Jose 5 and North 1st Street; and 2) 3,500 additional population and/or employees in Monterey Corridor 2.

Police Officer Capital and Operating Cost Calculation Factors

Costs to add an additional police officer include:

- One-time capital costs for a squad car.

- Recurring O&M costs include salary and benefits (including overtime), and annual vehicle maintenance.

*Parks & Neighborhood Services*

Services Provided to New Development

Direct services consist primarily of neighborhood park development and operation; as park space is added costs tend to increase. Costs associated with other neighborhood livability services (e.g., Strong Neighborhood Initiative, anti-graffiti program, animal care services), life enjoyment services (e.g., community centers, after-school programs, child care services, gang intervention), community strengthening services (e.g., CDBG program, safe schools campus initiative) and strategic support are provided on a citywide basis. These latter Department services do not vary significantly with new development and are therefore not included in this analysis.

Performance Objective and Resource Planning Units

The Department has an adopted level of service planning target to provide three acres of improved neighborhood park per 1,000 resident population, though the actual level of service

appears to fall far short of that standard (1.15 acres/1,000 population18). Inasmuch as the Department completed a detailed 20-year strategic plan called Greenprint for Parks and Community Facilities Programs, and has an adopted development fee schedule predicated on the three acre per 1,000 population neighborhood parks standard, we utilize that standard in this analysis. The 2000 bond measure will support improvements to a number of citywide recreation and cultural facilities, but is not intended to be a funding source for neighborhood park development.

Land Use-Related Service Indicators

Neighborhood parks are planned on the basis of resident population only. Business employee use of park facilities is not tracked specifically, and is not a significant factor in park planning. However, Department staff noted that business employees are more likely to use trails for bicycle commuting or jogging.

Current Resources in the Four Study Areas

The Department uses City Council Districts as its primary geographic unit for resource planning. All Council Districts are projected to be deficient in total park acreage (neighborhood and community parks) by 2020, except District 8.

- Study Areas North San Jose 2 and North San Jose 3 (No. 1st Street) are located in the northern portion of Council District 4 and Study Area North San Jose 5 is located in the southern portion. District 4 as a whole has park acreage close to the planning target of 3.5 acres of neighborhood and community park acreage per 1,000 population. (The breakout for neighborhood parks only is not available.). By 2020, another 100 acres of park acreage will be needed to meet projected population growth, according to Greenprint. One new neighborhood park is proposed (North Park) in North San Jose 2, and a few very small pocket park opportunities along North 1st Street have been identified in Greenprint.

- Study Area Monterey Corridor 2 is located in Council District 7. This District is already 109 acres short of the 3.5 acres/1,000 population neighborhood and community parks standard. It is projected to need 179 additional acres to meet this standard by 2020. No new neighborhood parks are proposed in the currently zoned industrial area.

Capital and O&M Cost Impacts of Study Area Alternative Land Use Scenarios

Neighborhood parks development and maintenance costs apply to all land use alternatives that involve residential development, at the rate of three acres per 1,000 population. Capital costs for land would be partially offset by parks impact fees. Additional one-time costs for park improvements, and recurring annual maintenance costs would also be required.

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[18] 1,051.3 acres/(909,062/1,000), including both neighborhood and community parks and neighborhood serving portions of citywide/regional parks. *Greenprint*, pp. A1 and A11.

*Library*

Services Provided to New Development

Direct services consist primarily of branch libraries. Costs associated with lifelong learning services (e.g., family literacy programs), strategic support services, and further implementation of the innovative eBranch electronic materials distribution system, which are provided on a citywide basis, are not included in this analysis.

Resource Allocation Performance Objective

Branch libraries of 20,000 square feet are planned to serve a resident population of 50,000, or 0.43 square feet per capita. The 2000 library bond measure will implement the Library Department's Master Plan. That Plan calls for reconstruction or replacement of 14 of the 17 existing branch libraries and construction of six new branches in underserved areas of the City. These facilities are anticipated to accommodate the City's 2020 population forecast. The bond measure does not, however, pay for furniture, fixtures and equipment, materials acquisition, nor O&M costs. Consistent with Library Department planning, this analysis assumes that property taxes from the current Library Benefit Assessment District, which has been used for materials acquisition, will not be renewed when it expires in FY 2004-05.

Land Use-Related Service Indicators

Library services are planned on the basis of resident population only. Business use of the library system is not tracked specifically, and is not a significant factor in branch library planning.

Current Resources in the Four Study Areas

- Study Areas North San Jose 2 and North San Jose 3 (No. 1st Street) have no branch libraries currently. The closest branch is in Alviso, which is the smallest branch in the City's library system. No new branch is planned for this area.
- Study Area North San Jose 5 also has no branch library and none is planned.
- Study Area Monterey Corridor 2 has no existing branch library. The Central-New library is planned for a site further to the east of the Study Area.

Capital and O&M Cost Impacts of Study Area Alternative Land Use Scenarios

Library cost impacts apply only to preliminary land use alternatives that involve residential development. One-time construction, furnishings and library collection materials, and recurring annual costs for staffing and library collection materials, for a new 20,000 square foot branch library would be required for any land use scenario that involves at least 50,000 population. More likely, a small branch library, or an addition to an existing branch library would be constructed to accommodate new population growth implied by the residential land use alternatives. We assume that any such expansions would occur on existing library property, and

therefore would involve one-time capital costs other than land acquisition (construction, fixtures, furnishings and equipment and acquisition of library materials) and additional annual recurring staffing costs. We assume that a new small branch would be required for an additional 5,000 residential population, and a branch addition with an additional 3,000 residential population.

## INTERACTIVE GIS WEB INTERFACE AND RELATIONAL DATABASE MODEL INTEGRATION

The interactive web interface consists of a client-side Macromedia Flash Graphical User Interface (GUI) that sends server-side requests via Flash Remoting and Coldfusion to an underlying MS Access relational database. The MS Access relational database is merely a container and holds all tables, including raw data (employment data, assessor parcel data, etc) and all correspondence tables that relate raw data tables to each other and to geographic coordinates. All queries are processed via Coldfusion.

Coldfusion script enables dynamic queries (using Standard Query Language or "SQL") to retrieve information from an MS Access database. "Dynamic SQL" is only possible via a "middleware" agent such as Coldfusion (or ASP, JSP, etc) and is distinguished via user-defined variables for table names, etc. Dynamic SQL is necessary in the on-line modeling tool, "Scenario Builder," because each user who logs in with a password and username automatically generates a unique table within the MS Access database. (In order to make the Scenario Builder accessible to a multi-user web-based environment, user-specific tables must be generated, as it is not possible to allow multiple users to simultaneously update the same table within an MS Access database.) This "on-the-fly" nature is only possible because Coldfusion dynamic SQL can refer to tables via user-defined variables.

After a request is processed via Coldfusion, the results are passed back to the Flash interface via "Flash Remoting." These results are then displayed in the Flash Player within the user's browser.