San Jose's Manufacturing Real Estate Landscape: Sustaining Jobs, Economic Impact, and Shared Prosperity for Diverse Residents

January 2020

Developed by

MFG:SJ MANUFACTURE SAN JOSE

SFMADE

bae urban economics

In Partnership with
The San Jose Office of Economic Development

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INTRODUCTION: MANUFACTURING AS AN EQUITY ENGINE FOR SAN JOSE

Manufacturing is flourishing nationally. Across the U.S. the sector has been steadily adding jobs, new companies, and re-shoring production as domestic manufacturers have begun to out-compete their counterparts on flexibility, quality, and even cost. And the Bay Area is at the center of this growth in California. **In San Jose alone, there are over 1,300 manufacturing companies that collectively employ approximately 50,000 people.** The local manufacturing sector not only directly contributes to the number of quality jobs locally but also has the largest economic multiplier of any sector in the U.S. economy, supporting 2.5 jobs for every one in manufacturing.

Beyond its compelling economic impact, manufacturing is an especially critical sector for its **"equity impact":** more than any other sector available to those without experience or significant educational attainment, **manufacturing offers the potential for diverse residents to build livelihoods through living wage employment and entrepreneurship.** Manufacturing is one of the few sectors capable of moving the needle in a positive direction around economic equity in a time when regionally we are seeing more inequitable distribution of income and wealth than ever. No city better understands the perils of this growing inequity than San Jose: a recent Brookings Institute report found the income gap between San Jose's rich and poor is the second fastest growing in the nation. And even as the economy booms, low-income communities of color, particularly San Jose's Latino and Asian immigrant communities, continue to experience disproportionately high unemployment rates.

Local manufacturing **co-locates jobs and companies near and in the very communities of people who can most benefit from them**, and it provides **critical employment for the very same residents for whom communities are building affordable housing**. Urban manufacturing also has a unique capacity to knit together diverse neighborhoods, socio-economic groups, and disciplines as well as to enliven neighborhood commercial corridors. Ultimately **urban manufacturing provides the possibility for residents from all walks of life to enter the mainstream economy, to advance their skills, to attain economic self-sufficiency, and to become invested stakeholders and leaders in our communities.**

Our research shows that across the four largest Bay Area cities—San Jose, San Francisco, Oakland, and Fremont—35-45% of all manufacturing positions are middle wage, compared with 25% of jobs across all sectors in the Bay Area. Moreover, advanced manufacturing—a leading manufacturing sector in San Jose—in particular holds the potential for adults from low-income and other disadvantaged populations to earn family-sustaining wages and access to advancement opportunities. **All of these benefits create a powerful argument for San Jose to actively fight to maintain a healthy manufacturing sector, irrespective of the size or scale relative to other local industries**. This includes protecting San Jose's urban industrial lands where manufacturing takes place. Neither the manufacturing jobs themselves nor the ongoing accessibility of manufacturing employment by the most diverse communities are guaranteed. This is perhaps an especially daunting task in San Jose — one of the most expensive cities in the country — but the economic and societal benefits from a strong local manufacturing ecosystem are simply too important not to.

OVERVIEW OF THE MANUFACTURING LANDSCAPE IN SAN JOSE

The manufacturing sector is a key part of the San Jose and Santa Clara County economy, in particular with respect to the technology sector, but also includes food and beverage manufacturing, printing, and many other types of manufacturing, providing jobs using a variety of skills, across a broad range of wage levels.

Table 1: Manufacturing Industries by Number of Establishments by Major Manufacturing Subsector, San Jose, July 2019

NAICS Code	Industry Name	# of Establishments Number	Percent
334	Computer and Electronic Product Manufacturing	850	30.0%
339	Miscellaneous Manufacturing	401	14.1%
332	Fabricated Metal Product Manufacturing	320	11.3%
333	Machinery Manufacturing	192	6.8%
311	Food Manufacturing	188	6.6%
323	Printing and Related Support Activities	186	6.6%
335	Electrical Equipment, Appliance, and Component Manufacturing	120	4.2%
325	Chemical Manufacturing	115	4.1%
337	Furniture and Related Product Manufacturing	107	3.8%
327	Nonmetallic Mineral Product Manufacturing	57	2.0%
312	Beverage and Tobacco Product Manufacturing	50	1.8%
336	Transportation Equipment Manufacturing	46	1.6%
314	Textile Product Mills	39	1.4%
321	Wood Product Manufacturing	38	1.3%
326	Plastics and Rubber Products Manufacturing	31	1.1%
315	Apparel Manufacturing	26	0.9%
331	Primary Metal Manufacturing	21	0.7%
322	Paper Manufacturing	18	0.6%
313	Textile Mills	13	0.5%
316	Leather and Allied Product Manufacturing	11	0.4%
324	Petroleum and Coal Products Manufacturing	5	0.2%
	Total	**2,834**	**100.0%**

Note:
Lists all 3-digit NAICS codes present in San Jose in manufacturing per the D&B Hoovers database. Totals may vary from other sources due to differences in data collection methodologies and other factors.

Sources: Dun & Bradstreet Hoovers, 2019; BAE, 2019

These manufacturers are in turn supported by a variety of businesses providing logistics, storage, warehouse, and distribution functions. Manufacturers, and others such as construction firms, also require industrial and warehouse space for their operations and provide additional jobs in San Jose.

Based on the Longitudinal Employer-Household Dynamics (LEHD) program from the U.S. Census Bureau, in 2017 **San Jose had close to 50,000 manufacturing jobs, approximately one-third of all manufacturing jobs in Santa Clara County, and approximately 12 percent of all jobs in San Jose itself**.[1]

Other key users of industrial space, the Construction, Wholesale Trade, and Transportation and Warehousing sectors, account for an additional 50,000 jobs in the City and 100,000 in the County. In addition to these major economic sectors, other service and repair businesses also support the manufacturing sector or utilize industrial properties.

Table 2: Employment by Industry, Key Sectors, 2012-2017

SAN JOSE

	2012		2017		Change, 2012-2017	
Major Industry Group	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Industrial and Related						
Manufacturing	**52,448**	**15.4%**	**48,504**	**12.5%**	**-3,944**	**-7.5%**
Construction	15,671	4.6%	24,543	6.3%	8,872	56.6%
Wholesale Trade	16,134	4.7%	16,419	4.2%	285	1.8%
Transportation and Warehousing	8,781	2.6%	13,062	3.4%	4,281	48.8%
All Other Sectors	248,105	72.7%	286,900	73.7%	38,795	15.6%
Total	**341,139**	**100.0%**	**389,428**	**100.0%**	**48,289**	**14.2%**
Manufacturing as % of Total		**15%**		**12%**		

SANTA CLARA COUNTY

	2012		2017		Change, 2012-2017	
Major Industry Group	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Industrial and Related						
Manufacturing	**150,008**	**18.2%**	**150,868**	**15.4%**	**860**	**0.6%**
Construction	31,202	3.8%	46,974	4.8%	15,772	50.5%
Wholesale Trade	39,102	4.8%	38,527	3.9%	-575	-1.5%
Transportation and Warehousing	12,730	1.5%	18,037	1.8%	5,307	41.7%
All Other Sectors	589,533	71.7%	727,528	74.1%	137,995	23.4%
Total	**822,575**	**100.0%**	**981,934**	**100.0%**	**159,359**	**19.4%**
Manufacturing as % of Total		**18%**		**15%**		

Note:
Employment numbers may vary from other sources due to differences in data collection methodologies and other factors. Based on private sector primary jobs.
Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2017).

[1] There is a broad range of employment estimates for San Jose from various sources, including differing Census

While manufacturing employment in San Jose has decreased slightly in recent years,[2] countywide, manufacturing employment has remained stable. Furthermore, much of San Jose's posted decline over the analyzed timeframe is attributable to the restructuring of a single large technology employer in North San Jose. Overall, across the county, the limited changes in manufacturing employment in San Jose have occurred against a backdrop of substantial overall jobs growth.

[2] In addition to the slight decline shown here per the LEHD data, the American Community Survey (another Census program based on a different source independent of LEHD), also shows a slight decline in manufacturing jobs in the City.

MANUFACTURING INDUSTRY IN SAN JOSE: SECTORS AND WAGE ANALYSIS

Manufacturing in San Jose offers a continuum of well-paying jobs for a diverse group of workers at a variety of pay scales.

The majority of the City's manufacturing employment is in the design and fabrication of business-to-business products, including semiconductors, computers, communications equipment, medical devices, and aerospace and automotive components. These original equipment manufacturers (OEM's)—most of whom are tightly connected to San Jose's vibrant technology sector and include some very large multi-national corporations—are in turn supported by a rich ecosystem of smaller, often family-owned suppliers, including small machine shops and contract electronics manufacturers. These sectors are complemented by a smaller but vibrant sector of artisan consumer products, including food and beverage, furniture, and home and personal accessories, many of which are businesses founded and owned by families and individuals from San Jose's ethnic minority communities.

Table 3: Top Manufacturing Industries by Employment, San Jose, July 2019

NAICS Code	Industry Name	Employment	
		Number	Percent
3344	Semiconductor and Other Electronic Component Manufacturing	28,495	30.6%
3341	Computer and Peripheral Equipment Manufacturing	23,556	25.3%
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	8,923	9.6%
3342	Communications Equipment Manufacturing	5,668	6.1%
3323	Architectural and Structural Metals Manufacturing	3,086	3.3%
3333	Commercial and Service Industry Machinery Manufacturing	2,816	3.0%
3391	Medical Equipment and Supplies Manufacturing	2,164	2.3%
3364	Aerospace Product and Parts Manufacturing	1,866	2.0%
3359	Other Electrical Equipment and Component Manufacturing	1,576	1.7%
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	1,492	1.6%
3399	Other Miscellaneous Manufacturing	1,027	1.1%
	All Other Manufacturing Industries	12,371	13.3%
	Total	**93,040**	**100.0%**

Note:
Lists all 4-digit NAICS codes in manufacturing showing more than 1,000 employees per the D&B Hoovers database. Employment numbers may vary from other sources due to differences in data collection methodologies and other factors. Sources: Dun & Bradstreet Hoovers, 2019; BAE, 2019

Table 4 through Table 8 shows the diverse mix of wages and salaries across the City's manufacturing sector. The SFMade/Bay Area Economics Team sorted Dun & Bradstreet Hoovers data into "Higher-Wage Manufacturing Industries," defined as subsectors for which the average wage reported by the U.S. Bureau of Labor Statistics is $75,000 or more annually, and "Lower-Wage Manufacturing Industries," defined as subsectors for which the reported average annual wage was less than $75,000.

Table 4: Top 20 Manufacturing Industries with Average Wages > $75,000 by Number of Establishments, San Jose, July 2019

NAICS Code	Industry Name	Establishments		Countywide Avg. Annual Wage (a)
		Number	Percent	
334413	Semiconductor & Related Device Manu.	281	18.0%	$291,531
339999	All Other Miscellaneous Manu.	140	9.0%	$86,521
334118	Computer Terminal & Other Computer Peripheral Equipment Manu.	77	4.9%	$242,236
334419	Other Electronic Component Manu.	68	4.4%	$129,659
335999	All Other Miscellaneous Electrical Equipment & Component Manu.	56	3.6%	$117,606
334418	Printed Circuit Assembly (Electronic Assembly) Manu.	55	3.5%	$89,675
334220	Radio & TV Broadcasting & Wireless Comms. Equipment Manu.	52	3.3%	$144,706
334515	Instrument Manu. for Measuring & Testing Electricity & Electrical Signals	51	3.3%	$291,531
339112	Surgical & Medical Instrument Manu.	37	2.4%	$141,351
334516	Analytical Laboratory Instrument Manu.	32	2.0%	$137,741
333999	All Other Miscellaneous General Purpose Machinery Manu.	32	2.0%	$81,162
334111	Electronic Computer Manu.	30	1.9%	$333,516
325412	Pharmaceutical Preparation Manu.	29	1.9%	$192,754
334112	Computer Storage Device Manu.	25	1.6%	$187,826
334510	Electromedical & Electrotherapeutic Apparatus Manu.	24	1.5%	$149,997
334210	Telephone Apparatus Manu.	24	1.5%	$161,261
333242	Semiconductor Machinery Manu.	23	1.5%	$204,706
334519	Other Measuring & Controlling Device Manu.	18	1.2%	$209,334
333314	Optical Instrument & Lens Manu.	17	1.1%	$200,964
334513	Instruments & Related Products Manu. for Industrial Process Variables	16	1.0%	$114,123
	All Other Higher-Wage Manu. Industries (b)	475	30.4%	n.a.
	Total, High-Wage Manu. Industries (b)	**1,562**	**100.0%**	**n.a.**

Notes:
Employment numbers may vary from other sources due to differences in data collection methodologies and other factors.

(a) Wage data are sourced from the Quarterly Census of Employment and Wages and reflect 2018 annual averages for Santa Clara County.
(b) Higher-wage industries are defined as those with 2018 countywide average annual wages greater than or equal to $75,000.

Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018; BAE, 2019.

Table 5: Top 20 Manufacturing Industries with Average Wages > $75,000 by Employment, San Jose, July 2019

NAICS Code	Industry Name	Employment		Countywide Avg. Annual Wage (a)
		Number	Percent	
334413	Semiconductor and Related Device Manu.	18,115	23.2%	$291,531
334118	Computer Terminal and Other Computer Peripheral Equipment Manu.	16,751	21.5%	$242,236
334418	Printed Circuit Assembly (Electronic Assembly) Manu.	6,903	8.8%	$89,675
334112	Computer Storage Device Manu.	6,264	8.0%	$187,826
334511	Navigation, Guidance, Aeronautical, & Nautical Sys. & Instrument Manu.	4,342	5.6%	$152,387
334220	Radio and TV Broadcasting and Wireless Comms. Equipment Manu.	3,491	4.5%	$144,706
333314	Optical Instrument and Lens Manu.	2,571	3.3%	$200,964
334516	Analytical Laboratory Instrument Manu.	1,626	2.1%	$137,741
339112	Surgical and Medical Instrument Manu.	1,592	2.0%	$141,351
334210	Telephone Apparatus Manu.	1,570	2.0%	$161,261
334515	Instrument Manu. for Measuring Electricity and Electrical Signals	1,394	1.8%	$291,531
334419	Other Electronic Component Manu.	1,219	1.6%	$129,659
335999	All Other Miscellaneous Electrical Equipment and Component Manu.	965	1.2%	$117,606
334510	Electromedical and Electrotherapeutic Apparatus Manu.	937	1.2%	$149,997
325199	All Other Basic Organic Chemical Manu.	712	0.9%	$107,666
334290	Other Communications Equipment Manu.	605	0.8%	$133,942
333242	Semiconductor Machinery Manu.	580	0.7%	$204,706
335931	Current-Carrying Wiring Device Manu.	550	0.7%	$78,983
334111	Electronic Computer Manu.	536	0.7%	$333,516
339999	All Other Miscellaneous Manu.	523	0.7%	$86,521
	All Other Higher-Wage Manu. Industries (b)	6,828	8.7%	n.a.
	Total, High-Wage Manu. Industries (b)	**78,074**	**100.0%**	**n.a.**

Notes:
Employment numbers may vary from other sources due to differences in data collection methodologies and other factors.

(a) Wage data are sourced from the Quarterly Census of Employment and Wages and reflect 2018 annual averages for Santa Clara County.
(b) Higher-wage industries are defined as those with 2018 countywide average annual wages greater than or equal to $75,000.

Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018; BAE, 2019.

Looking more closely at Higher-Wage Manufacturing Industries in Tables 4 and 5, the average wage in many industries is above $100,000 in 17 of 20 subsectors and above $200,000 in seven sectors. The highest paying subsectors are concentrated in computer, semiconductor, electronics, instruments, and pharmaceuticals. It should be noted that these averages include management and professionals in these industries. **These high average wages suggest a long runway for an individual with less than a four-year college degree to gain skills and experience and significantly improve his or her earnings.** Overall, policies to preserve manufacturing in the City will ensure that this large base of high-paying jobs remain in the City and open to the City's

workforce. The "advanced manufacturing" technology component at most of the higher wage manufacturers also speaks to the importance for San Jose to continue to evolve its training pipeline to ensure that all if its residents – particularly those from low-income communities – can benefit from these economically sustainable work opportunities.

The subsectors for **Lower-Wage Manufacturing Industries, where average wages are $75,000 or less, but still well above minimum wage, are concentrated in many of what would be considered *traditional or legacy* manufacturing industries** such as sheet metal and machine shops, printing, plastics, and food and beverage enterprises, as seen in Table and Table .

Table 6: Top 20 Manufacturing Industries with Average Wages < $75,000 by Number of Establishments, San Jose, July 2019

NAICS Code	Industry Name	Establishments		Countywide Avg. Annual Wage (a)
		Number	Percent	
332710	Machine Shops	167	13.7%	$67,755
323111	Commercial Printing (except Screen and Books)	156	12.8%	$60,544
311811	Retail Bakeries	98	8.0%	$28,244
337110	Wood Kitchen Cabinet and Countertop Manu.	72	5.9%	$54,159
339950	Sign Manu.	64	5.2%	$72,784
339116	Dental Laboratories	57	4.7%	$51,201
332322	Sheet Metal Work Manu.	41	3.4%	$56,892
312130	Wineries	25	2.0%	$42,160
314999	All Other Miscellaneous Textile Product Mills	24	2.0%	$34,366
323113	Commercial Screen Printing	21	1.7%	$44,257
321918	Other Millwork (including Flooring)	20	1.6%	$52,291
326199	All Other Plastics Product Manu.	20	1.6%	$54,877
339920	Sporting and Athletic Goods Manu.	20	1.6%	$49,809
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	17	1.4%	$58,480
333517	Machine Tool Manu.	16	1.3%	$57,348
311812	Commercial Bakeries	14	1.1%	$31,732
311999	All Other Miscellaneous Food Manu.	14	1.1%	$23,683
312112	Bottled Water Manu.	12	1.0%	$45,422
334412	Bare Printed Circuit Board Manu.	12	1.0%	$70,506
332312	Fabricated Structural Metal Manu.	11	0.9%	$67,577
	All Other Lower-Wage Manu. Industries (b)	340	27.8%	n.a.
	Total, Lower-Wage Manu. Industries (b)	**1,221**	**100.0%**	**n.a.**

Notes:
Employment numbers may vary from other sources due to differences in data collection methodologies and other factors.

(a) Wage data are sourced from the Quarterly Census of Employment and Wages and reflect 2018 annual averages for Santa Clara County.
(b) Lower-wage industries are defined as those with 2018 countywide average annual wages less than $75,000.

Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018; BAE, 2019

Table 7: Top 20 Manufacturing Industries with Average Wages < $75,000 by Employment, San Jose, July 2019

NAICS Code	Industry Name	Employment		Countywide Avg. Annual Wage (a)
		Number	Percent	
332322	Sheet Metal Work Manu.	2,538	20.5%	$56,892
332710	Machine Shops	1,483	12.0%	$67,755
323111	Commercial Printing (except Screen and Books)	808	6.5%	$60,544
326199	All Other Plastics Product Manu.	694	5.6%	$54,877
334412	Bare Printed Circuit Board Manu.	654	5.3%	$70,506
337110	Wood Kitchen Cabinet and Countertop Manu.	429	3.5%	$54,159
311811	Retail Bakeries	387	3.1%	$28,244
337920	Blind and Shade Manu.	303	2.5%	$46,123
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring	218	1.8%	$58,480
332312	Fabricated Structural Metal Manu.	210	1.7%	$67,577
311230	Breakfast Cereal Manu.	207	1.7%	$44,127
339950	Sign Manu.	203	1.6%	$72,784
337127	Institutional Furniture Manu.	199	1.6%	$68,308
311611	Animal (except Poultry) Slaughtering	196	1.6%	$50,693
339116	Dental Laboratories	191	1.5%	$51,201
334416	Capacitor, Resistor, Coil, Transformer, and Other Inductor Manu.	184	1.5%	$70,595
322299	All Other Converted Paper Product Manu.	181	1.5%	$51,316
311999	All Other Miscellaneous Food Manu.	173	1.4%	$23,683
333517	Machine Tool Manu.	163	1.3%	$57,348
312120	Breweries	142	1.1%	$45,422
	All Other Lower-Wage Manu. Industries (b)	2,789	22.6%	n.a.
	Total, Lower-Wage Manu. Industries (b)	**12,352**	**100.0%**	**n.a.**

Notes:
Employment numbers may vary from other sources due to differences in data collection methodologies and other factors.

(a) Wage data are sourced from the Quarterly Census of Employment and Wages and reflect 2018 annual averages for Santa Clara County.
(b) Lower-wage industries are defined as those with 2018 countywide average annual wages less than $75,000.

Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018; BAE, 2019

Table 8: Summary: Manufacturing by Wage Category, San Jose, 2019

Wage Category	Employment		Establishments	
	Number	Percent	Number	Percent
Manufacturing Industries with Average Wage > $75,000 (a)	78,074	86.3%	1,562	56.1%
Manufacturing Industries with Average Wage < $75,000 (a)	12,352	13.7%	1,221	43.9%
Total, All Manufacturing Industries	**90,426**	**100.0%**	**2,783**	**100.0%**

Notes:
(a) Based on 2018 Santa Clara County wage levels.

Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018; BAE, 2019.

Legacy Manufacturing Case Study: Acosta Sheet Metal

Acosta Sheet Metal Manufacturing is a multi-generation, Latino owned manufacturer of commercial and residential HVAC and roofing metals. They began operating out of a garage in San Jose in 1972 and have, since, grown to utilize 125,000 sq. ft. of space near East San Jose. Acosta currently employs a staff of 60. Over the course of their nearly 50-year history, they've become vital members of their community through their support of the Latinos in Technology Scholarship program and other community engagement programs in San Jose.

Manufacturing jobs at *legacy* or traditional longtime manufacturers offer lower-skilled workers the opportunity for economic advancement. Legacy manufacturers also include a strong representation of multi-generational family-owned businesses with rich ties into San Jose's ethnic minority communities.

Although legacy manufacturers sustain a smaller employment base as compared to technology-driven manufacturers, they are a gateway for many to the broader economy, provide essential supply chain connections to the region's larger OEMs, and should be protected and supported.

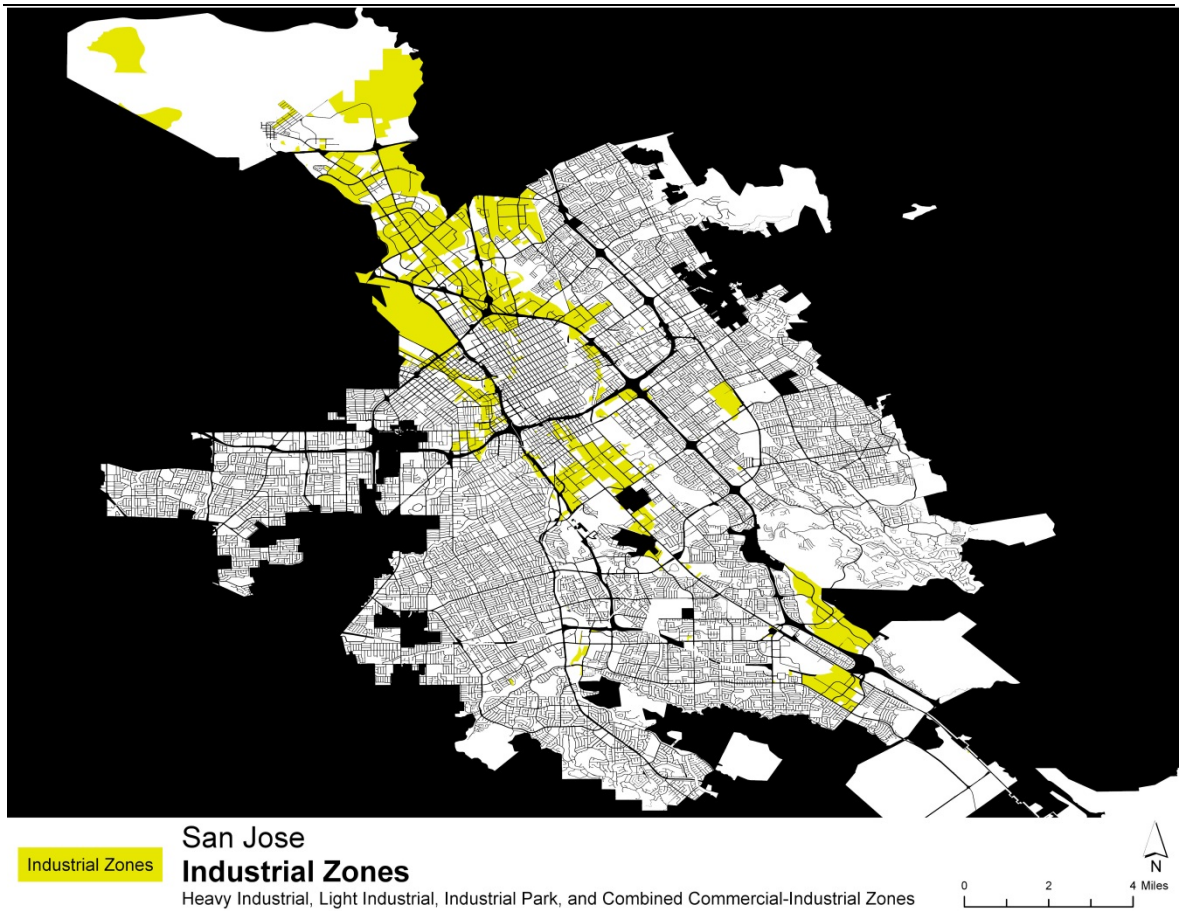
MANUFACTURING LOCATIONS & ZONING

San Jose has the second largest acreage of industrial land in the Bay Area. However San Jose's economy is experiencing accelerating pressure to evolve into an office market. And, while San Jose has some protected industrial land, the city has three times as much "mixed use" industrial zoned land, which allows for office, as compared to other adjacent communities such as Fremont.

San Jose's Industrial Land Use Framework

San Jose's *Envision San José 2040 General Plan* saw a need to both preserve existing industrial land in the City and provide for future growth in industrial activities. As stated in the General Plan, "[t]he Envision General Plan does not support conversion of industrial lands to residential use…."[3] The General Plan also notes the need for additional employment land capacity to accommodate future job growth in the manufacturing sector. The land uses designated as appropriate for industrial and manufacturing uses include Combined Industrial, Industrial Park, Light Industrial, and Heavy Industrial, providing for different types of manufacturing uses.

Figure 1: Industrial Zones in San Jose



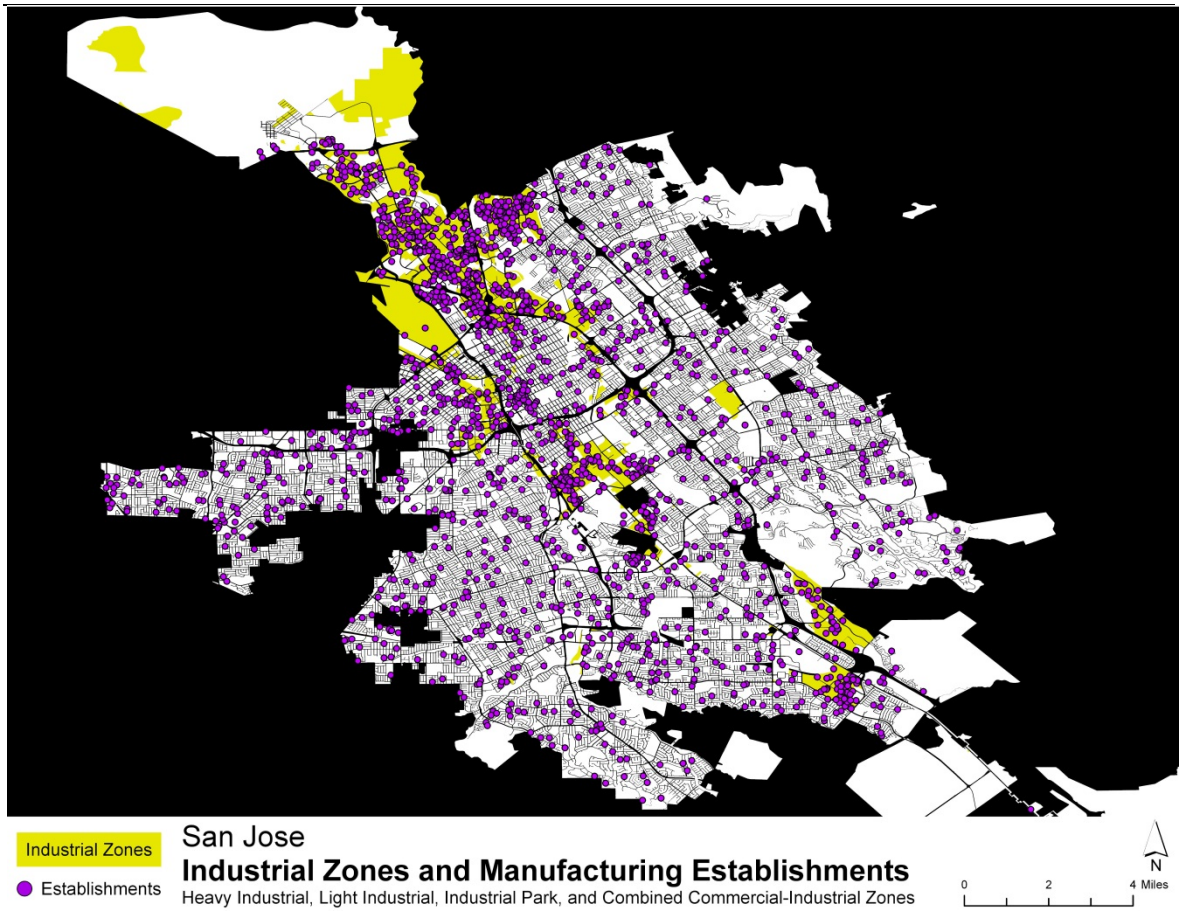
Sources: City of San Jose; BAE 2019.

[3] Envision San José 2040 General Plan, page 28, adopted November 2011.

The key industrial areas in San Jose include: North San Jose; Alviso; Edenvale; Evergreen; Monterey Corridor; Milpitas BART; and Berryessa.

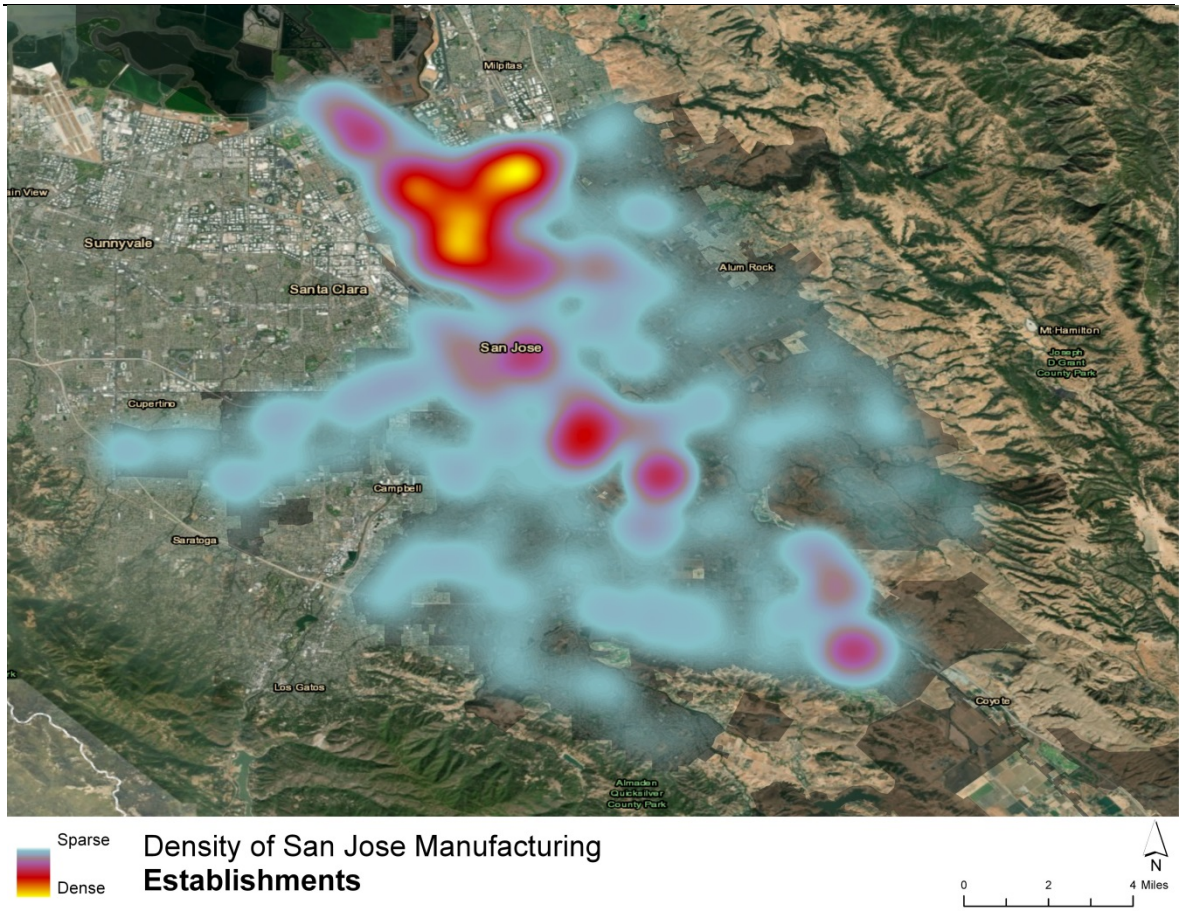
While manufacturing establishments tend to cluster in these industrial areas, there are manufacturing businesses scattered throughout the City, as shown in Figure 2 and Figure 3 below. The concentration of manufacturing establishments is densest in North San Jose.

Figure 2: Manufacturing Establishments and Industrial Zones in San Jose



Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; BAE 2019.

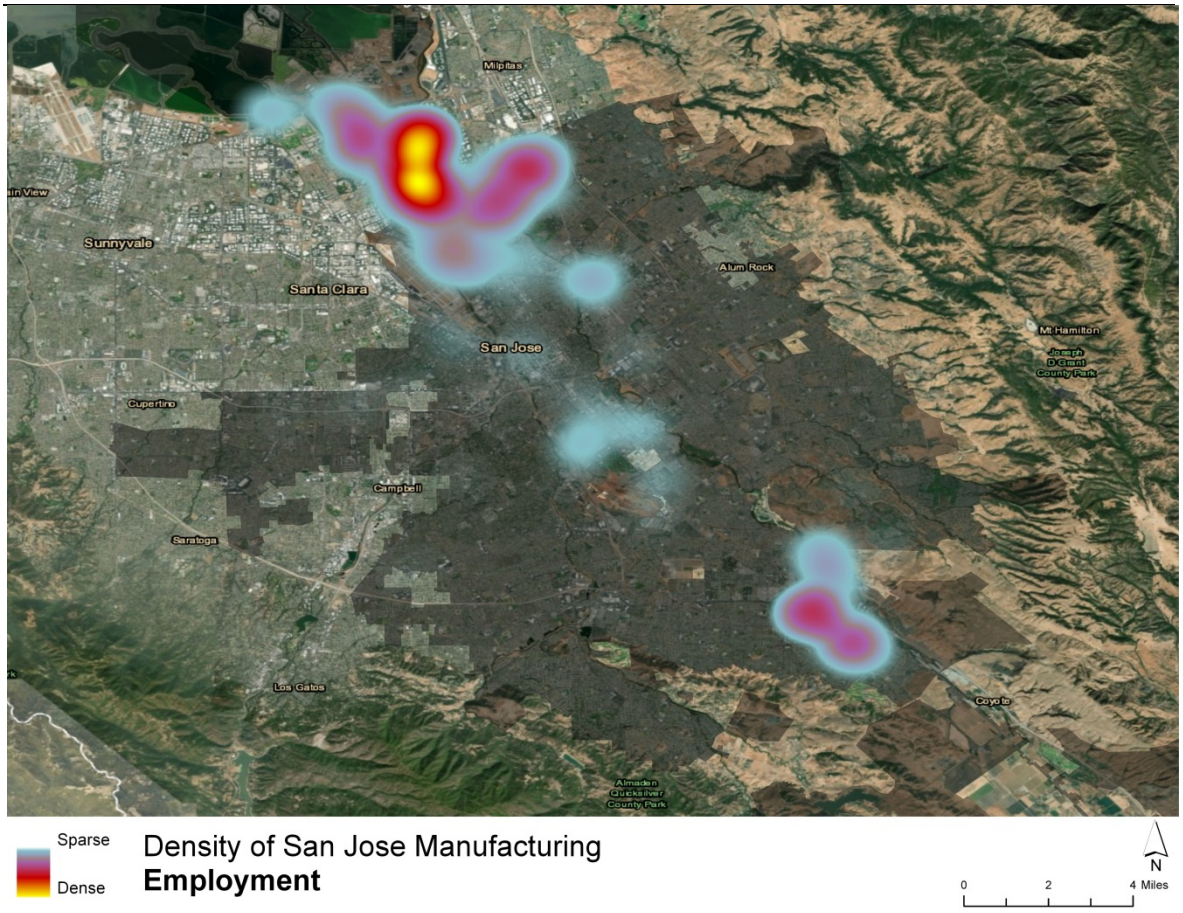
Figure 3: Density of Manufacturing Establishments in the City of San Jose



Sources: Dun & Bradstreet Hoovers, 2019; BAE 2019.

Manufacturing employment in San Jose is more geographically concentrated than establishments, as shown in Figure 4. This indicates that the more substantial manufacturing establishments tend to be located in the industrial zones of the City, particularly in North San Jose.

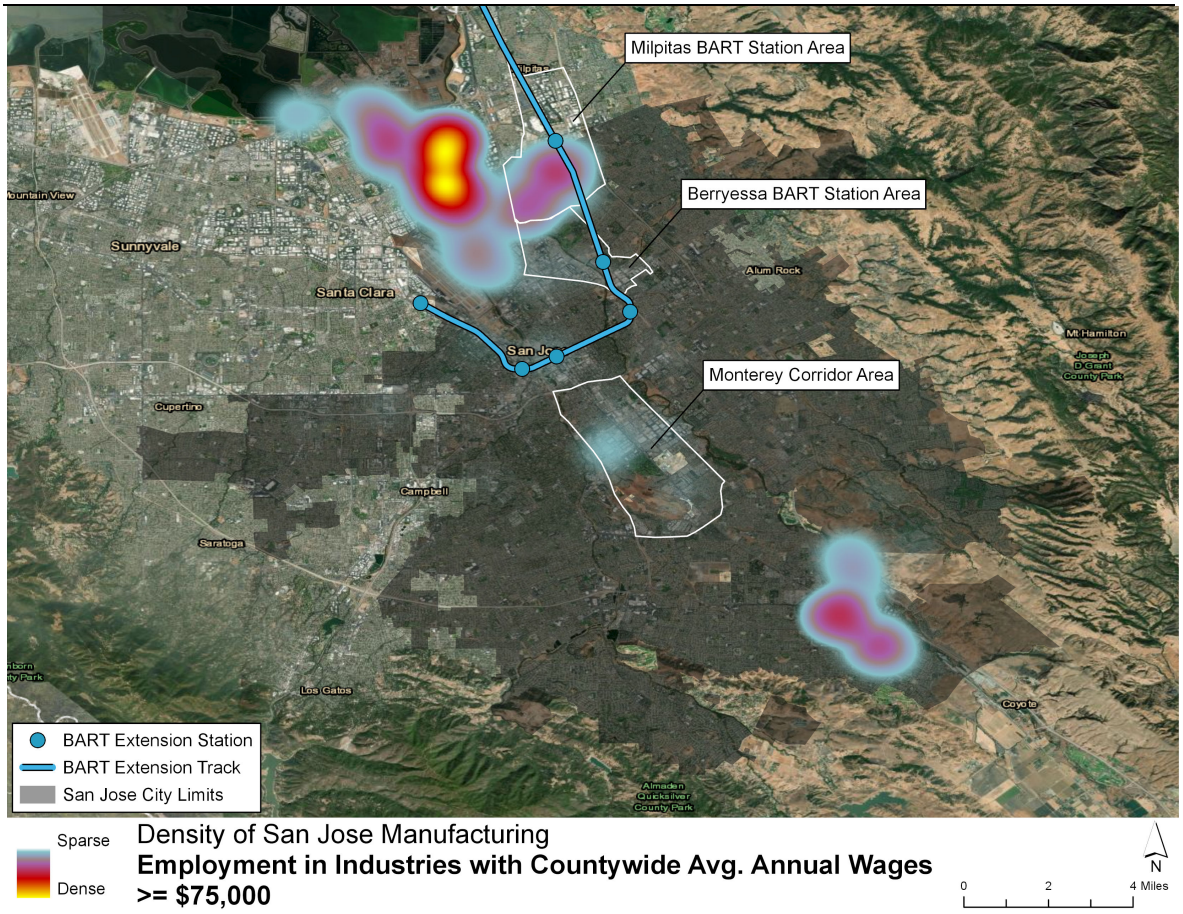
Figure 4: Density of Manufacturing Employment in the City of San Jose



Sources: Dun & Bradstreet Hoovers, 2019; BAE 2019.

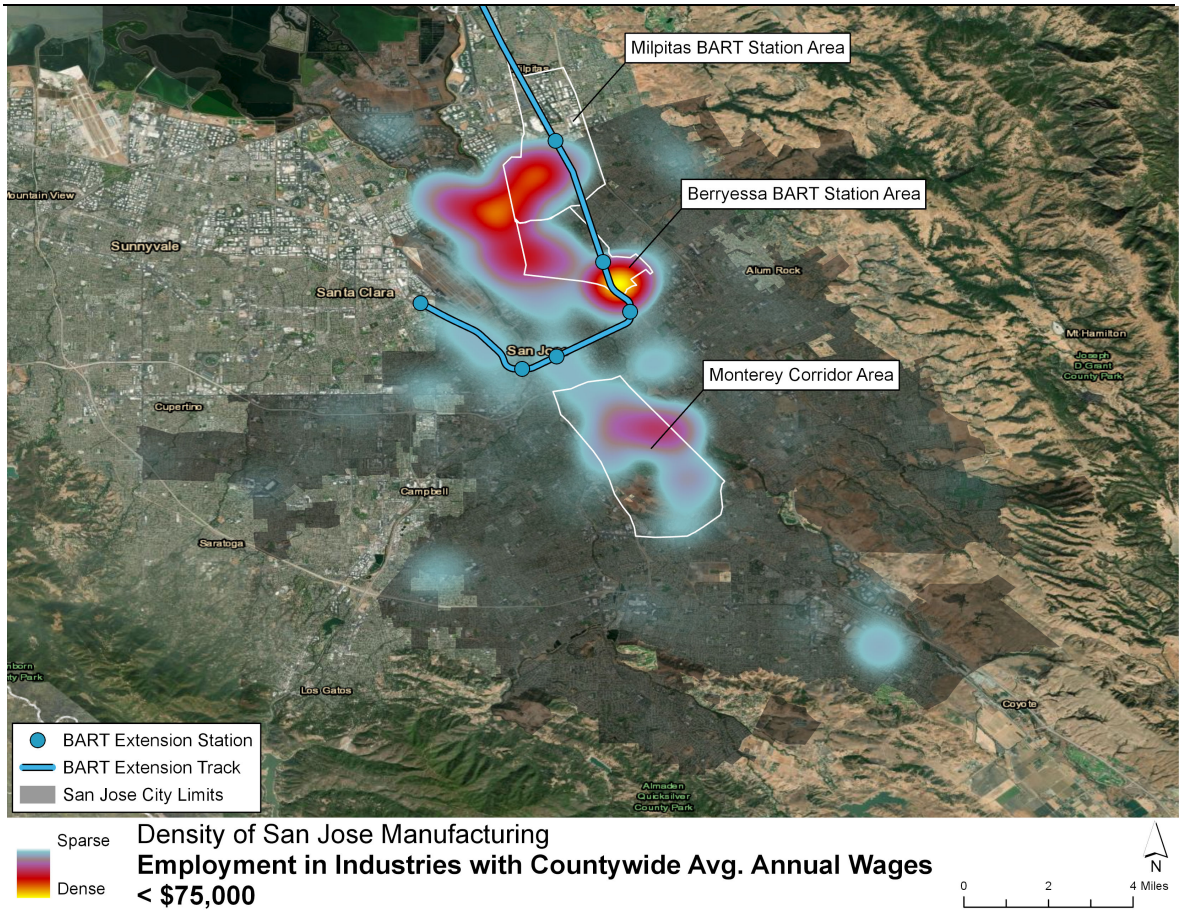
As shown by comparing Figure 5 and Figure 6, there is considerable geographic variation between the location of jobs in high-wage technology-driven manufacturers and jobs in lower-wage traditional/legacy industries. In particular, legacy manufacturing industries are much more concentrated in Berryessa, with an additional cluster in the Monterey Corridor and near the Milpitas border south of the Montague Expressway, while manufacturers linked to the region's vibrant technology sectors are concentrated in North San Jose to the north of the Montague Expressway.

Figure 5: Employment Density for Manufacturing Industries with Average Annual Wages > $75,000



Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics; BAE 2019.

Figure 6: Employment Density for Manufacturing Industries with Average Annual Wages < $75,000



Sources: Dun & Bradstreet Hoovers, 2019; Bureau of Labor Statistics; BAE 2019.

INDUSTRIAL REAL ESTATE MARKET IN SAN JOSE

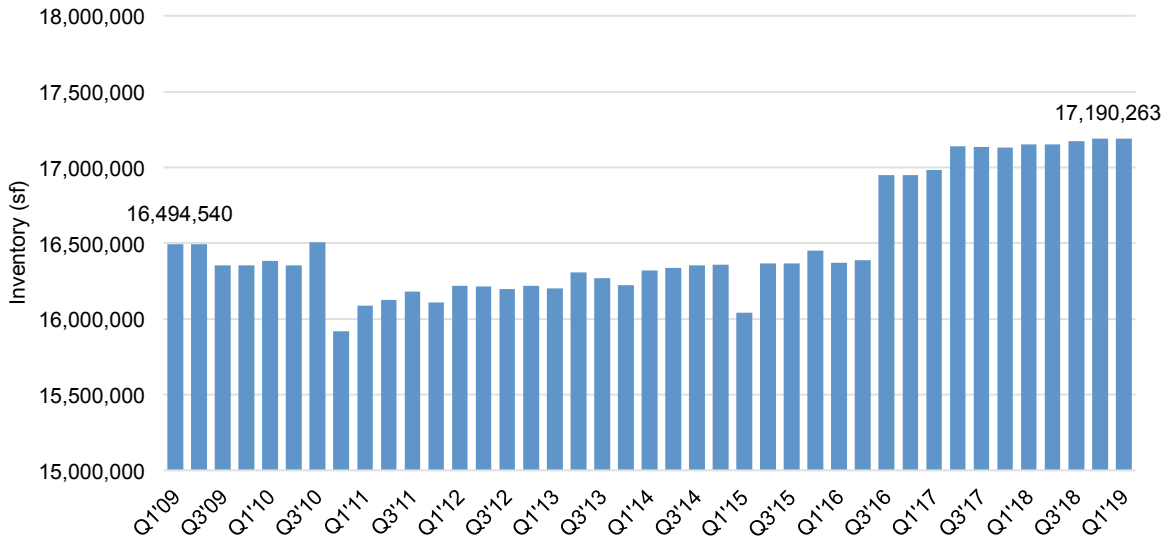
Newmark Knight Frank ("NKF") categorizes industrial real estate product into two product types: traditional industrial and warehouse. According to NKF, traditional industrial buildings typically have clear heights less than 18 feet, dock-high and/or grade level doors, a parking ratio of three spaces per 1,000 square feet, and an office component comprising five to 15 percent of gross square footage. Warehouse buildings generally have minimal build out, limited glass, dock-high and/or grade level doors, clear heights of 18 feet or taller, and a parking ratio of two spaces per 1,000 square feet.

Traditional Industrial

Inventory

NKF reports that San Jose's traditional industrial inventory has grown 4.2 percent over the past decade, as illustrated in Figure 7. Following a sharp decline in 2010, San Jose's traditional industrial inventory fluctuated until a spike in new deliveries in 2016. Inventory growth leveled out in subsequent years. In the first quarter of 2019, San Jose recorded an inventory of approximately 17.2 million square feet of traditional industrial product.

Figure 7: Traditional Industrial Inventory, San Jose, Q1 2009 - Q1 2019



Sources: Newmark Knight Frank, 2019; BAE, 2019.

Age of Industrial Space

Very little leased industrial space in San Jose was built recently, as shown in Table 1. Over 90 percent of the leased industrial space in San Jose was built 30 or more years ago; over 60 percent was built 40 or more years ago.

Table 1: Traditional Leased Industrial Inventory in San Jose by Year Built

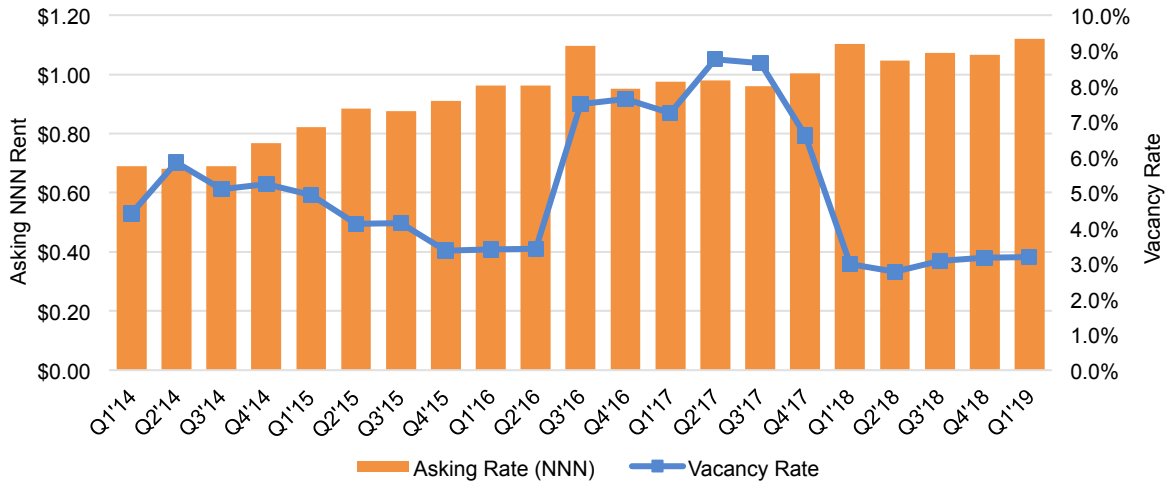
	Square Feet	
Year Built	**Number**	**Percent**
2010-2019	766,487	5.0%
2000-2009	444,388	2.9%
1990-1999	303,764	2.0%
1980-1989	4,375,152	28.7%
1970-1979	4,800,693	31.5%
1960-1969	2,598,915	17.0%
Before 1960	1,957,531	12.8%
Total with Known Date	**15,246,930**	**100.0%**
No data	10,202,128	

Sources: Newmark Knight Frank, 2019; BAE, 2019.

Leasing Trends

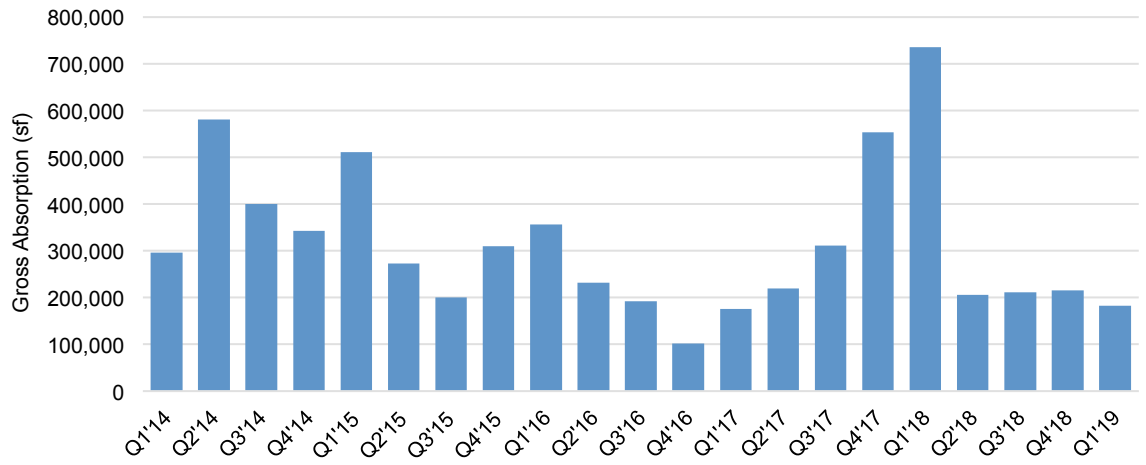
The average triple-net rental rate for traditional industrial space in San Jose was $1.12 per square foot in the first quarter of 2019, according to figures from NKF. As illustrated in Figure 8, San Jose's traditional industrial rents grew steadily between 2014 and 2016, before recording a slight drop amid increasing vacancy rates. Rents rebounded in subsequent quarters, while vacancies declined dramatically to their current rate of approximately three percent. Gross absorption of traditional industrial space has fluctuated in recent years, with major spikes in leasing activity in 2014, 2017, and early 2018. Quarterly gross absorption has remained at approximately 200,000 square feet in the past four quarters.

Figure 8: Traditional Industrial Rent and Vacancy Trends, San Jose, Q1 2014 - Q1 2019



Sources: Newmark Knight Frank, 2019; BAE, 2019.

Figure 9: Traditional Industrial Gross Absorption, San Jose, Q1 2014 - Q1 2019



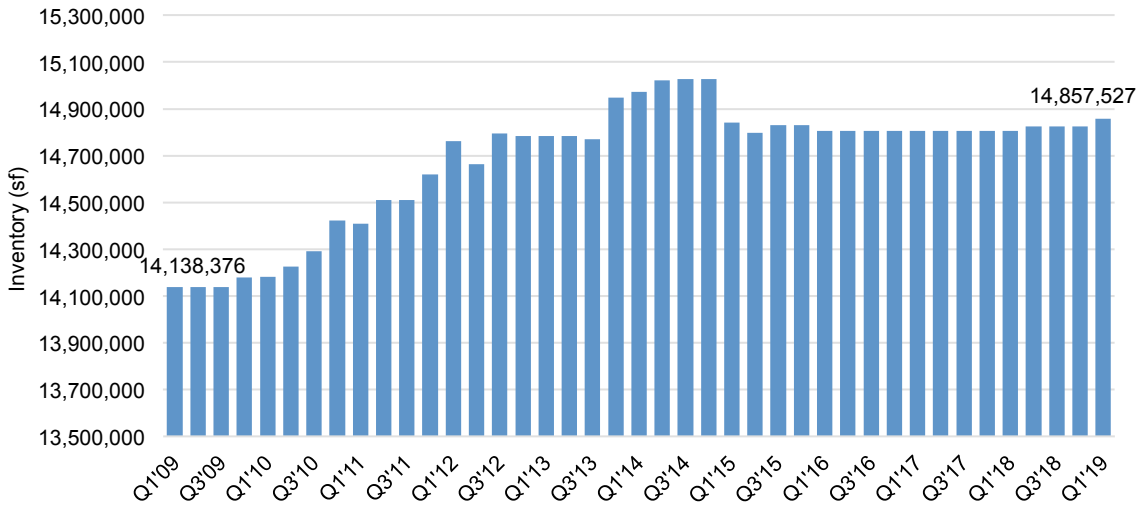
Sources: Newmark Knight Frank, 2019; BAE, 2019.

Warehouse

Inventory

San Jose's warehouse inventory has grown 5.1 percent over the past decade, as illustrated in Figure 10. NKF reports that San Jose's warehouse inventory recorded notable growth between 2009 and 2015 before declining and subsequently leveling out at approximately 14.9 million square feet.

Figure 10: Warehouse Inventory Trend, San Jose, Q1 2009 - Q1 2019



Sources: Newmark Knight Frank, 2019; BAE, 2019

Age of Warehouse Space

Similar to the leased industrial space, not much leased warehouse space in San Jose was built recently (see Table 2). Over 90 percent of the leased warehouse space was built 30 or more years ago, and over 70 percent was built 40 or more years ago. Over half of the inventory was built in the 1970s.

Table 2: Traditional Leased Warehouse Inventory in San Jose by Year Built

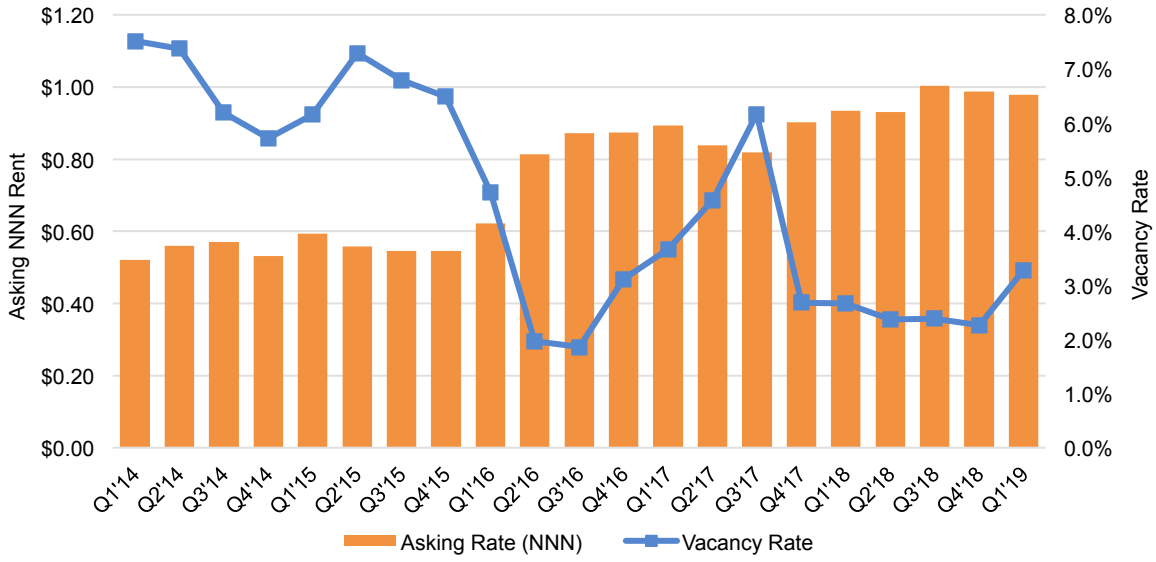
	Square Feet	
Year Built	**Number**	**Percent**
2010-2019	-	0.0%
2000-2009	287,000	2.5%
1990-1999	399,667	3.5%
1980-1989	2,468,770	21.4%
1970-1979	6,131,331	53.2%
1960-1969	1,245,658	10.8%
Before 1960	994,915	8.6%
Total with Known Date	**11,527,341**	**100.0%**
No data	5,807,395	

Sources: Newmark Knight Frank, 2019; BAE, 2019.

Leasing Trends

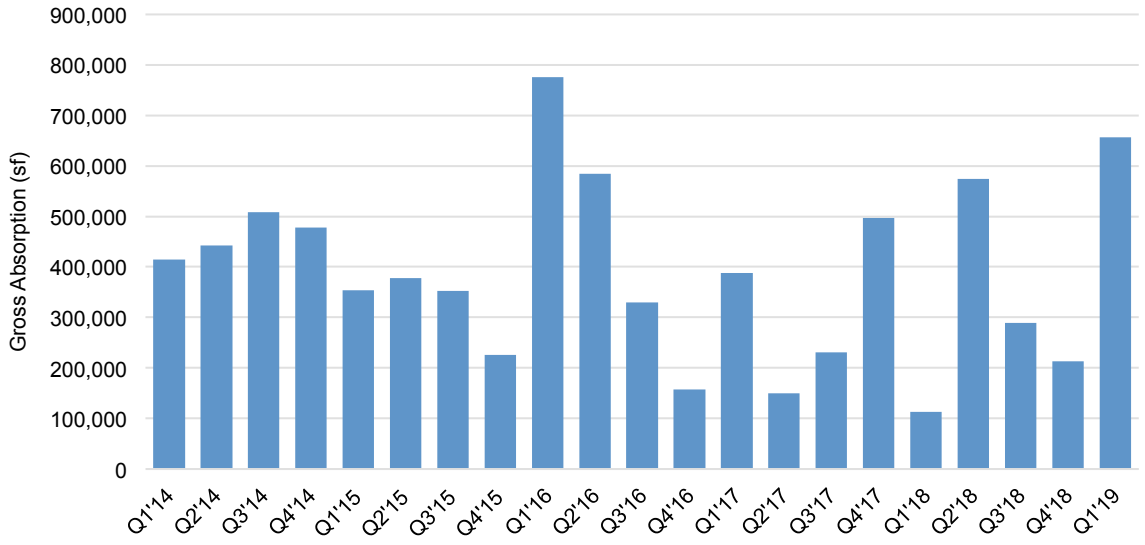
The warehouse leasing trends, as reported by NKF and illustrated in Figure 11 show increasing asking rental rates despite dramatic fluctuations in the vacancy rate. In the first quarter of 2019, the average triple-net rental rate was $0.98 per square foot and the vacancy rate was just above three percent. Warehouse leasing activity, as measured in gross square feet absorbed, has also shown substantial variation quarter to quarter, including several major spikes within the last two years. In the first quarter of 2019, over 650,000 square feet of warehouse space was absorbed.

Figure 11: Warehouse Rent and Vacancy Trends, San Jose, Q1 2014 - Q1 2019



Sources: Newmark Knight Frank, 2019; BAE, 2019.

Figure 12: Warehouse Gross Absorption, San Jose, Q1 2014 - Q1 2019



Sources: Newmark Knight Frank, 2019; BAE, 2019.

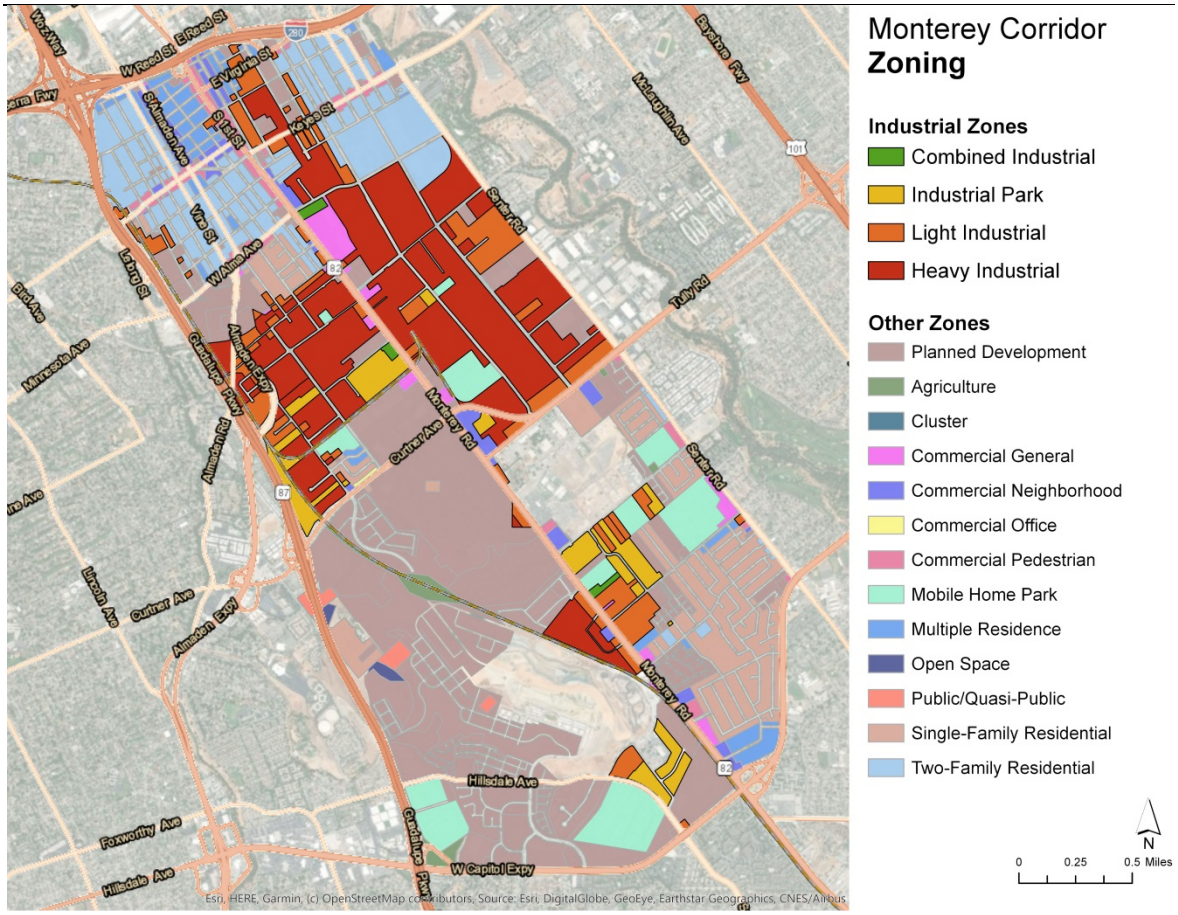
"TRANSIT ORIENTED" INDUSTRIAL NEIGHBORHOODS

Not all industrial areas of San Jose are the same. Three, in particular, bear special focus due to their vibrant mix of manufacturing, residential, and other commercial uses, all in close proximity to transit. The three districts are the Monterey Corridor, Berryessa BART, and North San Jose/Milpitas BART. **In each of these districts, the trifecta of jobs, transit, and housing are present. These districts represent significant opportunities to grow "whole" communities where lower-income residents can live and work in the same community.** All three areas also represent communities under significant pressure to convert existing industrial parcels to other commercial uses or even to residential.

MONTEREY ROAD CORRIDOR

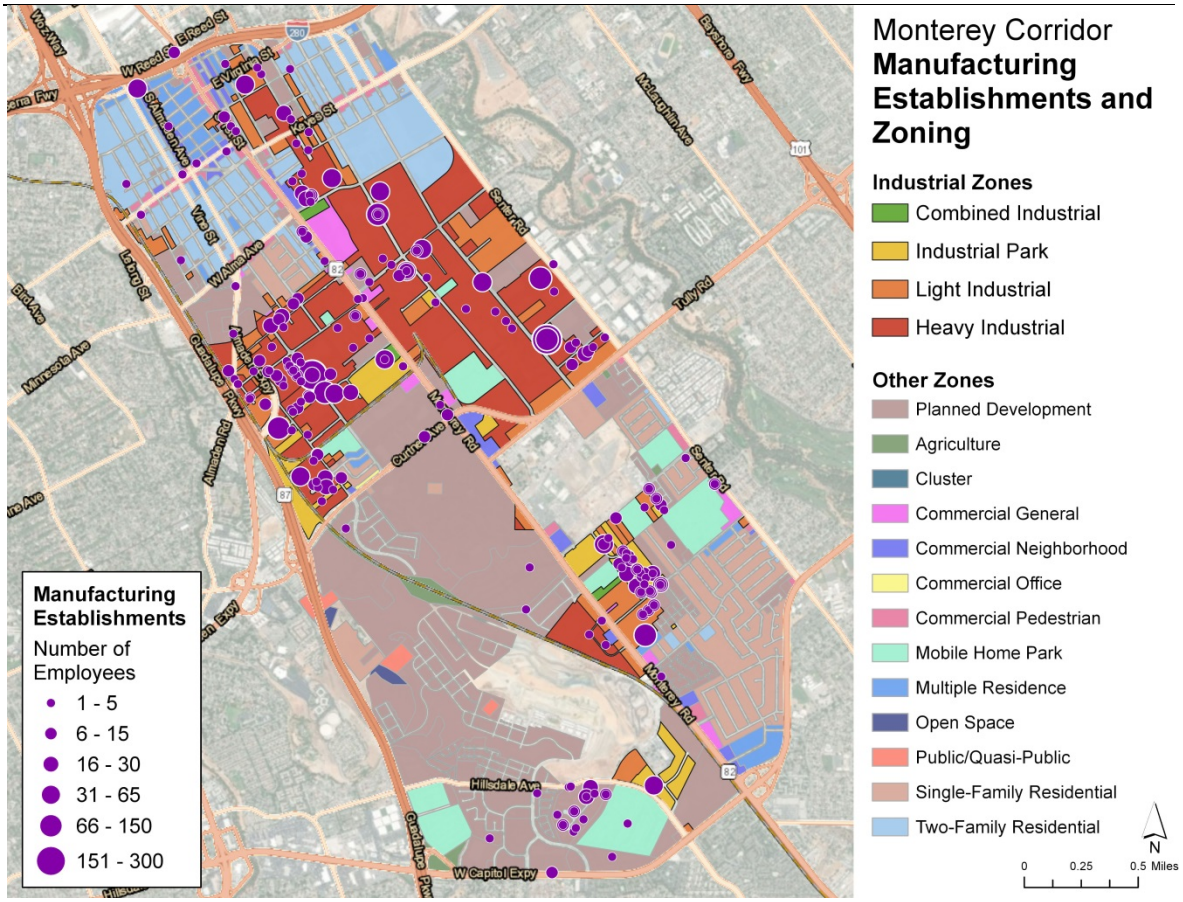
The Monterey Road Corridor provides a significant number of smaller manufacturing spaces (approx. 5k sq. ft. or less) and is home to many of San Jose's artisan food and beverage companies. Many of these vibrant family-owned businesses are small ($1M-$3M in annual revenue and employ on average 5-15 employees). Notable companies include Hermitage Brewing, 10th St Distillery, Bassian Farms, and Santa Clara Valley Brewing Company.

Figure 13: Monterey Corridor Zoning



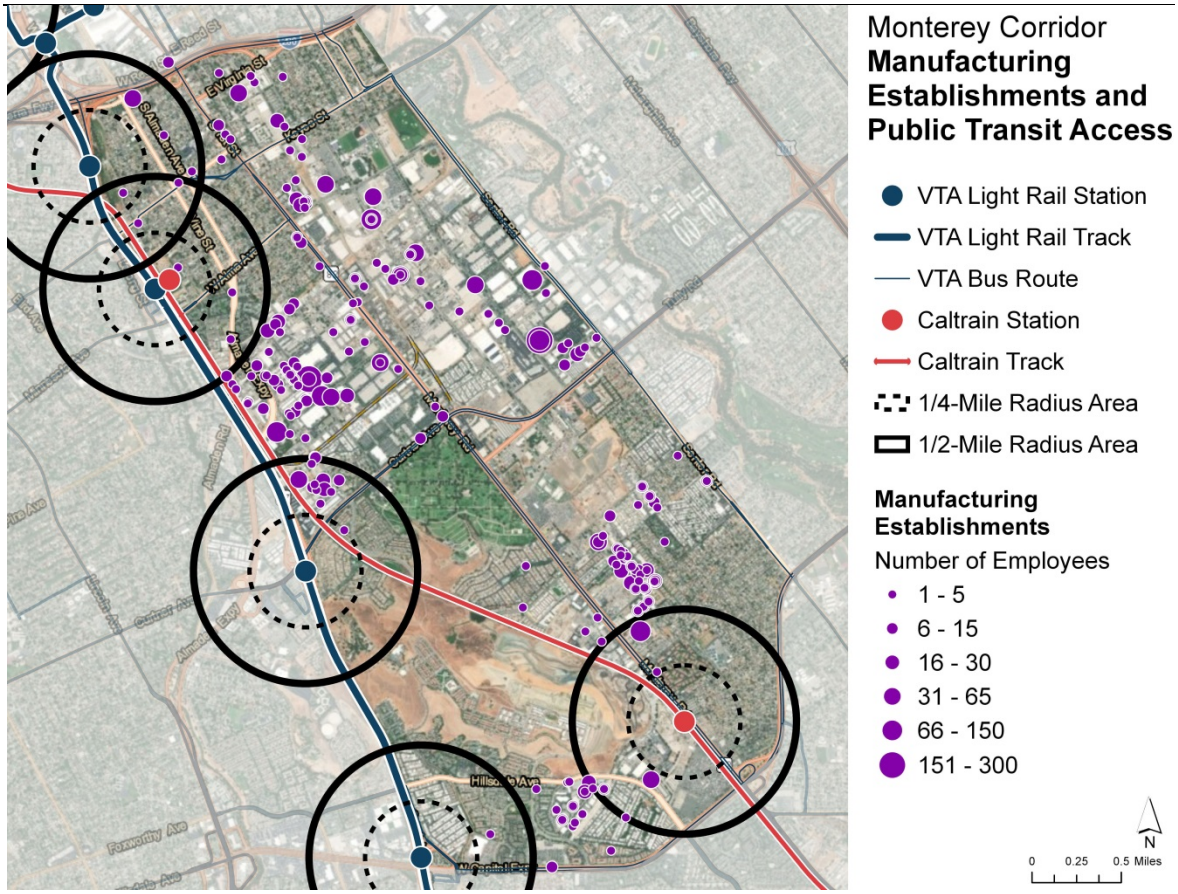
Sources: City of San Jose; BAE 2019.

Figure 14: Monterey Corridor Manufacturing Establishments and Zoning



Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; BAE 2019.

Figure 15: Monterey Corridor Manufacturing Establishments and Public Transit Access

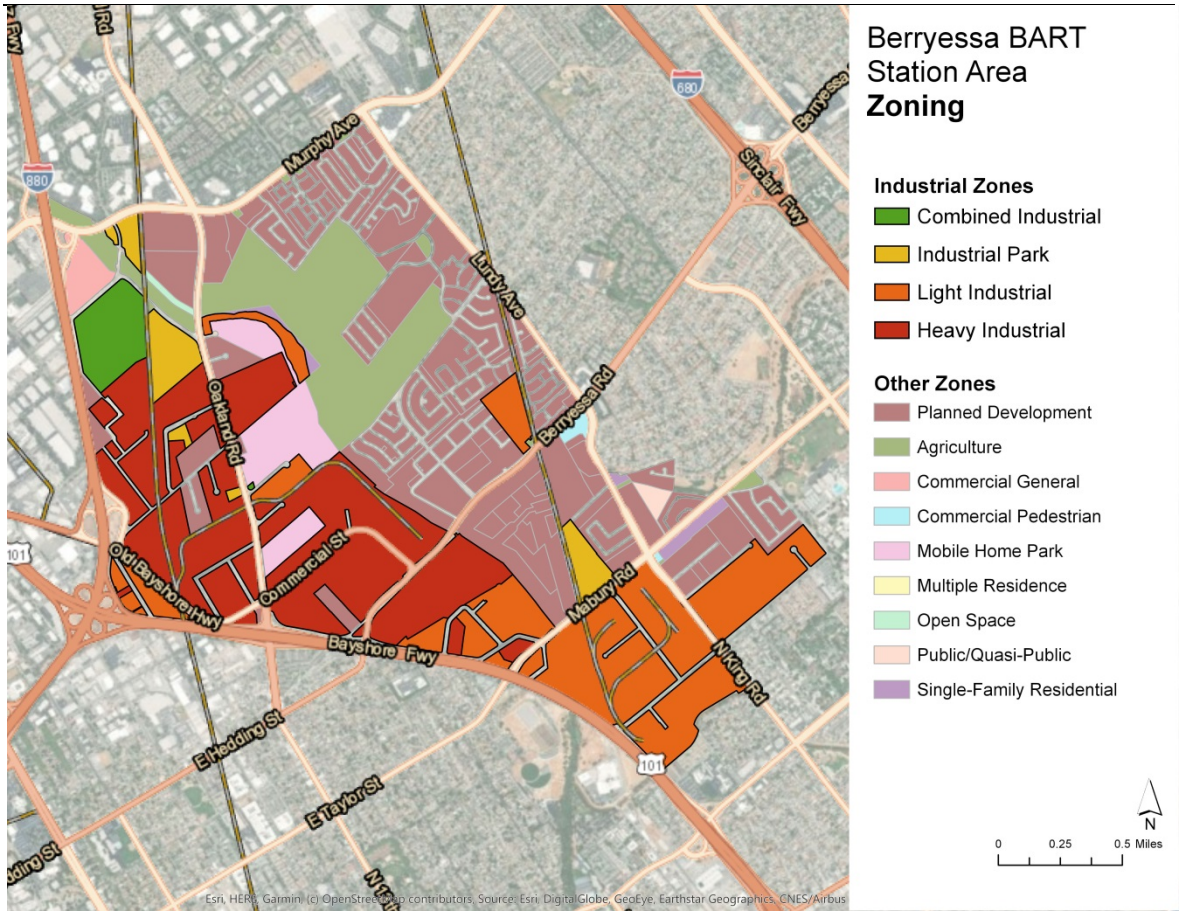


Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; VTA; BAE 2019.

BERRYESSA BART DISTRICT

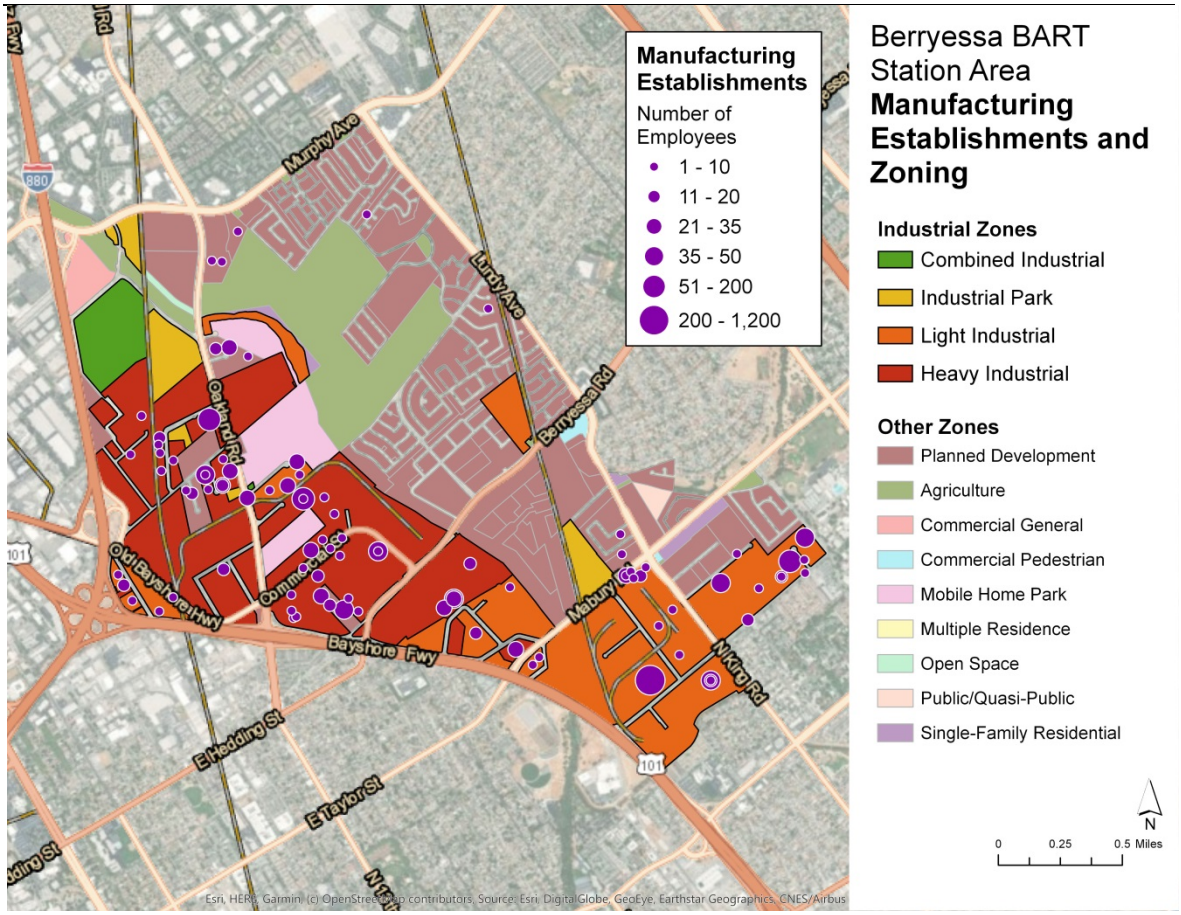
The areas adjacent to the new Berryessa Bart Station represent a mix of small manufacturing spaces (industrial parks with approximately 5,000 sq. ft. spaces) and larger facilities (>100,000 sq. ft.). Manufacturers include smaller contract electronics manufacturers (EMS), food and beverage companies, and contract metal shops. While larger than manufacturers in the Monterey Corridor, most manufacturers in the Berryessa District average fewer than 50 employees, with Therma being the outlier at approximately 1,000 employees. Other notable manufacturers in this district include Freeland Foods and MK Manufacturing. It should also be noted that this district is adjacent to, and contains a portion of, one of San Jose's newly designated Opportunity Zones.

Figure 16: Berryessa Zoning



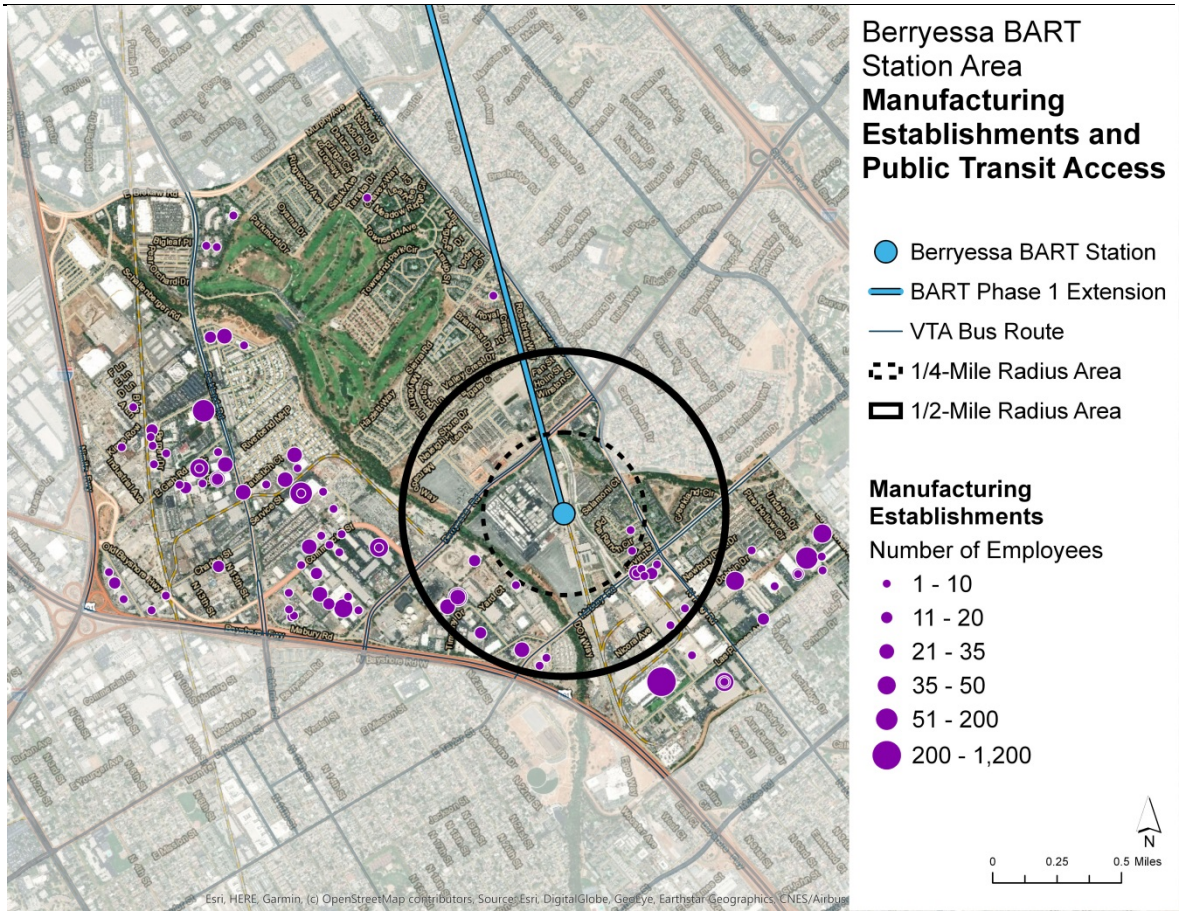
Sources: City of San Jose; BAE 2019.

Figure 17: Berryessa Manufacturing Establishments and Zoning



Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; BAE 2019.

Figure 18: Berryessa Manufacturing Establishments and Public Transit Access

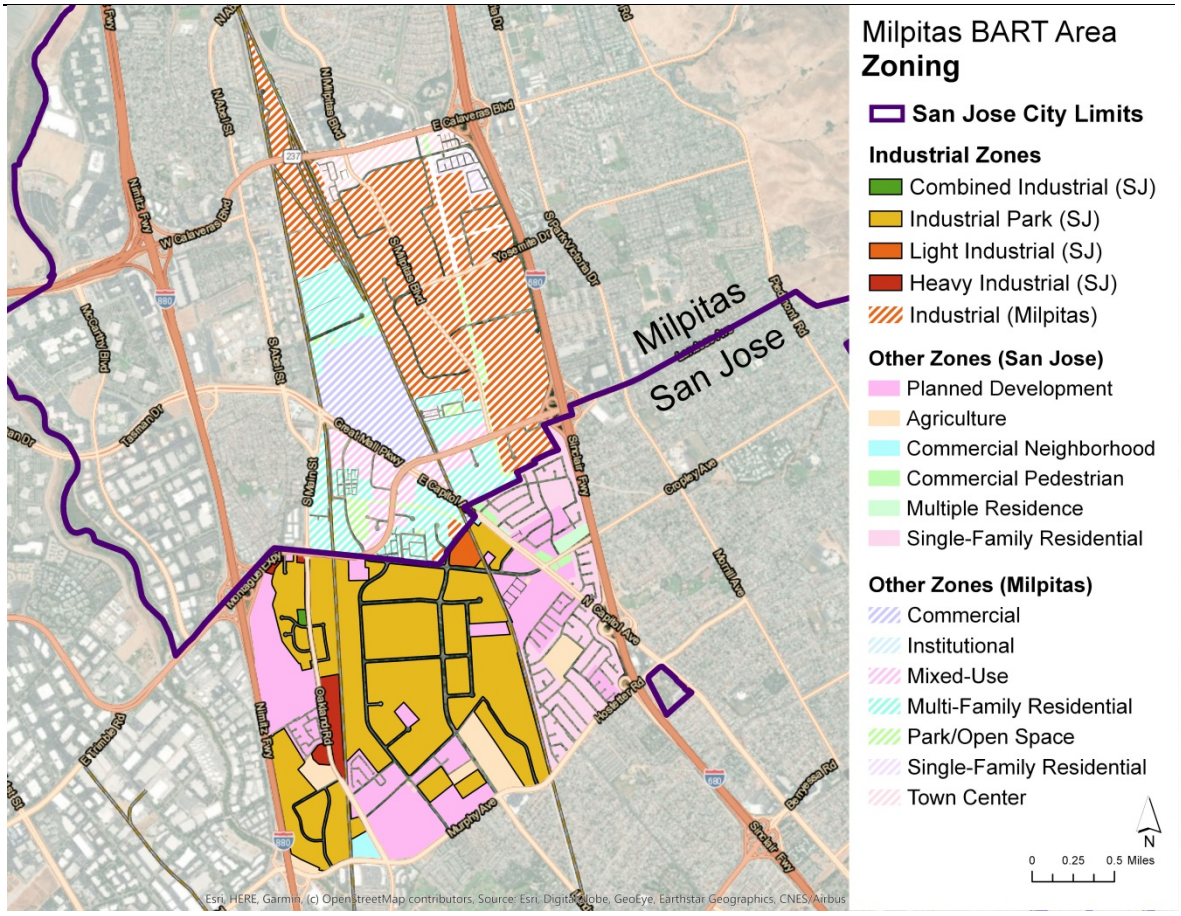


Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; BART; BAE 2019.

NORTH SAN JOSE/MILPITAS BART DISTRICT

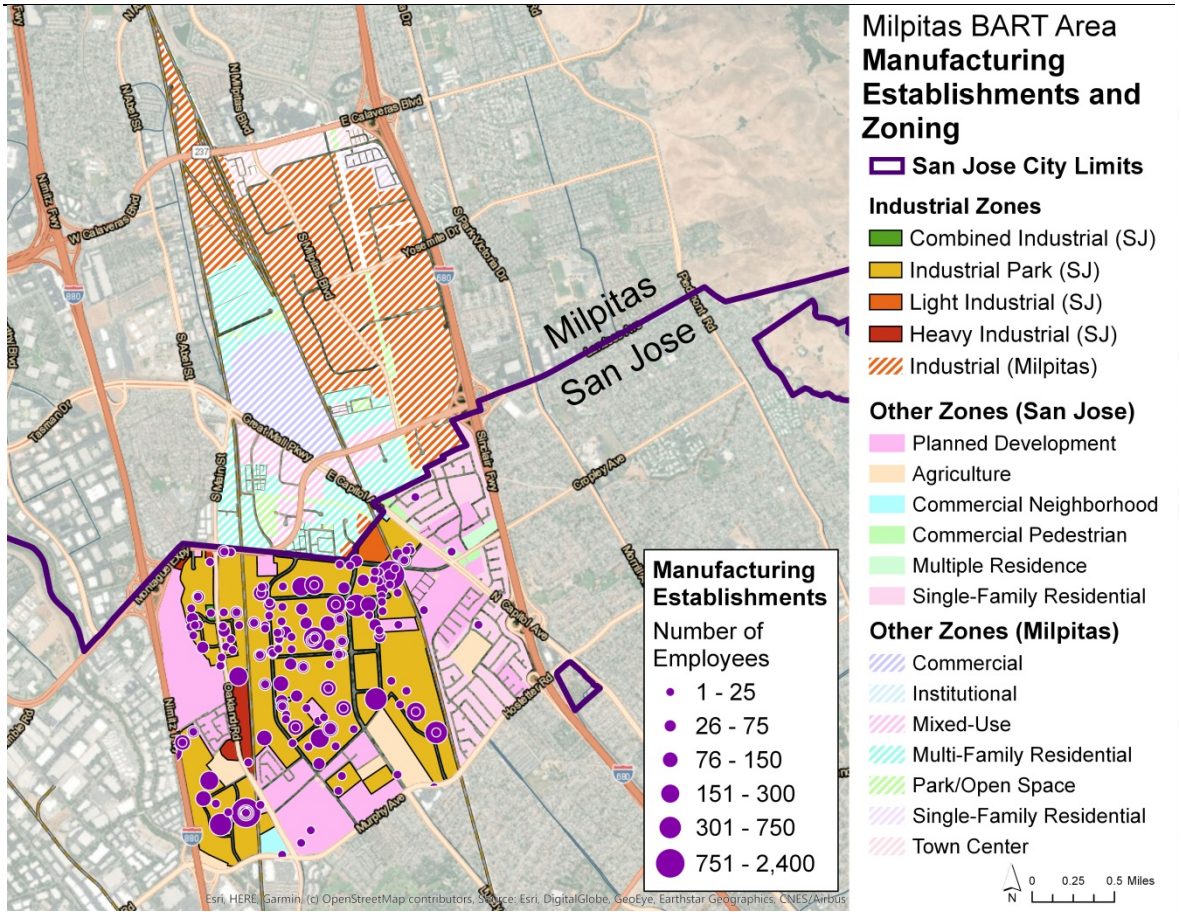
North San Jose is the home of larger technology-driven OEM and EMS companies, but also includes a range of small to mid-sized machine shops who in turn support the larger OEMs. Notable companies in North San Jose include Green Circuits, Rose Batteries, and Mass Precision. North San Jose is also well served by lightrail.

Figure 19: Milpitas BART Area Zoning



Sources: City of San Jose; City of Milpitas; BAE 2019.

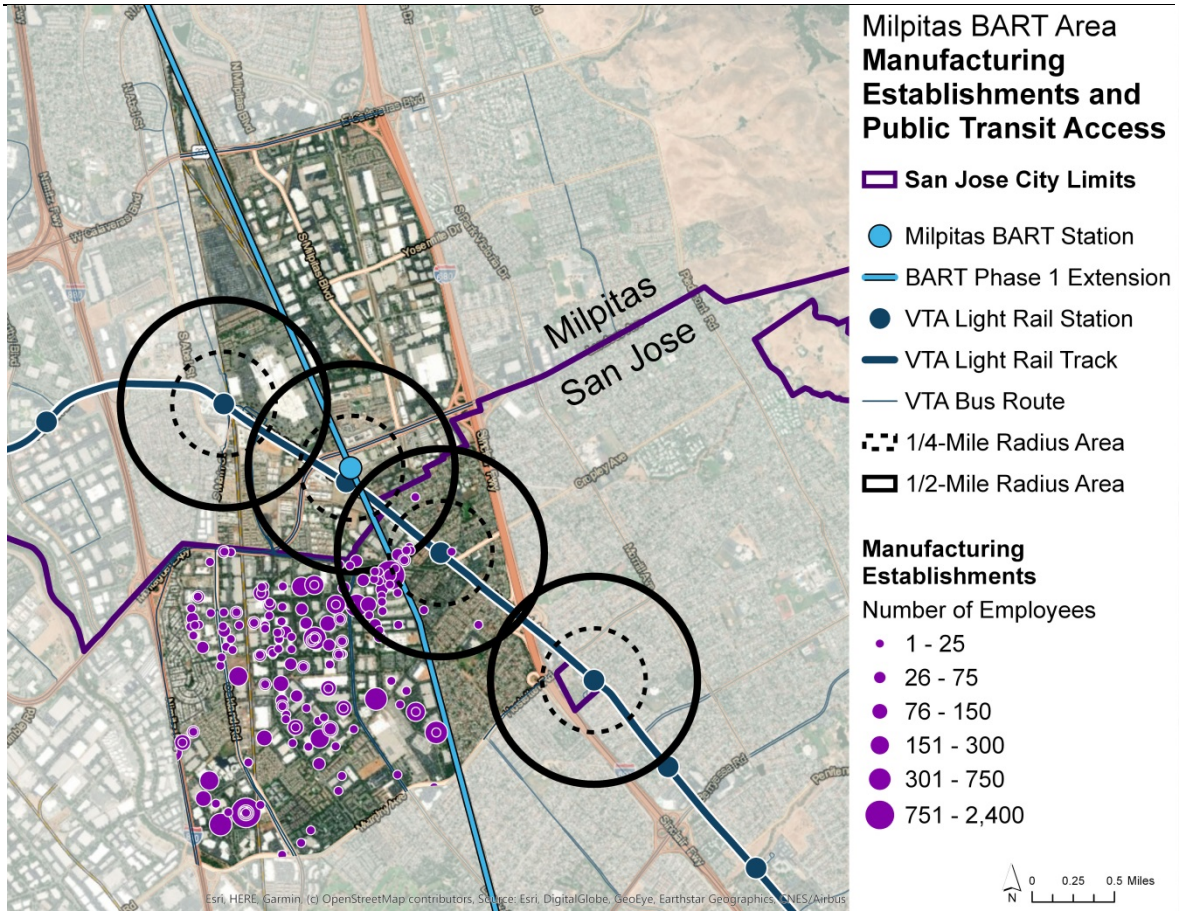
Figure 20: Milpitas BART Area Manufacturing Establishments and Zoning



Note: Does not include manufacturing establishments in Milpitas

Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; BAE 2019.

Figure 21: Milpitas BART Area Manufacturing Establishments and Public Transit Access



Note: Does not include manufacturing establishments in Milpitas

Sources: Dun & Bradstreet Hoovers, 2019; City of San Jose; VTA; BART; BAE 2019.

North San Jose Case Study: Piranha EMS

In 2013, Piranha EMS launched in North San Jose and has grown to become one of the premier Surface Mounted Tech manufacturers in the Valley. They have begun a new phase of growth that will require them to significantly increase their staffing level by the end of 2020. Currently, Piranha employs 30 staff ranging from experienced engineers to SMT machine operators. They, like many advanced manufacturers in San Jose, are happy to hire those with little to no experience and have a track record of hiring from the neighboring low-income residential communities. Piranha takes pride in developing staff that either grow within the organization or move on to become successful within the industry.

KEY RECOMMENDATIONS TO RETAIN AND MODERNIZE SAN JOSE'S INDUSTRIAL STOCK

1. **Strengthen existing industrial zoning controls**, especially around transit hubs where pressure may be highest to covert to other uses. Much of San Jose's industrial zoning permits a wide range of commercial uses, including R&D and technology/engineering offices. While also desirable to have in San Jose, these latter uses compete with industrial users for space. San Jose should consider implementing more restrictive zoning around its industrial core areas to ensure that manufacturers and other job-rich industrial users are not priced out. San Francisco's Production, Distribution, Repair (PDR) zoning is one example of a more restrictive zoning approach. Similar examples exist in New York, Chicago, and Philadelphia.

2. **Implement a moratorium on self-storage in industrial areas**. Self-storage has historically moved into industrial areas of major US cities, replacing functional and job-generating industrial space with dead storage and almost no employment. Many cities have now passed moratoriums or outright prohibition of new self-storage.

3. **Pay attention to competing uses *within* industrial sectors**. In particular, San Jose and Silicon Valley as a whole has experienced very strong demand for warehouse and distribution space. This demand is both linked to the needs of the technology sector as well as to "last-mile" distribution requirements of Amazon and other consumer product distributors. Currently, most cities *do not* distinguish amongst these different types of industrial users. However, the job density profile of warehouse/distribution operations pales in comparison to manufacturing uses. San Jose needs to monitor the encroachment of large warehouse/distribution operators in its industrial areas to ensure that they do not price out, in particular, smaller manufacturers. The same goes with cultivation/distribution of cannabis.

4. **Provide incentives to modernize, or demise older industrial buildings**. San Jose's industrial building stock is generally quite old—90% was built more than 30 years ago—and much of it is comprised of single-story buildings designed to serve a single user. San Jose would be well served to explore ways to incentivize the modernization of existing building stock. Such efforts could also include providing incentives to help building owners demise large floor plate buildings to better serve the needs of smaller, nimble urban manufacturers.

5. **Consider multi-story industrial near transit hubs**. Increasingly, in dense urban areas, and in high cost regions of the US like Santa Clara County, the math is finally making sense to consider multi-story industrial buildings. Examples in US cities include San Francisco (the Manufacturing Foundry at 150 Hooper), New York (the Brooklyn Navy Yard), and a new multi-story distribution center in Seattle (from the developer Prologis). Multi-story construction not only enables a community to satisfy more demand for industrial within a dense urban area, it can also provide a pathway for cross-subsidization: a single project contemplates a mix of uses (say small manufacturing on the ground floor, and office on upper floors), where the higher-paying use can help offset costs to construct/rent the manufacturing spaces.

6. **Resist the pressure to rezone industrial for housing. Even for affordable housing.** The Bay Area is at a critical crossroads, where the understandable pressure to find more space to build housing often trumps all other uses. However, pitting housing against industrial is a race to the bottom. Once an industrial parcel/building is converted to another use, it is almost impossible to convert it back. Above all, ***manufacturers in particular sustain the very jobs held by those we aspire to build affordable housing for.*** Modern, functional industrial space is the "affordable housing" San Jose's vibrant manufacturing ecosystem needs to thrive.

For More Information, Contact:

Kate Sofis
CEO
SFMade |MFG:SJ | PlaceMade
Kate@sfmade.org
415-408-5605 x1