



**OVERVIEW OF
GOODS MOVEMENT INDUSTRIES AND
LAND USE ISSUES IN THE
SOUTH BAY**

**DELIVERABLE FOR TASK 5
BAY AREA GOODS MOVEMENT/LAND USE PROJECT PHASE 2**

Prepared for
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TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
BACKGROUND AND PURPOSE	1
GOODS MOVEMENT BUSINESSES/INDUSTRIES IN THE SOUTH BAY	1
Goods Movement Industries Include Those With High-Level and Mid-Level Dependence on Goods Movement	2
Goods Movement Industries Include Industrial and R&D Land Uses	4
South Bay Goods Movement Industries Are Driving Industries and Business Support Industries	5
Goods Movement Industries in the South Bay Compared to Those in the East Bay and Along the Central Study Corridors	6
LAND SUPPLY AND BUILDING SPACE FOR GOODS MOVEMENT BUSINESSES/INDUSTRIES IN THE SOUTH BAY	8
Industrial Land Use Patterns in the South Bay	9
Recent Trends in Industrial Space in the South Bay	12
INDUSTRIAL LAND USE TRENDS, ISSUES, AND POLICIES IN THE SOUTH BAY	12
Trends, Issues, and Policy Initiatives To Preserve Employment Lands in San José	12
Industrial Land Use Trends in Other South Bay Cities	16
Goods Movement Land Use Issues and Implications	18
Local and Regional Land Use Policy Issues and Challenges	20
APPENDIX A: TABLES FOR INDUSTRIAL AND R&D SPACE IN MAJOR, CENTRAL BAY AREA MARKETS, INCLUDING THE SOUTH BAY	
APPENDIX B: MAPS FOR SAN JOSÉ	

LIST OF TABLES

Table 1	Employment in Goods Movement Industries in the South Bay, 2007	3
Table 2	Goods Movement Industries in the South Bay and East Bay, Employment, 2007	6
Table 3	Goods Movement Industries in the South Bay Compared to the East Bay and Central Corridors, 2006/2007	7
Table 4	Industrial and R&D Space in the South Bay/Santa Clara County	10
Table 5	Major Central Bay Area Markets for Industrial and R&D Space.....	11
Table 6	Industrial and R&D Space in the South Bay/Santa Clara County	13

LIST OF FIGURES

Figure 1	Warehouse and Manufacturing Space in South Bay Markets: 2007	9
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OVERVIEW OF GOODS MOVEMENT INDUSTRIES AND LAND USE ISSUES IN THE SOUTH BAY

Executive Summary

INTRODUCTION

The MTC Goods Movement/Land Use Project has focused research efforts on the two major goods movement transportation corridors located around the central parts of the San Francisco Bay: the East Bay I-80/880 Corridor and the North Peninsula US 101 Corridor. In addition, consideration was also given to the South Bay, to provide a high-level, overview assessment of goods movement industries and land use issues in the South Bay, as compared to those identified for the East Bay and North Peninsula. This report presents that assessment. Throughout, the South Bay refers to Santa Clara County.

GOODS MOVEMENT BUSINESSES/INDUSTRIES IN THE SOUTH BAY

Goods movement businesses/industries in the South Bay include industrial businesses that supply materials and products, manufacture goods, distribute goods, support construction, and provide transportation and other services that facilitate and support business activity and household consumption primarily in the South Bay and in other parts of the region. Many goods movement industrial businesses supply and support the high technology industries in Silicon Valley. The high technology manufacturing industries that depend on regular goods movement are also included as good movement industries.

Overall, employment in goods movement industry groups in the South Bay totals 270,800 (in 2007) and accounts for about 30 percent of total South Bay employment.

◆ Goods Movement Industries Include Those With High-Level and Mid-Level Dependence on Goods Movement

Based on the definitions and categorization scheme developed in the earlier work, industry groups are considered to be goods movement businesses/industries because of the high-level (Tier 1) or mid-level (Tier 2) importance of goods movement to their operations and to their location decisions.

In the South Bay, about 40 percent of goods movement industry groups are categorized as Tier 1 (high-level importance), accounting for about 111,500 jobs. About 60 percent of goods movement industries with 159,300 jobs are categorized as Tier 2 (mid-level importance). The latter include the high technology manufacturing businesses in Silicon Valley.

◆ **Goods Movement Industries Include Industrial and R&D Land Uses**

Goods movement industry groups have different types and densities of business operations, different location needs, and differing abilities to pay for land and building space. The majority are located in *industrial land uses*, including all of the goods movement industries in Tier 1 and those in Tier 2 except for the high technology manufacturing industries. Industrial goods movement businesses typically have lower-density operations with demand for heavy and light industrial land and warehouse and manufacturing building space. The goods movement high technology manufacturing industries in Tier 2 are *R&D land uses* with demand for more improved R&D and business park/campus land and building space.

◆ **South Bay Goods Movement Industries Are Driving Industries and Business Support Industries**

- ***Good Movement Businesses in High Technology Manufacturing Are “Driving Industries”***. They sell the vast majority of their products to markets outside the region, largely serving national and international markets. The Bay Area’s exports internationally, based on value, are led by technology companies and by businesses/industries in the South Bay.
- ***The Majority of Goods Movement Industries in the South Bay Are “Business Support Industries”***. They sell their goods and services to other businesses, primarily those within the local economy. The “business support industries” allow the “driving industries” to function effectively. They also support other business activities and household consumption in the South Bay.

**LAND AND BUILDING SPACE FOR
GOODS MOVEMENT BUSINESSES/INDUSTRIES**

Due to the convergence of multiple freeways in San José and the broad geography of the area, goods movement land uses in the South Bay are dispersed over a fairly wide geographic area without a strong corridor focus like those along the inner East Bay and the North Peninsula. However, most are located in the northern and central parts of the South Bay.

◆ **Warehouse and Manufacturing Space in the South Bay for Industrial Goods Movement Businesses**

Currently, there are about 85 million square feet of warehouse and manufacturing building space in the South Bay. Most of the goods movement industries identified as industrial land uses occupy this space. About half of the industrial space is located in San José, with the next largest amounts in the cities of Santa Clara, Sunnyvale, and Milpitas.

◆ **R&D Space for High Technology Manufacturing
Goods Movement Industries**

The high-tech manufacturing industries (computer and electronics products manufacturing) included as goods movement industries occupy R&D space in the South Bay, along with other high technology and business park/campus businesses. Overall, there is a large amount of R&D space in the South Bay, 130 million square feet. About one-third of the R&D space is in San José, with the next largest amounts of R&D space in Santa Clara, Sunnyvale, Milpitas, and Mountain View.

**INDUSTRIAL LAND USE TRENDS, ISSUES,
AND POLICIES IN THE SOUTH BAY**

As in the East Bay and North Peninsula corridor areas, there have been declines in the supply of industrial land in the South Bay, as a result of the demand for land by residential, commercial, and institutional uses and due to local land use policies that allow or encourage changes in land use. Compared to the older, central corridors, loss of industrial land in the South Bay has included more loss of vacant land to accommodate future industrial growth and development, and less loss of land under existing industrial use, although pressures on existing industrial areas are anticipated to increase in the future. Local planning efforts in San José, in particular, are attempting to stop the loss of industrial land and retain the land supply for employment-generating uses including goods movement industries.

**Trends and Policy Initiatives to
Preserve Employment Lands in San José**

The loss of employment lands is a major issue for the City of San José. Employment lands (industrial and commercially designated parcels) make up 15 percent of the City's total land supply, including both vacant and already developed land.

Over time, individual General Plan amendments have cumulatively greatly reduced the City's inventory of employment lands. Since 1990, San José has converted approximately 1,400 acres, equal to nine percent of all employment lands, to other uses. The conversion rate nearly doubled from 1990 to 2000 at 69 acres/year, to 2001-2006 at 120 acres/year.

In response to continuing conversions, the City Council approved a new *Framework for Preservation of Employment Land* near the end of 2007. The new framework is based on the premise that the maintenance of an adequate supply of employment lands is essential for San José's economic development. Policies intended to achieve no net loss of Light or Heavy Industrial land in San José are particularly important for retaining location options for goods movement businesses/industries and for accommodating future growth. From the broader South Bay perspective, the preservation of industrial lands in San José is important as that City includes much of the vacant land to accommodate employment growth in the northern and central parts of the South Bay.

Industrial Land Use Trends in Other South Bay Cities and Silicon Valley Overall

Among other South Bay cities, industrial land and building space are also under pressure in Sunnyvale, Milpitas, and Santa Clara. There have been recent declines in warehouse and manufacturing space in each of these cities as well as losses of vacant industrial land needed for future growth. Key points regarding industrial markets in Silicon Valley identify trends affecting all of these cities as well as San José. They include the following.

- There is strong demand for manufacturing and warehouse space in Silicon Valley, and demand is forecast to grow in the future. Goods movement industries provide a major component of that demand.
- In spite of increasing demand, high land costs, increasing competition for industrial sites by higher-value land uses, and the scarcity of large, available sites will likely constrain future expansion of the manufacturing and warehouse sectors in the South Bay.
- While economic analysis projects the growth of demand for manufacturing and warehouse space, that demand is unlikely to be met in the northern and central parts of the South Bay under current trends and a declining industrial land supply.

With strong market competition for land in the South Bay, particularly in the northern and central areas, *local land use policies* are important in determining whether the existing industrial land supply will be retained and be available for goods movement businesses/industries or converted to other land uses. In general, local land use plans and policies have allowed or encouraged new uses of industrial land in the South Bay. New policies to preserve employment lands in San José and to evaluate industrial conversion requests in Santa Clara provide examples of local policy initiatives designed to help retain industrial land in the future.

In addition, as identified in the earlier analysis, a broader regional approach to smart growth initiatives that supports not only housing and commercial development but also supports the role of industry and the need to retain locations for goods movement uses in proximity to the markets they serve could provide incentives and support to South Bay cities for addressing industrial land use issues.

Goods Movement Land Use Issues and Implications

Shortages of industrial land for goods movement businesses/industries in the South Bay raise issues of the longer-term growth and competitiveness of the South Bay economy. There also are transportation, environmental, and employment consequences to consider. These implications are somewhat similar to those identified for the central study corridors in the earlier analyses.

◆ **More Dispersed Land Use Pattern**

Shortages of industrial land, particularly in the northern and central areas, will result in the outward dispersion of goods movement businesses serving the South Bay. The result will be a more dispersed goods movement land use pattern in the future with longer distances between goods movement businesses/industries and the markets they serve.

◆ **Consequences for Transportation, Air Quality, and the Economy**

The outward dispersion of industrial goods movement businesses while the demand they serve grows in the northern and central South Bay will have transportation, air quality, and economic consequences similar to those identified by the earlier analyses including the following:

- Longer travel distances for goods movement, more truck miles driven, and greater congestion on regional routes.
- Greater truck emissions affecting Bay Area attainment status for several key pollutants.
- Fewer good-paying blue/green collar jobs and less economic diversity within the central South Bay.
- Higher transportation costs, translating into higher costs of goods to businesses and household consumers.

Goods movement and the goods movement industries are part of the “economic infrastructure” that facilitates production and commerce and supports consumption. A less efficient goods movement system as a result of a shortage of industrial land will increase costs for businesses and household consumers. Higher costs result in more costly goods and services and reduce the competitive advantages of the South Bay for high technology and other “driving industries”.

◆ **Less Business and Job Growth in “Driving Industries”**

For the goods movement industries that are “driving industries” selling their products to national and international markets, shortages of industrial/R&D land to accommodate growth and expansion over time could result in the loss of business and job growth in the South Bay, as these businesses and their supporting industries locate in other parts of the U.S. or in other countries. For these industries, shortages of land supply could have direct implications for growth and retention of high technology manufacturing activities in the Bay Area, and for regional competitiveness overall.

OVERVIEW OF GOODS MOVEMENT INDUSTRIES AND LAND USE ISSUES IN THE SOUTH BAY

Deliverable for Task 5 Bay Area Goods Movement/Land Use Project Phase 2

BACKGROUND AND PURPOSE

The current MTC Goods Movement/Land Use Project has focused research efforts on the two major goods movement transportation corridors that ring the central parts of San Francisco Bay:

- *East Bay I-80/880 Corridor*, from Richmond on the north to Fremont on the south; and
- *North Peninsula US 101 Corridor*, from San Mateo County line on the north to Millbrae and Burlingame on the south.

These corridors offer locations with proximity to businesses and population in the central parts of the Bay Area and good accessibility throughout the region. They also provide access to the region's major seaports and airport air freight facilities. Bay Area freight flows are concentrated along the central corridors.

Once the corridor analyses were completed, consideration was given to the South Bay, to provide a high-level overview assessment of goods movement industries and land use issues in the South Bay as compared to those identified for the East Bay and North Peninsula. That assessment is summarized in this deliverable. The text first describes goods movement businesses/industries in the South Bay, and then addresses industrial land supply/building space and land use issues for goods movement businesses in the South Bay. Throughout, the South Bay refers to Santa Clara County.

This overview assessment of goods movement and land use issues in the South Bay is based on review of existing data and information and available studies and reports, as well as selected interviews with persons knowledgeable about the South Bay and the issues of relevance to the purposes of this project.

GOODS MOVEMENT BUSINESSES/INDUSTRIES IN THE SOUTH BAY

Goods movement businesses/industries in the South Bay include industrial businesses that supply materials and products, manufacture goods, distribute goods, support construction, and provide transportation and other services that facilitate and support business activity and household consumption primarily in the South Bay and in other parts of the region. Many goods movement industrial businesses supply and support the high technology industries in Silicon Valley. The high technology manufacturing industries that depend on regular goods movement are also included as goods movement industries.

An overview of goods movement industries in the South Bay is provided by the employment data in Table 1.¹ Overall, employment in goods movement industry groups in the South Bay totals 270,800 (2007) and accounts for about 30 percent of total South Bay employment.

Goods Movement Industries Include Those With High-Level and Mid-Level Dependence on Goods Movement

Based on the definitions and categorization scheme developed in the earlier work², industry groups are considered to be goods movement businesses/industries because of the high-level (Tier 1) or mid-level (Tier 2) importance of goods movement to their operations and to their location decisions. In the South Bay, about 40 percent of goods movement industry groups are categorized as Tier 1 (high-level of importance) and about 60 percent as Tier 2 (mid-level importance). Goods movement industry employment is summarized by dependence on goods movement on the left side of Table 1.

- ◆ ***Tier 1: Goods Movement Dependent Industries.*** *Includes businesses/industries where goods movement is of high level importance to their operations and location decisions and which typically exhibit frequent freight vehicle trips inbound and outbound.*

Tier 1 includes 41 percent of goods movement business activity and employment in the South Bay, in the following industry groups:

- Manufacturing (excluding high-tech mfg.) (21 percent). Primarily includes manufacturing of durable goods, including fabricated metal products, industrial machinery, and transportation equipment. Also includes some non-durable goods manufacturing of food, beverages, chemicals, and other products. Publishing (newspapers, books, periodicals; non-electronic publishing) is also included in this group.
- Wholesale trade (15 percent).
- Transportation, warehousing, couriers/messengers, and related (4 percent).
- Waste management, recycling, and remediation services (about 1 percent).

¹ The definitions and categorization scheme developed in the earlier work for the goods movement study corridors were applied to EDD employment data by industry for the San José-Sunnyvale-Santa Clara MSA to provide an overview of goods movement industries and employment in the South Bay. Data are for the entire MSA, as this overview assessment could not analyze the areas/corridors where goods movement industries are focused as was done for the East Bay and North Peninsula study corridors. The MSA includes Santa Clara and San Benito Counties, with Santa Clara County representing over 98 percent of total employment for the MSA in 2007. Thus, use of the MSA data as representative of Santa Clara County is appropriate for the purposes of this effort.

² See the deliverable for Task 3A: *Defining Goods Movement Businesses/Industries With Demand for Central Corridor Locations*, December 2007.

**TABLE 1
EMPLOYMENT IN GOODS MOVEMENT INDUSTRIES IN THE SOUTH BAY, 2007**

By Dependence on Goods Movement			By Land Use		
	2007 Employment	Percent		2007 Employment	Percent
<u>Tier 1: Goods Movement Dependent Industries</u>			<u>Industrial Land Uses</u>		
Transportation and Warehousing	11,800	4%	Transportation and Warehousing	11,800	4%
Manufacturing (excluding Computer and Electronics Mfg.)	57,700	21%	Manufacturing (excluding Computer and Electronics Mfg.)	57,700	21%
Durable Goods Mfg.	42,400		Durable Goods Mfg.	42,400	
Non-Durable Goods Mfg.	13,100		Non-Durable Goods Mfg.	13,100	
Publishing (non-electronic)	2,200		Publishing (non-electronic)	2,200	
Wholesale Trade	39,700	15%	Wholesale Trade	39,700	15%
Waste Management and Remediation Services	<u>2,300</u>	<u>1%</u>	Waste Management and Remediation Services	2,300	1%
Subtotal - Tier 1 GM Industries	111,500	41%	Construction	47,000	17%
			Utilities	<u>1,700</u>	<u>1%</u>
<u>Tier 2: Other Goods Movement Industries</u>			Subtotal - Industrial Land Uses		
Construction	47,000	17%		160,200	59%
Utilities	1,700	1%	<u>High Tech Mfg. / R&D Land Uses</u>		
High Technology Manufacturing, Computer and Electronics	<u>110,600</u>	<u>41%</u>	High Technology Manufacturing, Computer and Electronics	<u>110,600</u>	<u>41%</u>
Subtotal - Tier 2 GM Industries	159,300	59%	Subtotal - R&D Land Uses	110,600	41%
Total - Goods Movement Industries	270,800	100%	Total - Goods Movement Industries	270,800	100%
Total Employment in San Jose-Sunnyvale-Santa Clara MSA	914,300				
Goods Movement Employment as Percent of MSA Emp.	30%				

Source: California Employment Development Department (EDD) (annual average employment, March 2007 Benchmark); Hausrath Economics Group

- ◆ **Tier 2: Other Goods Movement Industries.** *Includes businesses/industries that depend on goods movement, although it is of less importance and often secondary to other business purposes and/or location factors.*

Tier 2 includes the majority, 59 percent, of goods movement business activity and employment in the South Bay, including:

- High technology manufacturing of computer and electronic products (41 percent).
- Construction (17 percent).
- Utilities (less than 1 percent).

Goods Movement Industries Include Industrial and R&D Land Uses

Goods movement industry groups have different types and densities of business operations, different location needs, and differing abilities to pay for land and building space. The earlier analyses found the most significant differences between: (a) goods movement industry groups with lower-density operations and with demand for more traditional, industrial land and building space; and (b) good movement industries with demand for more improved, R&D and business park/campus land and building space. Goods movement industries in the South Bay include both industrial land uses (about 60 percent) and R&D land uses (about 40 percent). Goods movement industry employment is summarized by land use on the right side of Table 1.

- ◆ **Industrial Land Uses.** *Includes businesses/industries that locate on land designated for heavy industrial and light industrial uses, and that occupy warehouse and manufacturing building space.*

Industrial/goods movement land uses include about 60 percent of goods movement business activity and employment in the South Bay, and include all of the goods movement industries in Tier 1 and the goods movement industries in Tier 2 except for the high technology manufacturing industries.

- ◆ **High Technology Mfg./R&D Land Uses.** *Includes businesses/industries that locate on land designated for planned industrial parks, business campuses, and light manufacturing uses, and that typically occupy more improved, R&D building space.*

High technology/R&D goods movement land uses include about 40 percent of goods movement business activity and employment in the South Bay, all of which are in the Tier 2 group of high technology manufacturing, focused on computer and electronic products manufacturing.

South Bay Goods Movement Industries Are Driving Industries and Business Support Industries

Economic analyses done for the City of San José and the City's Economic Development Strategy divide the economy into three broad groups. The goods movement industries fall into two of those groups, including "driving industries" that sell to outside markets and "business support industries" that primarily serve the South Bay.³ There also are some goods movement businesses that are both "business support" and "household-serving" industries.

◆ Good Movement Businesses in High Technology Manufacturing Are Driving Industries

The high technology manufacturing businesses that are goods movement industries (Tier 2) are "driving industries". They sell the vast majority of their products to markets outside the region, largely serving national and international markets. They bring in revenues that are spent locally and help drive the Silicon Valley economy. This group accounts for about 40 percent of goods movement business activity and employment in the South Bay.

It is notable that the Bay Area's exports internationally are led by technology companies and by businesses/industries in the South Bay. South Bay exports of goods account for almost 60 percent of the value of total Bay Area exports of goods (2006). Two-thirds of the value of South Bay exports are exports of computer and electronic products manufactured by goods movement industries in the South Bay.⁴

◆ The Majority of Goods Movement Industries in the South Bay Are Business Support Industries.

All of the goods movement industries except high technology manufacturing are primarily "business support industries". They sell their goods and services to other businesses, primarily those within the local economy. The "business support industries" allow the "driving industries" to function effectively. They also support other business activities and household consumption in the South Bay.

"Business support industries" account for the majority, about 60 percent, of goods movement business activity in the South Bay. These industries include manufacturing companies (except high-tech manufacturing), wholesale traders and distributors, construction companies, transportation and courier services, and

³ *Towards the Future: Jobs, Land Use, and Fiscal Issues in San José's Key Employment Areas, 2000-2020*; Strategic Economics et al.; February 2004. *City of San José Economic Development Strategy*, November 2003. San José's map of employment subareas for Driving Industries and Business Support Industries is included in Appendix B at the end of this report.

⁴ *International Trade and the Bay Area Economy, Regional Interests and Global Outlook 2008*; Bay Area Council Economic Institute, September 2008. See pages 29-30 and Appendix III.

other businesses. The waste management and recycling companies and the utilities are goods movement industries that are “business support industries” as well as “household-serving industries” for the South Bay.

Goods Movement Industries in the South Bay Compared to Those in the East Bay and Along the Central Study Corridors

There are similarities and differences between goods movement industries in the South Bay and those in the East Bay, a large share of which are located along the major East Bay I-80/880 Corridor analyzed in the earlier efforts. In total, the levels of overall employment and business activity in goods movement industries are relatively similar in both the South Bay and the East Bay, as shown by the data in Table 2. However, there are differences in the types of goods movement businesses in each part of the region, as summarized by the comparisons in Table 3.

TABLE 2 GOODS MOVEMENT INDUSTRIES IN THE SOUTH BAY AND EAST BAY Employment, 2007				
Industry	South Bay /a/		East Bay /a/	
	Employment	Percent	Employment	Percent
Transportation and Warehousing	11,800	4%	32,700	12%
Manufacturing (excluding Computer and Electronics Mfg.)	57,700	21%	77,400	30%
Durable Goods Mfg.	42,400		37,400	
Non-Durable Goods Mfg.	13,100		34,400	
Publishing (non-electronic)	2,200		3,600	
Wholesale Trade	39,700	15%	48,800	19%
Waste Management and Remediation Services	2,300	1%	4,800	2%
Construction	47,000	17%	72,400	28%
Utilities	<u>1,700</u>	<u>1%</u>	<u>3,500</u>	<u>1%</u>
Subtotal - Industrial Land Uses	160,200	59%	239,600	92%
High Technology Manufacturing, Computer and Electronics	<u>110,600</u>	<u>41%</u>	<u>19,900</u>	<u>8%</u>
Subtotal - High Tech Mfg / R&D Land Uses	110,600	41%	19,900	8%
TOTAL - Goods Movement Industries	270,800	100%	259,500	100%
Total Employment in MSA	914,300		1,049,100	

/a/ San Jose-Sunnyvale-Santa Clara MSA (Santa Clara, San Benito Counties)
/b/ Oakland-Fremont-Hayward MSA (Alameda, Contra Costa Counties)

Source: California Employment Development Department (EDD) (annual average employment, March 2007 Benchmark);
Hausrath Economics Group

**TABLE 3
GOODS MOVEMENT INDUSTRIES IN THE SOUTH BAY
COMPARED TO THE EAST BAY AND CENTRAL CORRIDORS, 2006/2007**

TYPES OF GOODS MOVEMENT INDUSTRIES			
	Percent of Goods Movement Employment		
	South Bay /a/	East Bay /b/	Study Corridors /c/
<u>By Dependence on Goods Movement</u>			
Transportation and Warehousing	4%	12%	18%
Manufacturing (excl. high-tech mfg.)	21%	30%	31%
Wholesale Trade	15%	19%	18%
Other Tier 1 Industries	<u>1%</u>	<u>2%</u>	<u>3%</u>
Tier 1: Goods Movement Dependent Industries	41%	63%	70%
Construction	17%	28%	14%
High Technology Mfg.	41%	8%	14%
Other Tier 2 Industries	<u>1%</u>	<u>1%</u>	<u>2%</u>
Tier 2: Other Goods Movement Industries	59%	37%	30%
TOTAL	100%	100%	100%
<u>By Land Use</u>			
Industrial/Airport-Seaport-Rail/Refineries-Pipelines	59%	92%	86%
High-tech Mfg./R&D Land Uses	41%	8%	14%
GOODS MOVEMENT INDUSTRIES AS SHARES OF TOTAL EMPLOYMENT			
	South Bay /a/	East Bay /b/	Study Corridors /c/
Goods Movement Industry Employment	270,800	259,500	177,200
Total Employment in MSA/Corridors	914,300	1,049,100	358,300
As Percent of Total Employment:			
Goods Movement Industrial Uses	18%	23%	42%
Goods Movement High-tech Mfg./R&D Uses	12%	2%	7%
Total Goods Movement Industries	30%	25%	49%
/a/ San José-Sunnyvale-Santa Clara MSA (Santa Clara, San Benito Counties), 2007.			
/b/ Oakland-Fremont-Hayward MSA (Alameda, Contra Costa Counties), 2007.			
/c/ East Bay I-80/880 and North Peninsula US 101 Study Corridors, 2006.			
Source: California Employment Development Department (EDD); Hausrath Economics Group.			

Compared to the East Bay and the central study corridors, the South Bay includes substantially more high technology manufacturing activity and employment reflecting Silicon Valley's specialization in high technology industries. The South Bay also includes considerably less activity and employment in industrial goods movement businesses, with notably lower levels and shares of transportation and warehousing and of other manufacturing (non-high-tech) business activities.⁵

The focus of South Bay goods movement industries is on serving Silicon Valley, including the high technology industries and the larger South Bay economy. The greater levels of industrial goods movement activities in the East Bay are focused on supporting the East Bay, the West Bay including San Francisco, as well as other parts of the region. South Bay locations at the southern end of the Bay are less efficient for providing regional goods movement transportation services compared to locations along the central corridors. Further, the South Bay does not include major regional seaport and airport air freight facilities and the goods movement activities that support them.

The South Bay includes one of the region's three major airports, the Norman Y. Mineta San José International Airport. Mineta San José is very important to goods movement industries and other businesses throughout the South Bay. It provides commercial airline services for executive, employee, and customer/visitor travel in support of South Bay business activities. It also provides general aviation services for privately-owned planes and corporate aviation needs. Mineta San José does not include major air freight operations, however, as those are concentrated at the San Francisco (international air freight, primarily aboard commercial, passenger flights) and Oakland (national air freight including major hub operations for parcel and express services) airports. As a result, most air cargo from/to the South Bay travels via the Oakland and San Francisco airports.

LAND SUPPLY AND BUILDING SPACE FOR GOODS MOVEMENT BUSINESSES/INDUSTRIES IN THE SOUTH BAY

Due to convergence of multiple freeways in San José and the broad geography of the area, goods movement land uses in the South Bay are dispersed over a fairly wide geographic area without a central corridor focus like those along the inner East Bay and the Peninsula. As in the corridor areas, there have been declines in the supply of industrial land in the South Bay, as a result of the demand for land by residential, commercial, and institutional uses and due to local policies that allow or encourage changes in land use. Compared to the older, central corridors, loss of

⁵ The comparisons discuss goods movement industries in the South Bay in relation to those in the East Bay that are dominated by goods movement activities along the major East Bay I-80/880 Corridor that was the focus of earlier research efforts. Although the earlier efforts also focused on the North Peninsula US 101 Corridor, comparisons to the West Bay or Peninsula are not included here as the goods movement industries of interest for the North Peninsula could not be well identified with employment data for the much larger MSA (including San Mateo, San Francisco, and Marin Counties). The comparisons to the central corridors include data for both the East Bay I-80/880 and North Peninsula US 101 corridors that were studied in detail in the earlier effort.

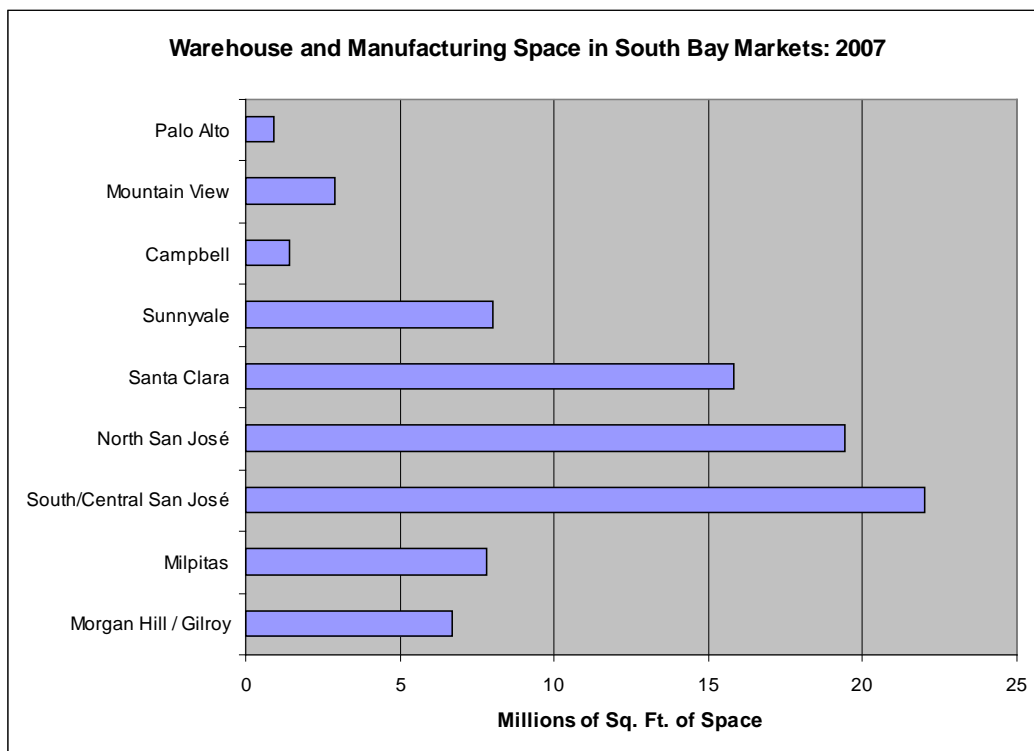
industrial land in the South Bay has included more loss of vacant land to accommodate future industrial growth and development, and less loss of land under existing industrial use, although pressures on existing industrial areas are anticipated to increase in the future. Local planning efforts in San José, in particular, are attempting to stop the loss of industrial land and retain the land supply for employment-generating uses including goods movement industries.

Industrial Land Use Patterns in the South Bay

Warehouse and Manufacturing Space for Industrial Goods Movement Businesses

Currently, there are about 85 million square feet of warehouse and manufacturing building space in the South Bay, as summarized in Table 4 on the next page. Most of the goods movement industries identified as industrial land uses occupy this space. About half of the industrial space is located in San José, in the northern and central parts of the South Bay, as shown in Figure 1 below. The other half of the space is distributed to the east, west, and south of San José, with the next largest amounts of industrial space in Santa Clara, Sunnyvale, and Milpitas, all located in the northern parts of the South Bay. Overall, occupancy is strong for both warehouse and manufacturing space throughout the South Bay, with overall vacancies averaging five to six percent in 2007. Rents for warehouse space in the South Bay average \$0.42 per sq. ft. per month (NNN), and rents for manufacturing space average \$0.76 per sq. ft. per month (NNN) (the latter typically includes more improvements).⁶

FIGURE 1



⁶ See Table 4. Source is NAI BT Commercial Real Estate, Research Reports for First Quarter 2007.

TABLE 4 INDUSTRIAL AND R&D SPACE IN THE SOUTH BAY / SANTA CLARA COUNTY (First Quarter 2007)								
City	Warehouse Space /a/ (mil. sq. ft.)		Manufacturing Space /b/ (mil. sq. ft.)		Warehouse and Manufacturing Space (mil. sq. ft.)		R&D Space /c/ (mil. sq. ft.)	
Palo Alto	-	-	0.9	2%	0.9	1%	6.3	5%
Mountain View	-	-	2.9	6%	2.9	3%	13.1	10%
Campbell / Cupertino / Westside	-	-	1.4	3%	1.4	2%	6.4	5%
Sunnyvale	1.8	6%	6.2	12%	8.0	9%	21.3	16%
Santa Clara	3.9	12%	11.9	23%	15.8	19%	22.0	17%
San Jose	18.8	58%	22.7	43%	41.5	49%	42.6	33%
Milpitas	5.6	17%	2.2	4%	7.8	9%	15.6	12%
Morgan Hill / Gilroy	2.5	8%	4.2	8%	6.7	8%	3.6	3%
TOTAL	32.6	100%	52.4	100%	85.0	100%	130.9	100%
Occupied Space	30.67		49.67				113.41	
Vacant Space	1.93		2.73				22.79	
Vacancy Rate	5.9%		5.2%				7.4%	
Average Asking Rent /d/	\$0.42		\$0.76				\$1.08	
NOTE: Includes space in buildings over 10,000 square feet in size.								
/a/ Warehouse space includes space in buildings typically used for bulk warehouse purposes, with clear heights of 18 feet or more, dock and/or loading grade doors, minimal build-out, and limited glass.								
/b/ Manufacturing space includes space in buildings typically used for manufacturing purposes, with the ability to accommodate production machinery and equipment, with clear heights of less than 18 feet, with at least three sides concrete and one side glass, and usually with up to 15 percent office build-out.								
/c/ R&D space includes buildings typically used for R&D or light manufacturing functions, no more than two stories in height, with higher parking ratios, with glass on up to three sides, and typically improved to allow office, R&D, manufacturing, and/or assembly functions.								
/d/ Rents (NNN) are expressed per square foot of space per month.								
Source: NAI BT Commercial Real Estate, Research Reports for First Quarter, 2003 and 2007; Hausrath Economics Group								

R&D Space for High Technology Manufacturing Goods Movement Industries

The high-tech manufacturing industries (computer and electronic products manufacturing) included as goods movement industries (Tier 2) typically occupy R&D space in the South Bay, along with other high technology and business park/campus businesses. Overall, there is a large amount of R&D space in the South Bay, 130 million square feet (2007), as identified in Table 4. About one-third of the R&D space is in San José, with the next largest amounts of R&D space in Santa Clara, Sunnyvale, Milpitas, and Mountain View. There is still a relatively high vacancy rate for R&D space (17.4 percent in 2007) in the South Bay. R&D space rents averaged \$1.08 per square foot per month and are higher than rents for warehouse and manufacturing space, reflecting a greater level of improvements and higher densities of use.⁶

Regional Comparisons Show Smaller Role of Warehouse and Manufacturing Space in the South Bay and Larger Role of R&D Space

Compared to industrial and R&D space in other major markets around San Francisco Bay, the South Bay includes a relatively smaller share of warehouse space (21 percent), a modest share of manufacturing space (36 percent), and a large share of the R&D space (65 percent), reflecting the focus of the South Bay economy on high technology industries. (See Table 5 below.) Comparisons between the South Bay and the East Bay highlight the much larger role of more traditional industrial space and uses in the East Bay, most of which are involved in goods movement. In the East Bay, the I-80/880 Corridor alone has twice the amount of warehouse and manufacturing space than the South Bay (164 million square feet in the East Bay I-80/880 Corridor compared to 85 million square feet in the South Bay). In addition, there are about 32 million square feet of industrial space in the Tri-Valley and North I-680 areas of the East Bay. While warehouse and manufacturing space and the goods movement uses that are accommodated do not play as large a role in the South Bay as in the East Bay, that role and the supply of industrial land and building space are important and provide support for the high technology industries and for other businesses and household consumption in the South Bay. (Tables in Appendix A at the end of this report provide additional tables for industrial building space in the major markets in the central Bay Area.)

TABLE 5 MAJOR CENTRAL BAY AREA MARKETS FOR INDUSTRIAL AND R+D SPACE (First Quarter 2007)						
Area	Warehouse Space /a/ (mil. sq. ft.)		Manufacturing Space /b/ (mil. sq. ft.)		R&D Space /c/ (mil. sq. ft.)	
East Bay I-80/880 Corridor	76.4	48%	87.5	60%	32.9	16%
San Francisco	19.4	12%	-	-	19.4	10%
Peninsula US 101 Corridor	30.4	19%	6.8	5%	18.1	9%
South Bay / Santa Clara County	32.6	21%	52.4	36%	130.9	65%
TOTAL	158.8	100%	146.7	100%	201.3	100%

NOTE: Includes space in buildings over 10,000 square feet in size.

/a/ Warehouse space includes space in buildings typically used for bulk warehouse purposes, with clear heights of 18 feet or more, dock and/or loading grade doors, minimal build-out, and limited glass.

/b/ Manufacturing space includes space in buildings typically used for manufacturing purposes, with the ability to accommodate production machinery and equipment, with clear heights of less than 18 feet, with at least three sides concrete and one side glass, and usually with up to 15 percent office build-out.

/c/ R&D space includes buildings typically used for R&D or light manufacturing functions, no more than two stories in height, with higher parking ratios, with glass on up to three sides, and typically improved to allow office, R&D, manufacturing, and/or assembly functions.

Source: NAI BT Commercial Real Estate, Research Reports for First Quarter, 2007; Hausrath Economics Group

Recent Trends in Industrial Space in the South Bay

Recent trends summarized in Table 6 indicate a loss of *warehouse space* in the South Bay, at an overall rate that is relatively similar to trends for the warehouse markets in other parts of the central Bay Area (as shown in Table A-3 in Appendix A at the end of this report). Real estate company reports identify a decline of 2.3 million square feet of warehouse space in the South Bay, from 2003 to 2007, a decline of about seven percent. During this period, vacancy rates declined substantially and rents remained steady. Similar to the goods movement corridors studied in the earlier efforts, the decline of warehouse space in the South Bay does not reflect a lack of industrial demand. Rather, it reflects increasing demand for land by other, higher-density land uses and a speculative real estate market, along with land use policies that allow or encourage changes in land use.

During this same period, *manufacturing space* in the South Bay has remained relatively stable. Despite higher vacancy rates, *R&D space* has increased somewhat in the South Bay, with notable increases in some areas and declines in other areas.

Among South Bay cities, existing industrial space seems to be under the most pressure in Sunnyvale and Milpitas where warehouse and manufacturing space combined declined by 16 to 17 percent in just four years. Unlike the rest of the South Bay, there were increases in industrial space in Morgan Hill/Gilroy, at the southern end of Santa Clara County, possibly to serve demand shifting outward from the northern parts of the County because of limited location options in those areas.

INDUSTRIAL LAND USE TRENDS, ISSUES, AND POLICIES IN THE SOUTH BAY

Trends, Issues, and Policy Initiatives To Preserve Employment Lands in San José

As the South Bay's largest city, San José is a major provider of industrial land and building space for goods movement industries in the South Bay. As a result of significant pressures to convert industrial land to residential and other uses, the City has undertaken extensive efforts to analyze the City's key employment areas, document the loss of employment lands, evaluate the economic and fiscal implications of converting employment lands to non-employment uses, and developing a framework for preserving employment lands, including industrial land for goods movement uses.⁷ The market pressures and land use issues addressed in San José are similar to those identified in the earlier analyses for the East Bay and North Peninsula goods movement corridors. These trends and issues also exist in other parts of the South Bay, particularly in other cities in the northern parts of Silicon Valley.

⁷ The summary of industrial land use trends, issues, and policies in San José presented in this section is taken from several reports and documents available from the City of San José. See particularly the City Council Agenda: 10-23-07. Selected maps are included in Appendix B at the end of this report, providing a Generalized Land Use Map for San José and an Employment Subareas Typology that identify the locations of industrial land supply in San José and the locations for goods movement industries that are Business Support Industries and Driving Industries.

TABLE 6
INDUSTRIAL AND R&D SPACE IN THE SOUTH BAY / SANTA CLARA COUNTY
Changes 2003-2007

Cities	Warehouse Space				Manufacturing Space				Cities	R & D Space			
	Q1-2003 (Bldg. SF)	Q1-2007 (Bldg. SF)	Change (Bldg. SF)	% Change	Q1-2003 (Bldg. SF)	Q1-2007 (Bldg. SF)	Change (Bldg. SF)	% Change		Q1-2003 (Bldg. SF)	Q1-2007 (Bldg. SF)	Change (Bldg. SF)	% Change
Palo Alto	-	-	-	-	968,700	886,900	(81,800)	-8.4%	Palo Alto	6,028,700	6,335,300	306,600	5.1%
Mountain View	-	-	-	-	2,776,000	2,933,900	157,900	5.7%	Mountain View	13,585,200	13,122,200	(463,000)	-3.4%
Campbell	-	-	-	-	1,327,600	1,447,300	119,700	9.0%	Cupertino	4,892,100	4,710,600	(181,500)	-3.7%
Sunnyvale	3,275,900	1,827,700	(1,448,200)	-44.2%	6,350,800	6,159,300	(191,500)	-3.0%	Westside	1,883,200	1,721,100	(162,100)	-8.6%
Santa Clara	3,912,300	3,909,000	(3,300)	-0.1%	12,275,400	11,937,200	(338,200)	-2.8%	Sunnyvale	22,611,600	21,280,600	(1,331,000)	-5.9%
North San José	9,933,600	9,623,200	(310,400)	-3.1%	9,404,900	9,809,300	404,400	4.3%	Santa Clara	22,517,100	22,022,700	(494,400)	-2.2%
So./Central S. José	8,876,300	9,186,200	309,900	3.5%	12,646,100	12,839,300	193,200	1.5%	San José	41,794,700	42,553,500	758,800	1.8%
Morgan Hill/Gilroy	2,319,600	2,492,600	173,000	7.5%	3,860,900	4,173,200	312,300	8.1%	Morgan Hill/Gilroy	2,391,300	3,551,600	1,160,300	48.5%
Milpitas	6,606,300	5,570,900	(1,035,400)	-15.7%	2,658,500	2,242,100	(416,400)	-15.7%	Milpitas	13,776,000	15,618,600	1,842,600	13.4%
TOTAL	34,924,000	32,609,600	(2,314,400)	-6.6%	52,268,900	52,428,500	159,600	0.3%	TOTAL	129,479,900	130,916,200	1,436,300	1.1%

Source: NAI BT Commercial Real Estate, Research Reports for First Quarter, 2003 and 2007; Hausrath Economics Group

Loss of Employment Land Including Industrial Land in San José, and City Efforts to Preserve Such Lands

The loss of employment lands is a major issue for the City of San José. Employment lands are defined as industrial and commercially designated lands supporting private sector employment. Employment lands (industrial and commercially designated parcels) make up 15 percent of the City's total land supply, including both vacant and already developed land. The general locations of employment lands in San José including industrial lands for goods movement businesses are shown on the maps in Appendix B at the end of this report.

Over time, individual General Plan amendments have cumulatively greatly reduced the City's inventory of employment lands. Beginning in the 1980s, the City attempted to maintain its inventory of industrial lands through land swaps that allowed the conversion of employment land to non-employment uses in one area of the City in conjunction with the conversion of non-employment land to employment land in another area of the City. However, in the 1990s and through 2007, the conversion of industrial land to non-employment uses accelerated, resulting in continued net loss of the City's industrial land inventory.

Since 1990, San José has converted approximately 1,400 acres, equal to nine percent of all employment lands, to other uses. The conversion rate nearly doubled from 1990 to 2000 at 69 acres/year, to 2001-2006 at 120 acres/year. The consequences to the City were identified as:

- Loss of jobs and job capacities;
- Loss of tax base and revenue for City services;
- Restrictions for adjacent industrial companies as a result of incompatible residential development nearby; and
- Loss of potential large-scale commercial retail opportunities.

In 2004, the City approved a new framework (2005 Framework) to address the cumulative loss of employment land, and, in particular, land designated for industrial uses, through incremental conversions resulting from General Plan amendments. However, the Framework was not successful in stemming the tide of industrial land conversions. Since 2004, the City lost approximately 120 acres of industrial land per year through conversion to other uses.

In response to continuing conversions, the City Council approved a new *Framework for Preservation of Employment Land* near the end of 2007. The new framework is based on the premise that the maintenance of an adequate supply of employment lands is essential for San José's economy and economic development. The City's documents identify the importance of maintaining an adequate supply of Light and Heavy Industrial lands to accommodate future industrial demand. The *Preservation Framework* is intended to achieve the following outcomes relevant to industrial land:

- No net loss of total employment capacity as a result of any amendment to the *San José 2020 General Plan*.

- No net loss of Light or Heavy Industrial land (acreage).
- Discouragement of conversions to non-employment uses in key employment areas.
- Intensified development/activity on sites designated for Industrial Park or Combined Industrial/Commercial.

The second item listed is particularly important for goods movement uses as it seeks to prevent the loss of Light or Heavy Industrial land to (higher-value) Industrial Park, Combined Industrial/Commercial, and Commercial land uses, as well as to Residential and other non-employment uses.

Ample Opportunities Also Exist for Housing in San José

The City's efforts to preserve employment lands also focused on assuring that opportunities continue to exist for a variety of housing types and income levels in San José. The ability to address housing needs and retain a diverse economy with goods movement and other industrial land uses is an issue that also arises in communities along the East Bay Goods Movement Corridor.

San José's efforts toward preserving industrial land area are intended to retain and encourage a better balance of both jobs and housing. Prior trends have resulted in conversions of employment lands to housing development, thereby foreclosing the limited options remaining for industrial land uses in San José and the South Bay. The City's analyses identify many location options for housing development outside of areas for industrial and other employment land uses.

Issues of Vacant Industrial Land for Future Growth As Well As Developed Land in Existing Industrial Areas

In many cases, the losses of industrial land in San José have involved vacant industrial land needed to accommodate future growth of businesses and jobs in the South Bay. Thus, the issue of industrial land preservation focuses on preserving opportunities for business and job growth and retention. As described earlier, the growth of "business support industries" is needed to support the growth of "driving industries" and other businesses and household consumption, all of which also require employment lands.

The situation in San José is a bit different from that in the older cities along the East Bay I-80/880 Corridor. In the older cities, there is little vacant land left so the loss of industrial land is reducing the existing inventory of industrial building space and foreclosing opportunities to retain existing levels of business activity as well as opportunities to expand or redevelop industrial areas to accommodate growth in modern, more efficient facilities in the future. In San José, the loss of industrial land has involved the loss of substantial vacant land needed to accommodate future growth of industrial businesses and jobs. In the future, pressures on existing industrial areas are anticipated to grow in San José as well.

Loss of Industrial Land in San José Has Implications for the South Bay Overall

From the broader South Bay perspective, the preservation of industrial lands in San José is important as that City includes much of the vacant land to accommodate employment growth in the northern and central parts of the South Bay. Without San José's industrial land supply, South Bay industrial uses that are business support industries will be pushed further south and east to areas that are much more distant from the markets they serve. In other cases, the loss of industrial land will result in lower overall business and job growth, as driving industries and their supporting industries will locate in other parts of the country.

Industrial Land Use Trends in Other South Bay Cities

After San José, the next largest amount of industrial land and warehouse/manufacturing building space occurs in the city of Santa Clara, followed by the amounts in the cities of Sunnyvale and Milpitas. These cities are all located in the northern parts of the South Bay at the southern end of San Francisco Bay, to the west and east of San José. They are located in proximity to the major freeways (I-880 and U.S. 101) and expressways in the South Bay. There have been recent declines in the warehouse and manufacturing space in each of these cities (see Table 6 earlier in the text).

Recent analysis of the industrial real estate market in the City of Santa Clara as well as in the larger Silicon Valley identifies trends and issues affecting all of these cities. Key points regarding the manufacturing and warehouse markets are summarized by the following.⁸

- ◆ Both the manufacturing and warehouse markets are steady and active in the Silicon Valley.
 - The stability of the markets is attributed to the continual demand for and limited availability of manufacturing and warehouse space in the Valley. There continue to be relatively high rates of lease renewals, as businesses recognize the benefits of central South Bay locations, the limited alternatives, and the high costs of moving. Overall, vacancy rates are low and rents remain steady.
- ◆ There is strong underlying demand for manufacturing and warehouse space in Silicon Valley, and demand is forecast to grow in the future. Goods movement industries provide a major component of that demand.

⁸ The summary that follows is taken from recent analysis done for the City of Santa Clara General Plan Update: *Draft Working Paper 1: Population, Demographics, Employment, and the Real Estate Market*, by Keyser Marston Associates, September 2008.

- ◆ In spite of increasing demand, high land costs and a declining industrial land supply will likely constrain future expansion of the manufacturing and warehouse sectors.
 - Manufacturing and warehouse uses typically command a lower value and, thus, are often unable to compete for land with higher-value, higher-density uses, such as residential, office, R&D, and retail/commercial uses. Over time, industrial sites are being converted to higher-intensity land uses. In Santa Clara, several industrial sites have converted to office uses or to residential uses. Industrial sites in Milpitas have been converted to R&D, residential, religious institutional, and commercial uses.
 - Local land use policies in other South Bay cities besides San José generally allow conversions of industrial land to other uses. In most cases, industrial conversions to higher-intensity commercial/R&D uses are allowed or are approved. Industrial conversions to residential uses also are approved in many cases, although more attention is now being focused on these conversions. In 2004, the City of Santa Clara adopted Residential Conversion Planning Criteria Guidelines for addressing findings of suitability for conversions from industrial to residential use.⁹ These Guidelines seek to limit such conversions.
 - Overall, trends show declines in industrial land and building space, and increasing pressure on the remaining industrial land supply. Land values are increasing, and new uses on converted industrial land often create compatibility issues for remaining industrial businesses nearby.
 - As demand grows for a declining industrial land supply, space costs increase and demand for new industrial space will intensify. However, high land costs, increasing competition for industrial sites by higher-value land uses, and the scarcity of large, available sites will likely constrain future industrial expansion.
 - Economic analysis projects growth of demand for manufacturing and warehouse space in the City of Santa Clara. However, the analysis concludes that the City will unlikely be able to meet the demand given high land costs and a declining supply of industrial land. Similar trends are anticipated for other South Bay cities.

⁹ In general, these guidelines are intended to support the General Plan industrial land use designations and only support conversions in locations that are close to existing public services, near existing residential neighborhoods to avoid isolated areas, and not in conflict with remaining industrial uses nearby. See: *City of Santa Clara Residential Conversion Planning Criteria Guidelines*; Agenda Report for 8-24-04 Santa Clara City Council Meeting; and City of Santa Clara General Plan Update: *Draft Working Paper 2: Opportunities and Challenges*, by Dyett & Bhatia, September 2008.

Goods Movement Land Use Issues and Implications

Shortages of industrial land for goods movement businesses/industries in the South Bay raise issues of the longer-term growth and competitiveness of the South Bay economy. There also could be transportation, environmental, and employment consequences.

Shortages of Industrial Land Result in the Outward Dispersion of Goods Movement Businesses Serving the South Bay

More Dispersed Land Use Pattern

Over time, goods movement businesses serving the South Bay that are “business support industries” (about 60 percent in 2007) will grow as will their demand for industrial land in the South Bay. Shortages of industrial land, particularly in the northern and central parts of Santa Clara County, will mean that demand shifts to outlying areas to the south (Gilroy, Salinas) and possibly the east. The result will be a more dispersed goods movement land use pattern in the future with longer distances between goods movement businesses/industries and the markets they serve.

The detailed analyses of the East Bay and North Peninsula goods movement corridors in the earlier work identified large numbers of industrial goods movement businesses and jobs serving the central parts of the Bay Area that will have to locate outside the central corridors because of shortages of industrial land. In those cases, the large majority are anticipated to locate outside the nine-county Bay Area in the inland San Joaquin Valley. Similar types of outward shifts would occur in the South Bay.

Consequences for Transportation, Air Quality, and the Economy

The outward dispersion of industrial goods movement businesses while the demand they serve grows in the central South Bay will have transportation, air quality, and economic consequences similar to those identified by the earlier analyses, including the following:

- Longer travel distances for goods movement, more truck miles driven, and greater congestion on regional routes.
- Greater truck emissions affecting Bay Area attainment status for several key pollutants.
- Fewer good-paying blue/green collar jobs and less economic diversity within the central South Bay.
- Higher transportation costs, translating into higher costs of goods to businesses and household consumers.
- A less efficient and more costly goods movement system resulting in higher costs of doing business and a higher cost of living overall.

Goods movement and the goods movement industries are part of the “economic infrastructure” that facilitates production and commerce and supports consumption. A less efficient goods movement system as a result of a shortage of industrial land will increase costs for businesses and household consumers. Higher costs result in more costly goods and services and reduce the competitive advantages of the South Bay for high technology and other “driving industries”.

An earlier study for the City of San José identified that there is not enough heavy industrial land supply for future businesses that support and supply the high-tech industries in the South Bay. Supplier industries include such industries as fabricated metal products, chemicals, plastics, sheet metal work, industrial machinery, printing and packaging, warehousing, wholesale trade, waste disposal and recycling, and others. The study identifies that a shortage of industrial land would force supplier industries to locate and/or move out of the area over time, thereby increasing operating expenses for high-tech companies in the South Bay, due to greater transportation costs and longer travel times for deliveries, repairs, and other goods and services. Such higher costs reduce the competitive advantage of San José and the South Bay as a location for high-tech manufacturing. The study also points out that the loss of suppliers results in a reduction of blue collar job opportunities for South Bay residents.¹⁰

Shortages of Industrial Land Also Can Result in the Loss of High-Tech Manufacturing Businesses and Jobs to Other Parts of the Country/World

As described earlier, the South Bay includes goods movement businesses in the high technology manufacturing sectors that are “driving industries” selling their products to national and international markets (about 40 percent in 2007). For these industries, shortages of industrial/R&D land to accommodate growth and expansion over time will result in the loss of business and job growth in the South Bay, as these driving businesses and their supporting industries will locate outside the South Bay, many in other parts of the U.S. or in other countries. For these industries, shortages of land supply will have direct implications for growth and retention of high technology manufacturing activities in the Bay Area, and for regional competitiveness overall.

As the high technology manufacturing businesses are typically higher-density and higher-value uses than more traditional manufacturing and warehouse industries, shortages of industrial land and conversions of industrial land to other uses are likely to have greater impacts on goods movement businesses that are “business support” industries serving other businesses and households in the South Bay (effects described above) than on the “driving industries” involved in high technology manufacturing. Nevertheless, the loss of employment lands more broadly defined, and shortages of land supply to meet growing demand in the high technology sectors will have impacts of the types just described.

¹⁰ This paragraph summarizes finding from the following report: *Maintaining A Strong Economic Base: Analysis of High Tech Trends, Projections, Primary Industries and Supplier Linkages in the City of San José*, by Chabin Concepts, Inc., April 2000.

Local and Regional Land Use Policy Issues and Challenges

Local Land Use Policies Are Important and Are Affecting the Future Supply of Industrial Land for Goods Movement Businesses/Industries

With strong market competition for land in the South Bay, particularly in the northern and central areas, local land use policies are important in determining whether the existing industrial land supply will be retained and be available for goods movement businesses/industries or converted to other land uses. In general, local land use plans and policies have allowed or encouraged new uses of industrial land in the South Bay. New policies to preserve employment lands in San José and to evaluate industrial conversion requests in Santa Clara are designed to retain industrial land and could make a difference in the future.

Where local land use policies are being changed to address industrial conversions in some South Bay cities, attention tends to be focused on the conversion of industrial land to residential uses. In addition, attention also needs to focus on the conversion of industrial land with lower-density warehouse and manufacturing uses to higher-density high technology manufacturing/R&D uses or to office and other commercial uses. Such conversions are allowed in many cases. While retaining employment uses, such conversions reduce the industrial land supply for most goods movement industries serving the South Bay, leading to the impacts and implications described above.

Regional Initiatives Under Smart Growth/FOCUS Program Could Combine With Local Efforts to Support Industry's Role in the South Bay

The earlier analysis identifies that the evolving pattern of dispersed goods movement/industrial land uses has implications that are contrary to the region's goal of focused growth. The development trends raise land use policy issues and suggest that the region may want to consider including an industrial/goods movement component of future *FOCUS* programs to promote a balance of goods movement/industrial uses in proximity to the business and population centers that they serve. Such a strategy would further the benefits of regional Smart Growth and help to maintain a healthy and competitive economy.¹¹

The intent of new measures could be to provide a more balanced approach that supports the role of industry and that does not foreclose the limited location options remaining for goods movement industrial activities. Such an approach could provide regional support to the City of San José and other South Bay cities that have been addressing industrial land use issues. Broadening the focus of regional Smart Growth to include an industrial/goods movement component could be done without sacrificing objectives for other land uses.

¹¹ See Deliverable for Task 4C: *Implications of Dispersed Goods Movement Land Use Pattern for the Region's Smart Growth Vision and FOCUS Program*, September 2008.

APPENDIX A

**TABLES FOR INDUSTRIAL AND R&D SPACE
IN MAJOR, CENTRAL BAY AREA MARKETS,
INCLUDING THE SOUTH BAY**

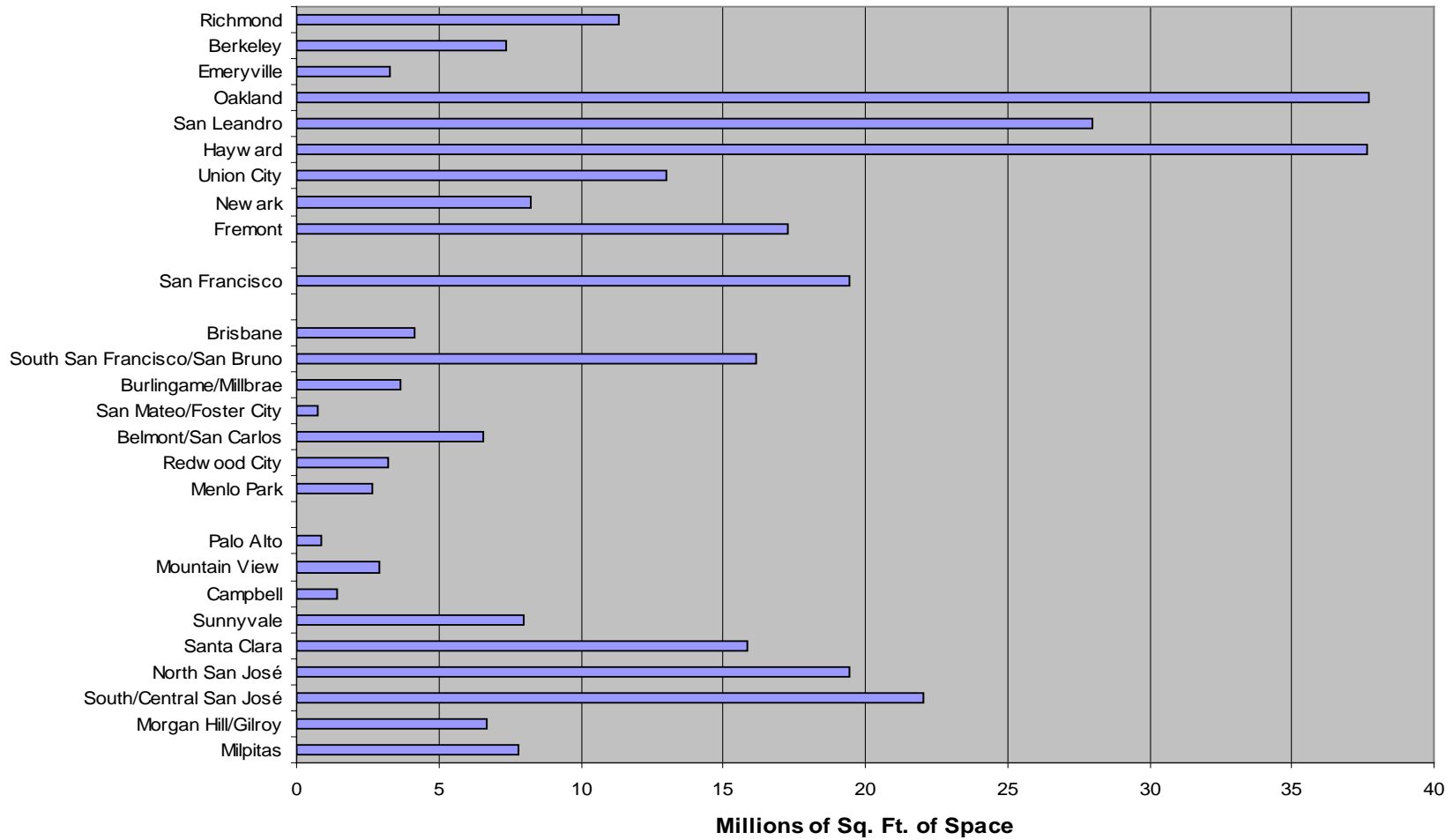
TABLE A-1
2007 Warehouse and Manufacturing Space in Central Parts of the Bay Area

Areas/Corridors	Int'l Gateways	Warehouse (Bldg. Sq. Ft.)	Manufacturing (Bldg. Sq. Ft.)
<u>Inner East Bay I-80/880 Corridor</u>			
Richmond	S	4,775,800	6,561,000
Berkeley		2,109,200	5,257,500
Emeryville		1,599,200	1,706,300
Oakland	S A	13,561,200	24,147,300
San Leandro	S A	14,849,100	13,161,100
Hayward	S A	19,341,300	18,309,100
Union City		7,893,900	5,095,600
Newark		3,986,800	4,239,400
Fremont		8,302,000	8,991,300
Total Inner East Bay I-80/880 Corridor		76,418,500	87,468,600
<u>San Francisco</u>		19,436,500	-
<u>Peninsula U.S. 101 Corridor</u>			
Brisbane	A	4,148,500	-
South San Francisco/San Bruno	A	16,163,700	-
Burlingame/Millbrae	A	3,655,600	-
San Mateo/Foster City		723,000	-
Belmont/San Carlos		3,373,600	3,211,100
Redwood City		1,124,900	2,100,700
Menlo Park		1,186,600	1,467,100
Total Peninsula U.S. 101 Corridor		30,375,900	6,778,900
<u>South Bay/Santa Clara County</u>			
Palo Alto		-	886,900
Mountain View		-	2,933,900
Campbell		-	1,447,300
Sunnyvale		1,827,700	6,159,300
Santa Clara	A*	3,909,000	11,937,200
North San José	A*	9,623,200	9,809,300
South/Central San José	A*	9,186,200	12,839,300
Morgan Hill/Gilroy		2,492,600	4,173,200
Milpitas	A*	5,570,900	2,242,100
Total South Bay/Santa Clara County		32,609,600	52,428,500
TOTAL		158,840,500	146,676,000

KEY: S = proximity to major seaport facilities
A = proximity to major airport air freight facilities
A* = proximity to major airport (with limited air freight operations compared to SFO and OAK)

Source NAI BT Commercial Real Estate, Research Reports for First Quarter 2007; Hausrath Economics Group.

Warehouse and Manufacturing Space in Major Bay Area Markets: 2007



**TABLE A-2
INDUSTRIAL AND R&D SPACE IN CENTRAL BAY AREA, CHANGES 2003-2007**

Areas/Corridors	Warehouse Space				Manufacturing Space				Areas/Corridors	R & D Space			
	Q1-2003 (Bldg. Sq. Ft.)	Q1-2007 (Bldg. Sq. Ft.)	Change (Bldg. Sq. Ft.)	% Change	Q1-2003 (Bldg. Sq. Ft.)	Q1-2007 (Bldg. Sq. Ft.)	Change (Bldg. Sq. Ft.)	% Change		Q1-2003 (Bldg. Sq. Ft.)	Q1-2007 (Bldg. Sq. Ft.)	Change (Bldg. Sq. Ft.)	% Change
East Bay I-80/880 Corridor									East Bay I-80/880 Corridor				
Richmond	4,746,300	4,775,800	29,500	0.6%	6,992,300	6,561,000	(431,300)	-6.2%	Richmond	-	-	-	-
Berkeley	2,086,000	2,109,200	23,200	1.1%	5,479,000	5,257,500	(221,500)	-4.0%	Berkeley	297,000	383,300	86,300	29.1%
Emeryville	2,111,400	1,599,200	(512,200)	-24.3%	2,268,100	1,706,300	(561,800)	-24.8%	Emeryville	1,720,100	1,820,200	100,100	5.8%
Oakland	15,646,400	13,561,200	(2,085,200)	-13.3%	25,809,000	24,147,300	(1,661,700)	-6.4%	Oakland	-	-	-	-
San Leandro	16,193,700	14,849,100	(1,344,600)	-8.3%	14,875,800	13,161,100	(1,714,700)	-11.5%	San Leandro	952,900	1,022,000	69,100	7.3%
Hayward	20,159,800	19,341,300	(818,500)	-4.1%	18,922,600	18,309,100	(613,500)	-3.2%	Hayward	5,421,800	4,911,000	(510,800)	-9.4%
Union City	8,333,300	7,893,900	(439,400)	-5.3%	6,371,600	5,095,600	(1,276,000)	-20.0%	Union City	933,400	946,200	12,800	1.4%
Newark	3,714,000	3,986,800	272,800	7.3%	4,160,400	4,239,400	79,000	1.9%	Newark	2,537,600	2,880,300	342,700	13.5%
Fremont	8,598,600	8,302,000	(296,600)	-3.4%	9,187,100	8,991,300	(195,800)	-2.1%	Fremont	21,935,000	20,901,800	(1,033,200)	-4.7%
Total I-80/880 Corridor	81,589,500	76,418,500	(5,171,000)	-6.3%	94,065,900	87,468,600	(6,597,300)	-7.0%	Total I-80/880 Corridor	33,797,800	32,864,800	(933,000)	-2.8%
San Francisco	20,775,600	19,436,500	(1,339,100)	-6.4%	-	-	-	-	San Francisco	20,775,600	19,436,500	(1,339,100)	-6.4%
Peninsula U.S. 101 Corridor									Peninsula U.S. 101 Corridor				
Brisbane	4,336,900	4,148,500	(188,400)	-4.3%	-	-	-	-	Brisbane	206,900	183,300	(23,600)	-11.4%
South San Francisco/San Bruno	18,780,100	16,163,700	(2,616,400)	-13.9%	-	-	-	-	SSF/Burlingame	6,084,200	8,434,700	2,350,500	38.6%
Burlingame/Millbrae	3,775,100	3,655,600	(119,500)	-3.2%	-	-	-	-	Foster City/Redwood Shores	1,926,900	1,796,900	(130,000)	-6.7%
San Mateo/Foster City	720,600	723,000	2,400	0.3%	-	-	-	-	Belmont/San Carlos	1,040,400	1,408,600	368,200	35.4%
Belmont/San Carlos	3,398,100	3,373,600	(24,500)	-0.7%	3,193,700	3,211,100	17,400	0.5%	Redwood City	2,177,000	1,972,500	(204,500)	-9.4%
Redwood City	1,033,300	1,124,900	91,600	8.9%	2,244,600	2,100,700	(143,900)	-6.4%	Menlo Park	4,909,000	4,316,800	(592,200)	-12.1%
Menlo Park	1,861,100	1,186,600	(674,500)	-36.2%	1,470,000	1,467,100	(2,900)	-0.2%					
Total Peninsula U.S. 101 Corridor	33,905,200	30,375,900	(3,529,300)	-10.4%	6,908,300	6,778,900	(129,400)	-1.9%	Total Peninsula U.S. 101 Corridor	16,344,400	18,112,800	1,768,400	10.8%
South Bay / Santa Clara County									South Bay / Santa Clara County				
Palo Alto	-	-	-	-	968,700	886,900	(81,800)	-8.4%	Palo Alto	6,028,700	6,335,300	306,600	5.1%
Mountain View	-	-	-	-	2,776,000	2,933,900	157,900	5.7%	Mountain View	13,585,200	13,122,200	(463,000)	-3.4%
Campbell	-	-	-	-	1,327,600	1,447,300	119,700	9.0%	Cupertino	4,892,100	4,710,600	(181,500)	-3.7%
Sunnyvale	3,275,900	1,827,700	(1,448,200)	-44.2%	6,350,800	6,159,300	(191,500)	-3.0%	Westside	1,883,200	1,721,100	(162,100)	-8.6%
Santa Clara	3,912,300	3,909,000	(3,300)	-0.1%	12,275,400	11,937,200	(338,200)	-2.8%	Sunnyvale	22,611,600	21,280,600	(1,331,000)	-5.9%
North San José	9,933,600	9,623,200	(310,400)	-3.1%	9,404,900	9,809,300	404,400	4.3%	Santa Clara	22,517,100	22,022,700	(494,400)	-2.2%
South/Central San José	8,876,300	9,186,200	309,900	3.5%	12,646,100	12,839,300	193,200	1.5%	San José	41,794,700	42,553,500	758,800	1.8%
Morgan Hill/Gilroy	2,319,600	2,492,600	173,000	7.5%	3,860,900	4,173,200	312,300	8.1%	Morgan Hill/Gilroy	2,391,300	3,551,600	1,160,300	48.5%
Milpitas	6,606,300	5,570,900	(1,035,400)	-15.7%	2,658,500	2,242,100	(416,400)	-15.7%	Milpitas	13,776,000	15,618,600	1,842,600	13.4%
Total South Bay / Santa Clara Co.	34,924,000	32,609,600	(2,314,400)	-6.6%	52,268,900	52,428,500	159,600	0.3%	Total South Bay / Santa Clara Co.	129,479,900	130,916,200	1,436,300	1.1%
TOTAL	171,194,300	158,840,500	(12,353,800)	-7.2%	153,243,100	146,676,000	(6,567,100)	-4.3%	TOTAL	200,397,700	201,330,300	932,600	0.5%

Source: NAI BT Commercial Real Estate, Research Reports for First Quarter, 2003 and 2007; Hausrath Economics Group

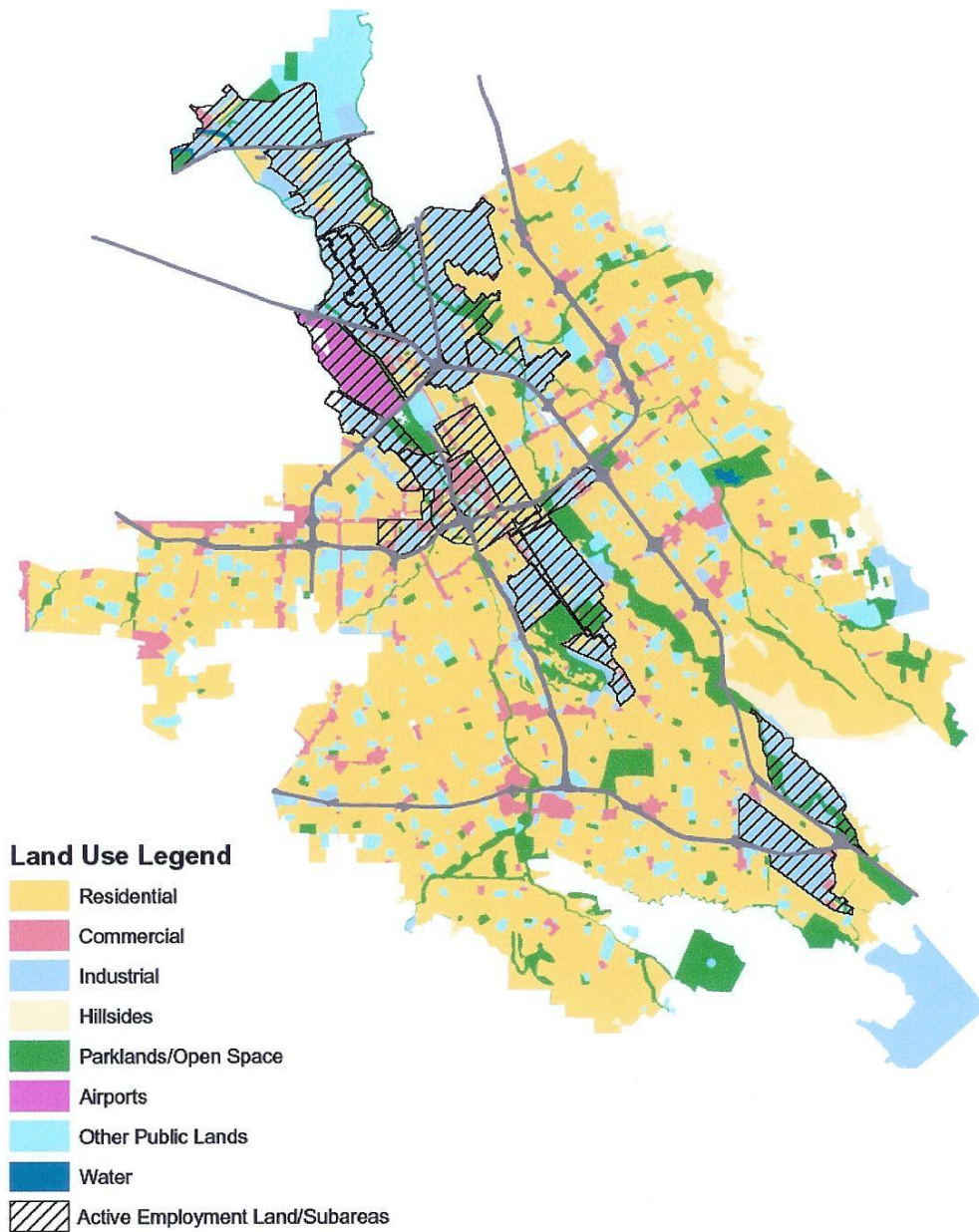
APPENDIX B

MAPS FOR SAN JOSÉ

- **Generalized Land Use Map identifying industrial land uses and active employment areas**
- **Employment Subareas Typology Map**

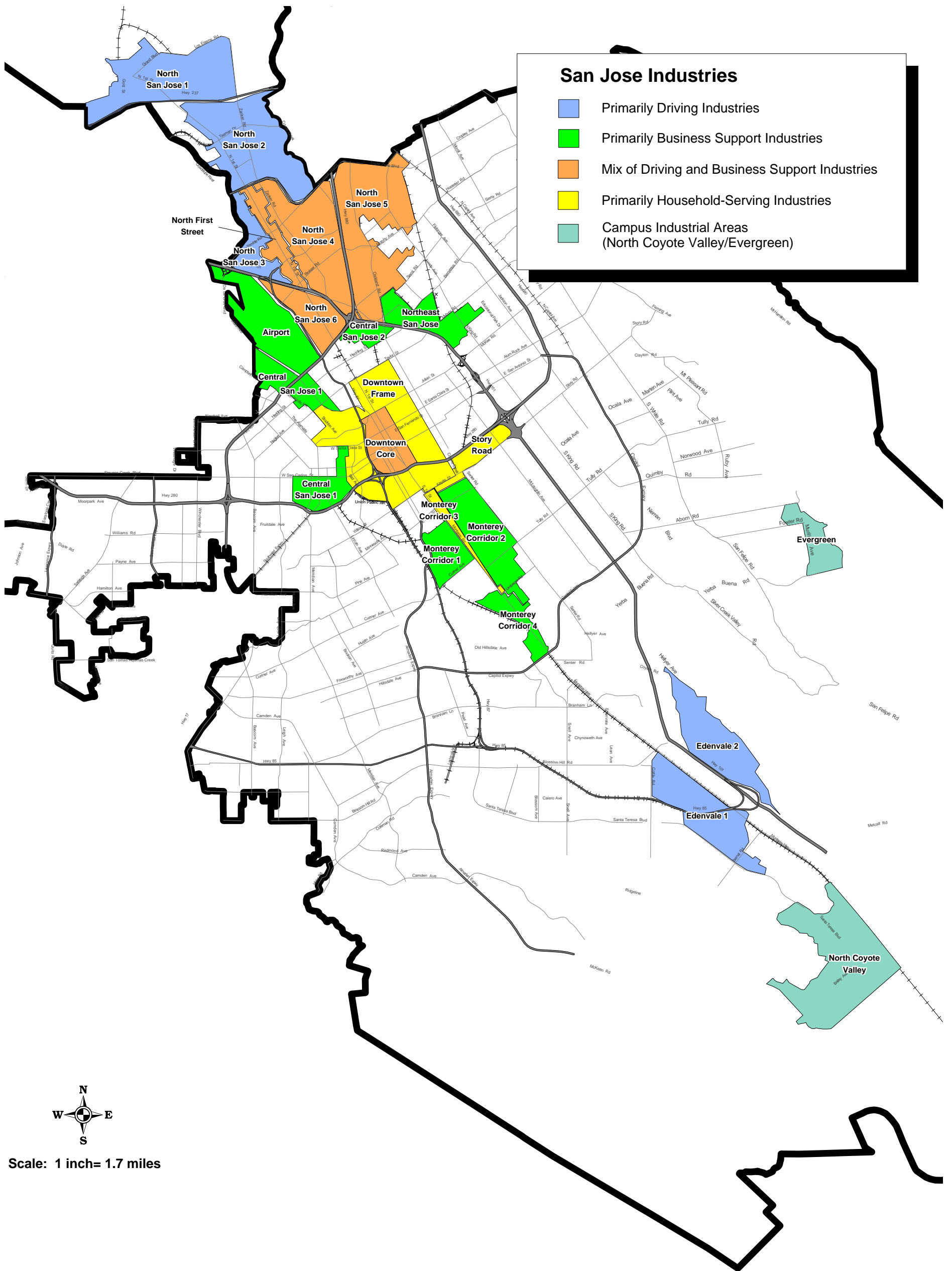
City of San José

Generalized Land Use Map Based on General Plan Land Use Designations



Source: City of San José and Strategic Economics, February 2004.

City of San Jose Employment Subareas Typology



Data Source: Strategic Economics

Map Prepared by: City of San Jose, Planning Services Division, April 2004