



STRATEGICECONOMICS

NORTH COYOTE VALLEY AND THE SAN JOSÉ ECONOMY

IMPLICATIONS FOR REMOVING NORTH COYOTE VALLEY FROM SAN JOSÉ
ENVISION 2040 EMPLOYMENT LANDS

Prepared for: City of San José

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I. INTRODUCTION

In 2011, the City of San José adopted its current General Plan, Envision San José 2040, which includes a provision mandating that the City Council conduct a review of the Plan every four years to measure progress and make any necessary course corrections without having to redo the entire Plan. The most recent review process, which began in 2019 but will be completed in 2021, includes a review of the appropriate land use policies for the North Coyote Valley (NCV) area. When adopted, the General Plan designated NCV as an employment growth area with an Industrial Park (IP) land use designation. Based on an assumed available land supply of 1,722 acres, the Plan initially allocated potential job growth of up to 50,000 future jobs to the area, although the employment capacity has since been reduced to 35,000 jobs.

Despite the strong economic development emphasis intended for NCV when Envision San José was adopted, changing trends and conditions have led to diverging public priorities for this area. For many years the Santa Clara Open Space Authority (OSA) and the Peninsula Open Space Trust (POST) have made the case that major portions of NCV should be preserved for open space and flood control, rather than development. This effort was bolstered in 2018 when San José passed an infrastructure bond (Measure T) that included funds which could be used for open space acquisition in NCV. In 2019 the City Council agreed to use Measure T funds for this purpose, leading to a joint property acquisition, involving San José, OSA and Post, of approximately 937 acres to be preserved as open space, leaving only about 785 gross acres in NCV for IP uses.¹

This major change in land use priorities suggests that NCV may no longer be available to accommodate as much future expansion of San José's economy as was anticipated in 2014. As a result, the City Council has asked staff to consider whether the potential 35,000 jobs that might have been located in NCV could be accommodated in other locations around the City; and if not, what would this imply for the City's future economic growth. The following report has been prepared to provide background information on employment trends, business/industry conditions, and building types that have been occurring in other areas of the City with the same IP land use designation as NCV, as well as to compare these trends with general employment projections for San José as a whole. Combined, the trend analysis and the projections by industry and net job growth provide context for better understanding what kinds of industry/job growth San José could anticipate; where this growth might occur given current market trends; what these trends could imply for the City's future economic growth; and what policy actions San José could take to better accommodate future economic growth while still protecting the City's ecological systems.

It is important to note that this entire analysis was completed prior to the onset of the COVID-19 pandemic. Although it is very difficult to predict what the long term employment and land demand implications will be from the pandemic, there are some immediate trends that, while difficult to capture quantitatively and directly incorporated into this analysis, should be considered in making further policy recommendations. The three most notable trends include the need to increase social distancing in office spaces by increasing the space/square feet occupied by individual employees; increased interest in lower density suburban office campuses over dense urban office buildings as future

¹ Email correspondence, Jessica Setiawan, January 30, 2020.

locations for office-based industries; and, an increased reliance on on-line shopping which has spurred an increased demand for logistics space of all kinds.

Following this introduction, Section II addresses an analysis of employment growth trends in IP areas by subarea within the City and links these trends to employment projections. This is followed by Section III which summarizes interviews with three industrial developers who are all familiar with the San José market for industrial and logistics space. Section IV presents key findings regarding the potential implications for removing the IP designation from NCV and list strategies for accommodating potential NCV jobs in other parts of San José.

II. INDUSTRIAL PARK AREA TRENDS AND CONDITIONS

The current General Plan's IP land use designation assigned to NCV dates to land use policy from the 1980s when San José was anticipating that high technology companies would be looking for large land parcels to build "industrial campuses" as part of a larger economic development strategy focused on attracting and retaining high technology companies in the City. These campuses were envisioned as places where a single company could consolidate its vertically integrated functions including office/administration, research and development (R&D), and manufacturing at one site. Warehouse and distribution functions were considered only as ancillary uses at that time. In addition, each campus would have a 25-acre minimum lot size, low density development, and high-quality landscaping and building design. The policy goal at the time was to make San José a more competitive location for these cutting-edge industries.

Since the 1980s, the high technology industry in the Bay Area has evolved in many ways. In its early years, "Silicon Valley" was composed primarily of hardware manufacturing companies with each company performing most of its major functions, from administration and research and development to production manufacturing, in the Bay Area. However, even as early as the 1970s, technology companies began moving some functions to lower cost locations. Manufacturing microchips was the first function to leave the Bay Area, starting the gradual shift that has led to technology companies growing in many western cities in the U.S., such as Austin or the Salt Lake City region. San José recognized in the early 1980s that the technology companies were shifting their production models and tried to forestall or counter some this by setting aside land in NCV for these industrial campuses. But, by the 1990s high technology equipment manufacturing began to mature, and companies accelerated the pace of moving lower cost functions, not just manufacturing, first to both lower cost regions in the U.S., then to Asia, reducing the demand for large industrial campus locations.

A second very significant transition in the technology sector in the Bay Area that has implications for NCV, and the IP land use designation has been the growth of software, computer applications mobile phone technology and social media. To be sure, there are still some very large hardware-oriented firms in the Bay Area, like Apple, Cisco, and Intel. But these firms tend to have their highly skilled high value-added employees located in the Bay Area, while the lower value-added functions, including warehouse and distribution, continue to move to lower cost places. This transition has paralleled the rise in e-commerce, which has impacted both retail stores and the logistics industry, with changing demand for warehouse and distribution space. However, just like the technology industry, the logistics industry is now starting to segment its space needs to address cost constraints. Large distribution hubs are moving to peripheral regional locations with lower operating costs, including lower housing costs and a more abundant workforce whose skills match those required for the logistics industry. On the other hand, these same logistics firms are building more "infill" distribution centers at the center of cities to facilitate rapid "last mile" direct delivery to consumers.

Evolving industry growth trends across all sectors, not just for technology and logistics companies, continue to shape demand for land and buildings in San José. However, these two industries appear to align most closely with the intent of the IP land use designation specifically regarding NCV and the General Plan's Industrial Lands strategy. To understand the potential implications of removing the NCV land from the City's future land development inventory for San José's future economic growth requires understanding the City's recent employment/industry growth trends; matching these trends to

locations and buildings types in the City; and finally, matching past trends with future projections, to the extent possible, to better understand what the longer term demand for IP land/locations will be.

The following section presents analyses of employment trends in San José's IP areas extending from 2009 to 2018 including by industry, number of jobs, location, and building type. In addition, these trends have been compared to the Association of Bay Area Government's (ABAG) 2040 employment projections for San José.

IP/Transit Employment Center Employment Trends by Building Type

Although the IP land use designation predates the 2014 General Plan, Envision San José 2040 established a new land use designation: Transit Employment Center (TEC) which was assigned to a subset of IP designated areas. The TEC designation was applied specifically to places that are served by regional transit networks and where the General Plan expected that San José could accommodate additional high intensity employment growth over the Envision San José 2040 timeframe. Therefore, the time series employment analysis presented below, spanning the 2009-2018 time period, compares employment in all areas that were designated IP in 2009 with the combined IP and TEC designated areas for 2018. The geographic boundaries are the same for both time periods, the only change is that some places have received a new land use designation (TEC). For presentation purposes, these areas are referred to throughout as IP/TEC areas, even though TEC areas did not exist in 2009.

All industries were also paired with broad building type categories to further reflect the policy framework in the General Plan. Both the IP and TEC designations allow for dense office uses (the allowable FAR for IP is up to 10.0 with no minimum density; the allowable FAR for TEC is up to 12.00 with no minimum density. But the IP/TEC also permit a wide range of uses that could be accommodated in low-density buildings of one, or at most two stories such as manufacturing, construction, etc. To simplify this analysis, building types were divided in three broad categories: **Horizontal**, i.e., single buildings that could be longer and wider than they are tall; **Vertical**, or multi-story office buildings; and **Other** which are buildings built for institutional, retail, or other commercial uses. Figure 1 shows the distribution of industries by North American Industrial Classification System (NAICS) codes to building types. As noted, some industries occupy more than one building type. This allocation of jobs by industry to building type reflects specific conditions in San José based a detailed analysis of industry by location and building type.

FIGURE 1 BUILDING TYPE BY TWO DIGIT NAICS CODE

Building Type	2-Digit NAICS Code	Industry Sector/Description
Industrial-based/ Horizontal	31-33	Manufacturing
	42	Wholesale Trade
	48-49	Transportation and Warehousing
	23	Construction
Office-based/ Vertical	52-53	Finance and Real Estate and Leasing (FIRE)
	54	Professional, Scientific, and Technical
	55	Management of Companies
	56	Administrative and Support and Waste Management and Remediation Services
	61, 62, and	Education, Healthcare and Social Services, and Arts and Recreation (20%)
	51	Information
Other/Unclassified	44-45, 72	Retail, Food Services
	56	Administrative and Support and Waste Management and Remediation Services
	61, 62, and	Education, Healthcare and Social Services, and Arts and Recreation (80%)
	81	Other, Except Public Administration
	92	Public Administration

Source: Strategic Economics, 2020.

Figures 2 and 3 present employment trends by industry 2009-2018 for all IP/TEC designated areas by building type as compared to the City of San José. **These data make the following key points:**

- During the ten-year analysis period, the IP/TEC lands have consistently accounted for approximately 25 percent of the City’s total employment.
- IP/TEC added approximately 18,000 new jobs over the 9-year period accounting for approximately 24 percent of San José’s total employment growth.
- Although the aggregate numbers suggest that the IP/TEC areas represent a constant share of San José’s employment, in fact the industry mix within the IP/TEC areas changed considerably over the period.
- The IP/TEC areas accounted for almost three-quarters of San José’s manufacturing employment both in 2009 and 2018. However, as a share of total employment in the IP/TEC areas, manufacturing dropped from 51 percent in 2009 to 37 percent in 2018, or a 12 percent change over time. Manufacturing also had a decreasing share of the City’s total employment, but the change was only 8 percent.
- Within the industry groups primarily utilizing Horizontal buildings, the largest increase in employment came from wholesale trade and construction.
- Office based industries accounted for the biggest overall increase in IP/TEC area employment, adding over 15,000 jobs during 2009-2018 for a 75 percent change.
- The IP/TEC lands also accounted for a significant share of the City’s growth in office-based employment. Over half of the new office- based jobs (56 percent) that San José added between 2009 and 2018 were in IP/TEC areas.
- Jobs classified by the Other building type also grew in the IP/TEC areas, adding almost 4,000 jobs during the 2009-2018 period, representing a 30 percent change. However, despite

accounting for a significant share of the IP/TEC employment growth, overall growth in these industries was much greater for the City as a whole.

FIGURE 2 EMPLOYMENT TRENDS BY INDUSTRY AND BUILDING TYPE: IP/TEC AND CITYWIDE, 2009 - 2018

	IP/TEC						Citywide			
	2009 Employment	% of IP/TEC Employment	% of City Employment by Industry	2018 Employment	% of IP/TEC Employment	% of City Employment by Industry	2009 Employment	% of Citywide Employment	2018 Employment	% of Citywide Employment
Industrial-Based/Horizontal Jobs										
31-33--- (Manufacturing	42,922	51%	75%	37,801	37%	74%	56,912	17%	50,824	12%
42--- (Wholesale Trade)	4,978	6%	34%	8,006	8%	50%	14,574	4%	15,990	4%
48-49 (Transportation and Warehousing)	1,858	2%	17%	1,996	2%	16%	10,675	3%	12,316	3%
23 (Construction)	1,404	2%	8%	3,106	3%	12%	17,147	5%	25,925	6%
Horizontal Total	51,163	61%	52%	50,909	49%	48%	99,308	30%	105,055	26%
Office-Based/Vertical Jobs										
52-53 (FIRE)	1,768	2%	11%	5,461	5%	32%	16,155	5%	17,154	4%
54 (Professional, Scientific, and Technical Services)	10,223	12%	34%	17,020	16%	42%	30,092	9%	40,092	10%
55 (Management of Companies)	1,262	1%	29%	2,323	2%	44%	4,297	1%	5,225	1%
56 (Admin and Support)	4,390	5%	35%	5,298	5%	31%	12,655	4%	17,135	4%
61, 62 (Education and Healthcare)	488	1%	4%	936	1%	6%	11,178	3%	16,383	4%
51 (Information)	2,231	3%	26%	4,647	4%	33%	8,581	3%	14,124	3%
Vertical total	20,362	24%	25%	35,686	35%	32%	82,958	25%	110,114	27%
Other/Unclassified										
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	5,247	6%	8%	6,153	6%	7%	69,818	21%	89,267	22%
56 (Admin and Support)	4,390	5%	35%	5,298	5%	31%	12,655	4%	17,135	4%
61, 62 (Education, Healthcare)	1,953	2%	4%	3,744	4%	6%	44,711	13%	65,532	16%
81 (Other, Excluding Public Administration)	803	1%	5%	1,167	1%	10%	16,323	5%	12,174	3%
92 (Public Administration)	372	0%	13%	255	0%	3%	2,842	1%	7,400	2%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	137	0%	5%	101	0%	4%	2,814	1%	2,373	1%
Total, Other/Unclassified	12,901	15%	9%	16,718	16%	9%	149,164	45%	193,882	47%
Total, All Industries	84,427	100%	25%	103,313	100%	25%	331,430	100%	409,051	100%

Source: California Employment Development Department, 2009 - 2018; Strategic Economics, 2020.

FIGURE 3 CHANGE IN EMPLOYMENT BY INDUSTRY AND BUILDING TYPE: IP/TEC AND CITYWIDE, 2009 - 2018

	IP/TEC			Citywide			IP/TEC Growth as a Share of City Change
	Net Change	% of Growth	% Change	Net Change	% of Citywide Growth	% Change	
Industrial-Based/Horizontal Jobs							
31-33--- (Manufacturing)	(5,121)	-27%	-12%	(6,088)	-8%	-11%	84%
42--- (Wholesale Trade)	3,028	16%	61%	1,415	2%	10%	214%
48-49 (Transportation and Warehousing)	138	1%	7%	1,641	2%	15%	8%
23 (Construction)	1,702	9%	121%	8,779	11%	51%	19%
Horizontal Total	(254)	-1%	0%	5,747	7%	6%	-4%
Office-Based/Vertical Jobs							
52-53 (FIRE)	3,694	20%	209%	999	1%	6%	370%
54 (Professional, Scientific, and Technical Services)	6,797	36%	66%	10,000	13%	33%	68%
55 (Management of Companies)	1,061	6%	84%	929	1%	22%	114%
56 (Admin and Support)	908	5%	21%	4,480	6%	35%	20%
61, 62 (Education and Healthcare)	448	2%	92%	5,205	7%	47%	9%
51 (Information)	2,416	13%	108%	5,543	7%	65%	44%
Vertical total	15,324	81%	75%	27,156	35%	33%	56%
Other/Unclassified							
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	906	5%	17%	19,449	25%	28%	5%
56 (Admin and Support)	908	5%	21%	4,480	6%	35%	20%
61, 62 (Education, Healthcare)	1,791	9%	92%	20,821	27%	47%	9%
81 (Other, Excluding Public Administration)	364	2%	45%	(4,149)	-5%	-25%	-9%
92 (Public Administration)	(117)	-1%	-31%	4,558	6%	160%	-3%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	(36)	0%	-26%	(441)	-1%	-16%	8%
Total, Other/Unclassified	3,816	20%	30%	45,159	58%	30%	8%
Total, All Industries	18,887	100%	22%	77,621	100%	23%	24%

Source: California Employment Development Department, 2009 - 2018; Strategic Economics, 2020.

IP/Transit Employment Center Employment Trends by Location

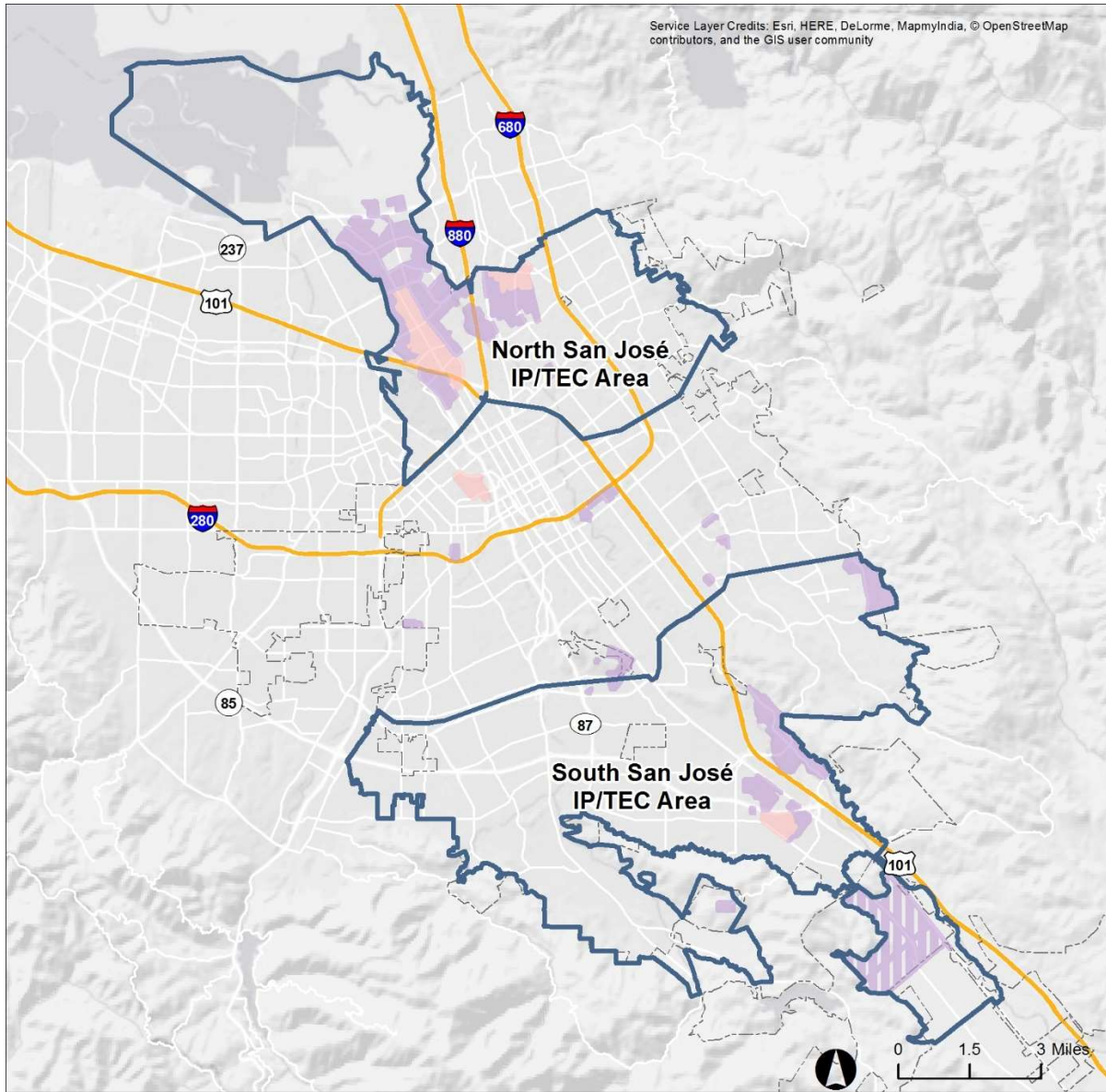
In the 1980s when NCV was first designated for Campus Industrial related employment growth, this decision was both forward looking, but also built on longer term industry trends. At that time, many technology companies, including IBM, Fairchild Electronics, and Hitachi had facilities in the southern part of the City, so NCV appeared as a logical location to accommodate future growth for these and other similar companies. However, the majority of San Jose's technology related employment growth has focused more in the northern parts of the City. This raises the issue as to what industries would find NCV an attractive location in the future and if these industries could not access land in NCV, what would be the implications for the City's economy. To begin to address these questions in NCV, employment trends for the existing IP/TEC areas were also evaluated based on general location within the City. Figure 4 shows the geographic subareas used as the starting point for this analysis, which are based on real estate market subareas defined by CoStar, a commercial real estate data service. The CoStar subareas were used because the CoStar data also allows for an analysis of building inventory by building type, as will be presented below. Because the IP/TEC areas are primarily located in two major areas of the City, the CoStar subareas have been further aggregated into two major areas: North San José, which includes all IP/TEC areas in Airport, North San José, and International Business Park submarkets and South San José, which are the areas south of Capital Expressway.

In 2009, North San José IP/TEC area accounted for 25 percent of the City's total jobs, but by 2018, this share dropped to 23 percent. The South San José IP/TEC areas accounted for 2 percent of total City jobs in 2009, and by 2018, this share had increased slightly to 3 percent. Detailed employment trends for both areas compared to the City are in Appendix A.

As Figure 5 shows, overall, the North San José IP/TEC area accounted for 15 percent of total employment growth in San José in the 2009-2018 period. Although this aggregate number is lower than expected given that the North area accounted for 23 percent of the City's total employment in 2018, the North area's share of City employment growth is driven to a greater extent by vertical industry groups than the City as a whole. Overall, jobs in industry groups that occupy other or unclassified buildings accounted for almost 60 percent of San José's total employment growth. These industries and building types are, more or less by definition, underrepresented in the IP/TEC areas. However, the North area captured well above its share of net employment growth for certain industry groups including over 50 percent of the City's total growth in industries typically using vertical (office) building types and 134 percent of the employment growth in wholesale trade, an industry associated with horizontal buildings.

The South San José IP/TEC area accounted for 9 percent of the City's total employment growth 2009-2018. Over two-thirds of the South area's employment growth was in industries that occupy horizontal buildings, including manufacturing, wholesale trade, and construction. However, the South Area also captured an increasing share of total vertical jobs within the City, but as a percentage of total employment growth, this number was relatively modest. Neither the North or the South IP/TEC area gained any transportation or warehouse related jobs, whereas the City added almost 2,000 jobs in these specific sectors.

FIGURE 4 INDUSTRIAL PARK AND TRANSIT EMPLOYMENT CENTER GENERAL PLAN AREAS BY SUBMARKET



Industrial Park and Transit Employment Center Parcels: San José

- Transit Employment Center
- Industrial Park
- Industrial Park (North Coyote Valley)*
- Analysis Subareas
- San José City Boundaries
- Highways

*Note: Industrial Park (North Coyote Valley) includes Open Space Preserve Land
 Sources: Strategic Economics, 2020; City of San José, 2020.



FIGURE 5 CHANGE IN EMPLOYMENT BY INDUSTRY AND BUILDING TYPE: NORTH AND SOUTH SAN JOSÉ, 2009 - 2018

	North San José Net Change 2009-2018	Share of North San José Net Change	South San José Net Change 2009-2018	Share of South San José Net Change	Citywide Net Change 2009-2018	Share of Citywide Net Change	North Area Share of Citywide Net Change	South Area Share of Citywide Net Change
Industrial-Based/Horizontal Jobs								
31-33— (Manufacturing)	(8,566)		3,278		(6,088)		141%	-54%
42— (Wholesale Trade)	1,869		699		1,415		132%	49%
48-49 (Transportation and Warehousing)	(89)		6		1,641		-5%	0%
23 (Construction)	845		830		8,779		10%	9%
Industrial Building Type Total	(5,941)	-51%	4,813	68%	5,747	7%	-103%	84%
Office-Based/Vertical Jobs								
52-53 (FIRE)	3,707		39		999		371%	4%
54 (Professional, Scientific, and Technical Services)	6,064		919		10,000		61%	9%
55 (Management of Companies)	952		91		929		102%	10%
56 (Admin and Support)	844		204		4,480		19%	5%
61, 62 (Education and Healthcare)	329		85		5,205		6%	2%
51 (Information)	1,879		535		5,543		34%	10%
Vertical jobs total	13,775	119%	1,872	27%	27,156	35%	51%	7%
Other/Unclassified								
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	1,015		83		19,449		5%	0%
56 (Admin and Support)	844		204		4,480		19%	5%
61, 62 (Education, Healthcare)	1,315		340		20,821		6%	2%
81 (Other, Excluding Public Administration)	448		(24)		(4,149)		-11%	1%
92 (Public Administration)	91		(216)		4,558		2%	-5%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	4		(40)		(441)		-1%	9%
Total, Other/Unclassified	3,714	32%	387	6%	45,159	58%	8%	1%
Total, All Industries	11,552	100%	7,032	100%	77,621	100%	15%	9%

Source: California Employment Development Department, 2009 - 2018; Strategic Economics, 202

These trends make the following key points:

- San José's employment growth continues to generate demand for both horizontal and vertical building types typically available in the IP/TEC areas.
- The North and South IP/TEC employment bases evolved differently over the 2009-2018 time period, but they each play an important role in the City's overall economic growth, especially with respect to supporting employment diversity. Both areas added jobs in industries associated with the full range of building types associated with the IP/TEC land use designations.
- To the extent that the industries associated with the vertical building types reflect innovation industries, the North area made a significant contribution to San José's overall goal to continue to add jobs in these sectors
- A potential challenge in the North area is that growth in industries utilizing vertical building types could be creating significant market pressure to convert older industrial or R&D buildings to office uses.
- The South San José IP/TEC area appears to be a viable location for businesses occupying horizontal buildings, but overall, this area accounts for a relatively small share of San José's economy. As shown in Appendix A, in 2018, the North San Jose IP/TEC areas account for 21 percent of total City employment whereas the South San Jose IP/TEC account for only 3 percent of total City employment.
- As of 2018, the most recent year for which employment data are available, there were very few logistics related jobs in either IP/TEC area. Since then, a few warehouse/distribution centers have been built in the Edenvale area.

IP/TEC Building Inventories and Employment Growth

The previous analysis appears to show that location, rather than available land supply, may be a critical factor in determining where the City is capturing employment growth. To further explore this issue, the following analysis considers changes in employment density by building type to investigate whether businesses appear to be using existing space more efficiently. Reducing the ratio of square feet per employee may also reduce future demand for new development on currently vacant land as the primary opportunity to support San José's future economic expansion.

This analysis utilized data from CoStar, a commercial real estate information company that regularly collects data regarding individual commercial buildings in most major cities, including San José. While CoStar tracks building information for every commercial building type, including multi-family apartments and retail shopping centers, this analysis only considered building types that are supported by the IP/TEC land use designation. Figure 6 shows how the detailed CoStar building types have been aggregated into three basic building classifications: office, R&D, and industrial/flex. Office buildings clearly correspond to what this report refers to as vertical buildings types. The industrial/flex buildings correspond to what this report refers to as horizontal buildings. R&D buildings tend to be taller than horizontal building types, and house both office and industrial uses. The building types accommodating "other" industries have not be considered in this analysis as these are ancillary uses in the IP/TEC areas.

FIGURE 6 BUILDING TYPE CLASSIFICATION BY COSTAR SECONDARY PROPERTY TYPE

Building Type	Costar Property Type	Costar Secondary Type
Industrial/Flex	Industrial	No Secondary Type
		Distribution
		Food Processing
		Manufacturing
		Refrigeration/Cold Storage
		Service
	Flex	Showroom
		Telecom Hotel/Data Hosting
		Truck Terminal
		Warehouse
		No Secondary Type
		Light Distribution
Office	Office	Light Manufacturing
		Showroom
		Telecom Hotel/Data Hosting
		No Secondary Type
		Loft/ Creative Space
		Medical
		Office Building
R&D	Flex	Office Live/Work Unit
		Office Telecom Hotel/ Data Hosting
		Office/ Residential
		R&D

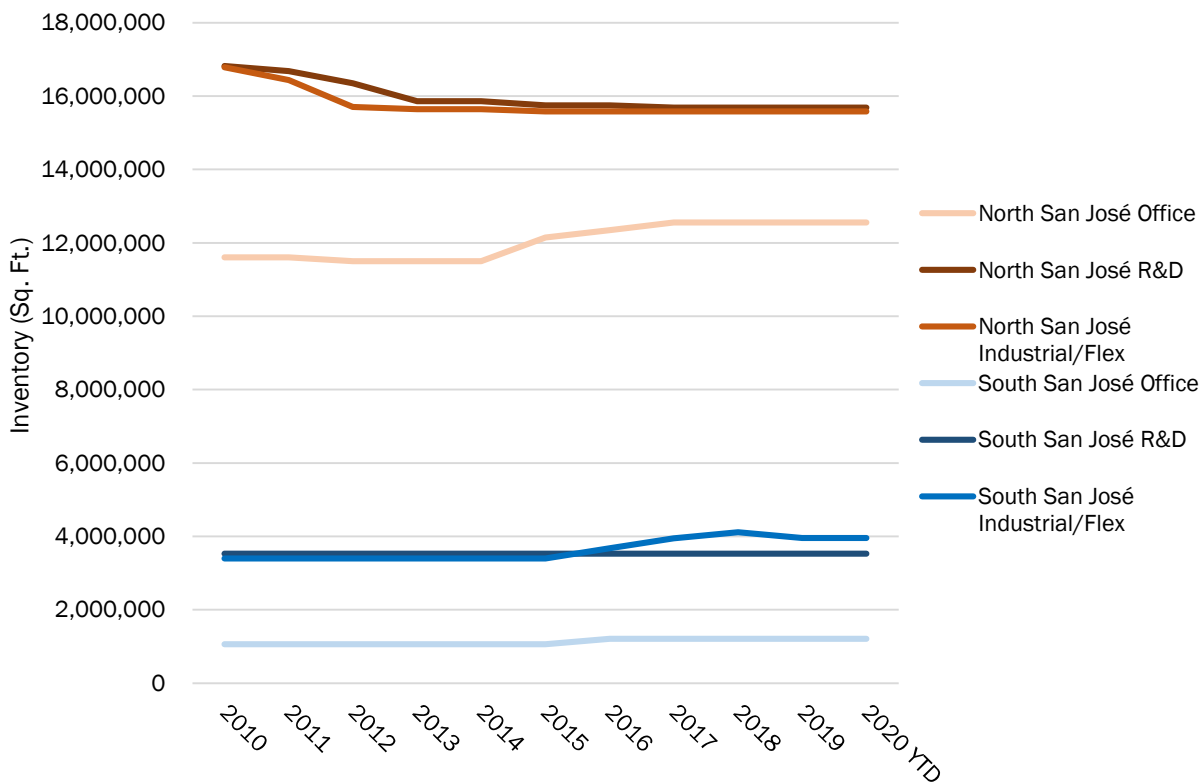
Source: Strategic Economics, 2020.

Figure 7 shows net changes in total building square footage by building type for the North and South San José IP/TEC areas between 2010 and 2020, which approximates the same time period covered in the employment trend analysis shown above. Additional detailed building inventory data are included in Appendix B. In 2010, the North San José IP/TEC area included over 45 million square feet of office, R&D and industrial/flex building space with office accounting for just over 25 percent of this total. By 2020, the R&D and industrial/flex combined inventory declined by over 2 million square feet. Some of this loss was offset by increase in the office inventory of over 950,000 square feet. But, even with this net loss in building area, the North San José IP/TEC area gained almost 12,000 jobs, despite a loss of almost 9,000 jobs in the manufacturing sector (see Figure 5). Although most of these jobs were in industries typically associated with vertical building types, the North San José IP/TEC area also added jobs associated with horizontal building types.

The South San José IP/TEC area office, R&D, and industrial/flex accounted for approximately 7.9 million square feet of space in 2010 (see Figure 7). By 2020, this area had added approximately just over 700,000 of new space, of which 150,000 was in office buildings, and the remainder was in industrial/flex space. Employment trends mirror the building trend in that this area added over 3,200

manufacturing jobs and almost 2,000 jobs in industries associated with vertical building types in the 2009-2018 time period. Although it is interesting to note that this area added no new R&D space during this ten-year timeframe.

FIGURE 7 NET CHANGE IN INVENTORY BY SUBMARKET AND BUILDING TYPE: 2010 -2020

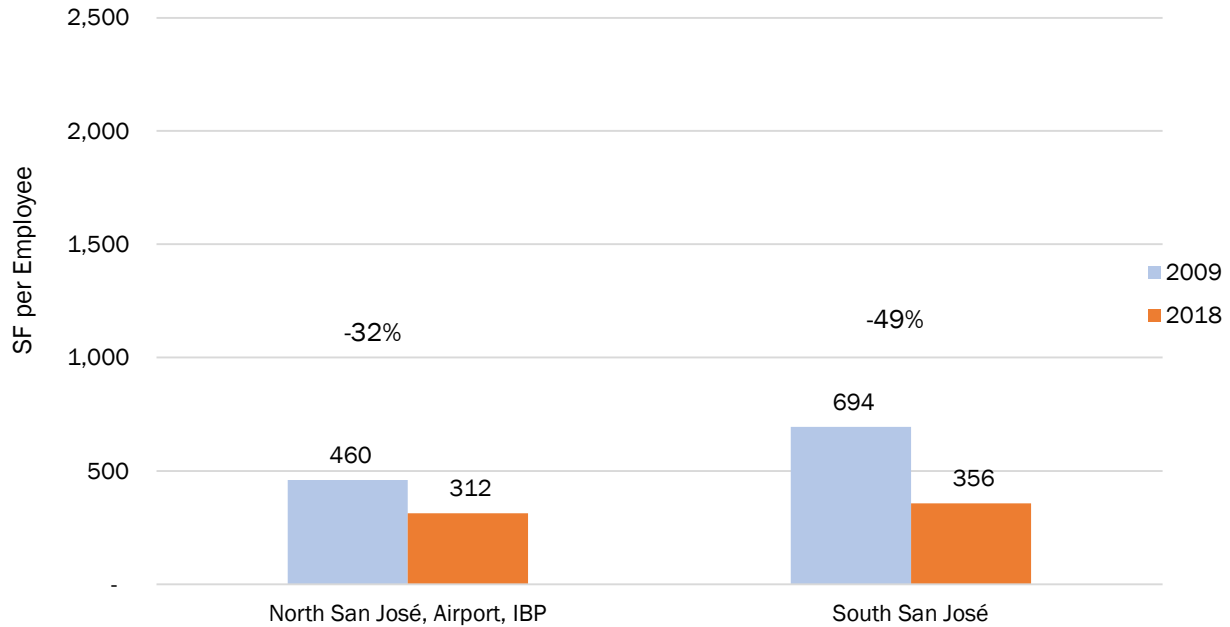


Source: Costar, 2020; Strategic Economics, 2020.

Another way to evaluate the relationship between employment growth and built space is to compare changes in square feet per employee by building type. Although this analysis has classified both industries and buildings by the vertical/horizontal typology, there is, in fact, no direct way to measure exactly what industries are in which specific buildings by type. Therefore, the following analysis is somewhat crude, however, it still provides some insight into the how existing buildings, with or without new built space appear to have accommodated employment growth. While this methodology for measuring employment densities is problematic, because the same data biases exist for both points in time (2009 and 2018), the trends relationships are likely to be relatively accurate. Figure 8 shows the change in employment densities, as measured by occupied square feet per employee in office space in 2009 and 2018 by comparing jobs in vertical industries to total occupied office space. This analysis shows a 38 percent decrease in space used by vertical industries on a per employee basis for the North San José IP/TEC area, and a 49 percent drop in space per employee in the South San José IP/TEC area. Generally, employment densities were higher overall for the North area than for the South area. Figure 9 performs the same calculation, but in this case, occupied R&D space has been added to the office inventory, reflecting the very flexible nature of this building type to accommodate a wide range of uses, including offices. Again, this measure is relatively crude, because not all R&D space is used for office purposes, so this calculation probably overstates the space per employee. But again, the overall trend is for the employment densities in vertical buildings to drop dramatically 2009-

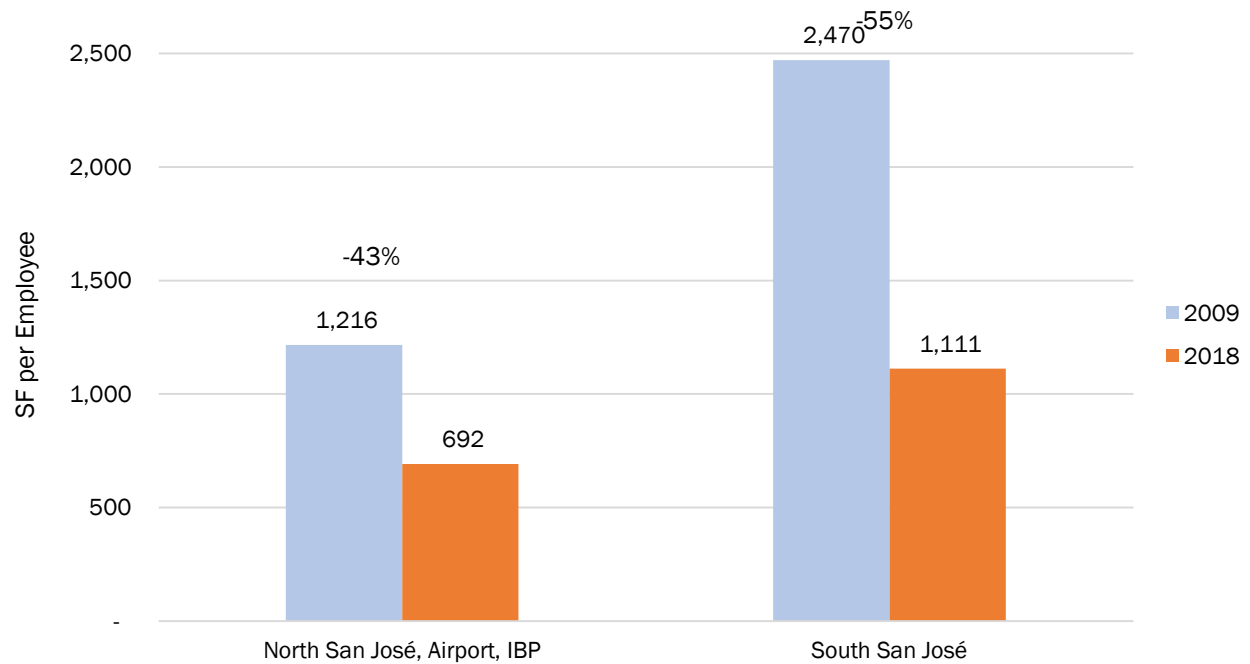
2018 with a 48 percent and 55 percent decrease in space per employee for North and South IP/TEC areas respectively.

FIGURE 8 VERTICAL EMPLOYMENT DENSITY (SQUARE FEET PER EMPLOYEE) IN IP & TEC LANDS BY SUBAREA: OFFICE



Source: California Employment Development Department, 2009 - 2018; Costar, 2020; Strategic Economics, 2020.

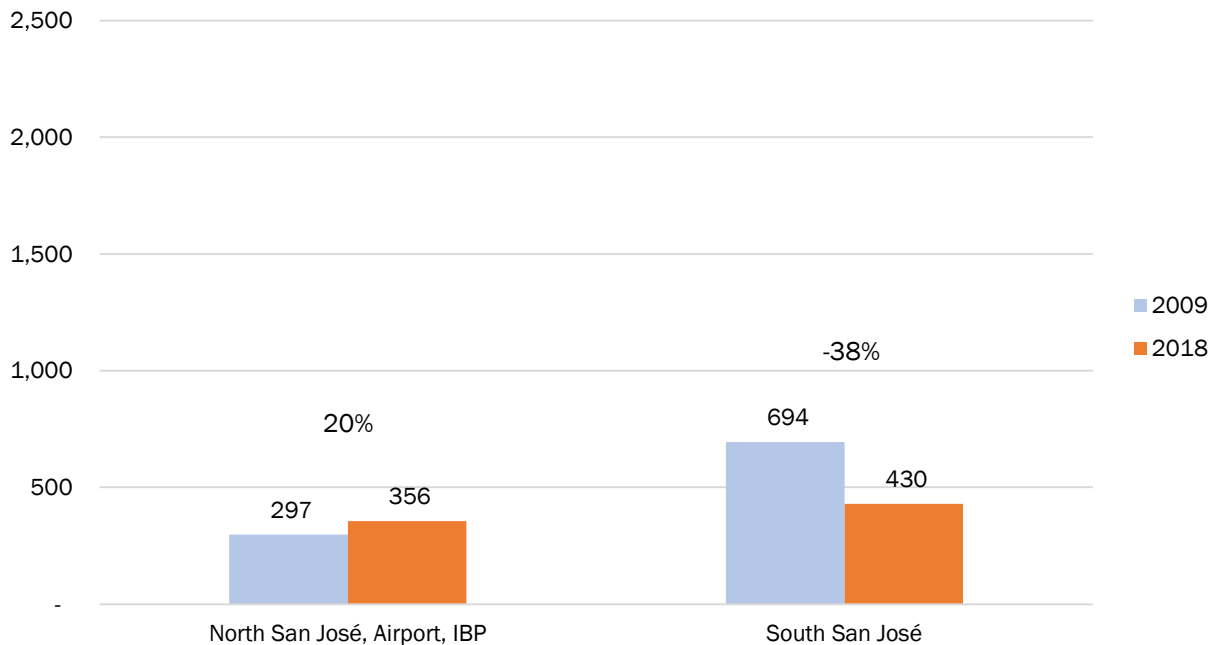
FIGURE 9 VERTICAL EMPLOYMENT DENSITY (SQUARE FEET PER EMPLOYEE) IN IP & TEC LANDS BY SUBAREA: OFFICE AND R&D BUILDINGS, 2009 - 2018



Source: California Employment Development Department, 2009 - 2018; Costar, 2020; Strategic Economics, 2020.

Figures 10 and 11 present a similar analysis for industrial/flex space divided by total horizontal employment and then industrial/flex space added with R&D space divided by horizontal employment. Again, both approaches probably over and understate actual employment densities for horizontal industrials based on whether R&D buildings are being counted as vertical or horizontal space. But the trends over time still provide insight in changing building use patterns. In the North San José IP/TEC area, employment densities for horizontal industries increased in 2009-2018. When only considering industrial/flex space, in absolute terms, these increases were relatively small, and the average square feet per employee even for industries including manufacturing, wholesale trade and construction were still below expected densities in the 500-1,000 square foot range as identified in other employment density studies prepared for the City of San José (Figure 10)². Adding the R&D space to the equation's denominator does increase horizontal employment densities, but in the North Area, these densities are still at the low end of the expected range. Unlike the North San José IP/TEC area, the South San José IP/TEC area saw a decrease in space per employee for horizontal industries for industrial/flex space only, and when the R&D space was added to the supply. By 2018, employment densities for all horizontal industries in the South San José IP/TEC area were at the low end of the expected employment density range, despite having added over 550,000 square feet of new space.

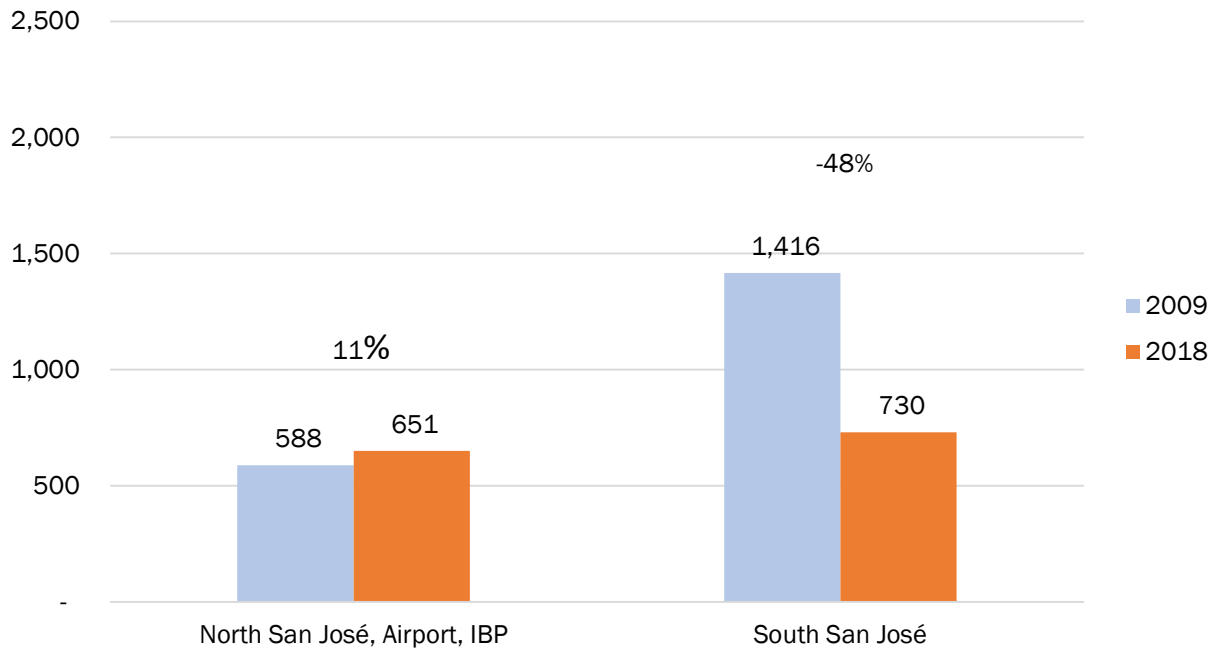
FIGURE 10 HORIZONTAL EMPLOYMENT DENSITY (SQURE FEET PER EMPLOYEE) IN IP & TEC LANDS BY SUBAREA: INDUSTRIAL/FLEX BUILDINGS, 2009 - 2018



California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020.

² Attachment C: Vacant Land Demand Under Recommended Planned Job Capacity Scenario with Increased FAR and Employment Density, BAE, Strategic Economics.

FIGURE 11 HORIZONTAL EMPLOYMENT DENSITY (SQUARE FEET PER EMPLOYEE) IN IP & TEC LANDS BY SUBAREA: INDUSTRIAL/FLEX AND R&D BUILDINGS, 2009 - 2018



California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020.

These trends make the following key points, although all of these points are based on a pre-pandemic analysis:

- More efficient use of built space is enabling companies to accommodate employment growth without necessarily adding new building stock across most industry sectors in the IP/TEC areas.
- The R&D building inventory is very flexible and can accommodate a wide range of uses and users. However, IP/TEC areas have not added more of this building type over the past ten years. In fact, the North San José lost over 2 million square feet of this space.
- Over time, the types of technology-related businesses currently using office space in IP/TEC designated areas, especially in North San José, will have increasing opportunities to locate in non-IP/TEC locations, such as Downtown.
- The non-office building stock located in the IP/TEC areas still represents a very important asset for the San José economy. This space is relatively flexible and can be for multiple functions, also rents may be lower due to the general building age and condition. Therefore, this building stock is probably an essential variable in preserving opportunities to support future economic growth across a diverse range of industries including but not limited to technology or knowledge-based businesses.
- The increase in new office space, combined with a significant decline in R&D and industrial/flex space in the North San José IP/TEC area, further suggests that there is increasing market pressure to build office space in these areas. This increase could come at the long-term expense of the older, more flexible buildings, which could in turn stifle opportunity for potential business and/or employment growth in industries traditionally associated with horizontal building space.

- In the next two to three years as the pandemic winds down, employment densities may decline, rather than increase as they were doing prior to the pandemic. However, this trend may not reflect overall job loss, but merely that more people are working remotely and that companies are using their space differently. Longer-term trends are more difficult to predict. Historic case studies, most notably from the 1918 Flu pandemic, show that eventually employment density did increase, and many office buildings were built in dense urban cores once the Flu subsided. However, given the technological changes that have occurred since 1918, it is difficult to know how well history can serve as a guide for understanding what the longer-term recovery will look like from COVID-19.

IP/TEC Employment Growth Trends Compared to Employment Growth Projections

Another important indicator regarding the implications of removing NCV's development potential for San José's future economic growth is projected employment growth by industry and building type. Employment growth projections for San José through 2040 are available from the Association of Bay Area Governments (ABAG) which has now merged with the Metropolitan Transportation Commission (MTC). These employment projections have some significant limitations which make it impossible to establish a direct correspondence between past employment trends and future employment growth. The first limitation is that the employment projections are only available for the City, but not for smaller geographies, the second is that the 20 industry sectors represented in the two-digit NAICS codes have been aggregated into six Mega Industry Categories with no additional indication as to what share of either current (2010) or future (2040) employment can be attributed to any specific industry (by NAICS code). ABAG does indicate which NAICS codes are included in each Mega Industry Category, making it possible to align the Mega Groups with building types, with one exception. The 'Other' Mega Industry Group includes information which has been associated with vertical buildings in this study; public administration, which has been associated with "other" buildings in this study; and construction, which has been associated with horizontal buildings for this study.

Figure 12 shows that between 2010 and 2040 San José is projected to add approximately 167,000 jobs. The biggest absolute employment increase will be in the jobs associated with the other building type excluding the public administration jobs that ABAG includes in the Other Mega Industry group. These institutional jobs are not expected to drive significant demand for built space/land in IP/TEC areas, including potentially for land in NCV because these industries tend to be household serving and will select locations that are proximate to and/or easily accessible to residential areas.

Employment in industries associated IP/TEC locations are also expected to experience significant employment growth by 2040, suggesting that demand for buildings and land in these areas will continue to be ongoing. Industries associated with vertical buildings are expected to increase by almost 40,000 jobs for the City as a whole, not counting the information jobs included in the Other Mega Industry group. Industries associated with the horizontal building category are expected to increase by almost 4,000 jobs, excluding construction jobs. The Other Mega Industry Category, which

includes industries associated with both vertical and horizontal building types, is expected to add over 34,000 jobs.

Because the Other Mega Industry Category is projected to add such a significant number of new jobs, Figure 12 also shows how future growth in employment associated with both vertical and horizontal built space/land could be adjusted to allocate potential growth in individual industries by building type. For the purposes of this analysis, this adjustment was made using the share in net employment growth in the three industries included in the Other Mega Industry Category from 2009-2018. During that time period, these three industries added a total of 18,879 jobs. Of those jobs, 46 percent were in construction, 29 percent were in information, and 24 percent were in public administration. These percentages were applied to the approximately 34,000 jobs in the Other Mega Industry Category then the actual number of jobs associated with each share was reallocated to the appropriate building category (see Appendix C for further detail).

The adjusted incremental growth in jobs by building category for San José in 2040 shows 30 percent of future employment growth Citywide would most likely be accommodated in vertical building types and 12 percent could be accommodated in horizontal buildings types (including all construction jobs). Other projected employment growth would not be expected to generate demand for buildings types associated with the IP/TEC land use designation.

As a point of comparison, Figure 13 shows three different scenarios for allocating the 35,000 future-job growth capacity currently assigned to NCV in the General Plan to different building types. Considering this relationship between future job growth capacity and building type allows for a further assessment as to whether this capacity could be accommodated in other IP/TEC areas in the City, or even in other areas with different land use designations. Each scenario applies the share of the City's total incremental growth in 2009-2018 by jobs/building type captured by: 1) the IP/TEC North Area, 2) the IP/TEC South Area, or 3) for the total IP/TEC Areas within San José to the 35,000 job capacity number. This approach illustrates a range of potential future demand that the reallocated NCV job capacity could generate by building type. Scenarios 1 and 3 both reflect the fact that the North San Jose IP/TEC areas represent a much larger share of the total IP/TEC employment for the entire City; and, that the North San Jose IP/TEC areas added a significant proportion of vertical jobs during the 2009-2018 time period, while at the same time losing employment in horizontal building types. These scenarios show that if future NCV job capacity were to be accommodated in building types based on these recent growth trends, between approximately 50 and 56 percent of this future job capacity could be accommodated in vertical buildings but that , there would be virtually no future demand for horizontal building in IP/TEC areas. Scenario 2, on the other hand, reflects the opposite approach, because the South San Jose IP/TEC areas added such a significant proportion of its employment growth in horizontal building related industries during the 2009-2018 time-period. When the proportional share in the incremental employment growth for these areas are applied to the 35,000 job capacity number, over 80 percent of future employment growth capacity necessary to replace NCV's capacity would be in horizontal buildings with only 20 percent going to vertical buildings. Given the projected ABAG Citywide growth pattern by sector and building type, it appears that none of these three growth scenarios should be used to accurately predicate how future job growth capacity should be distributed between vertical and horizontal building types. However, these scenarios do suggest that IP/TEC areas could play an important role in supporting a significant proportion of future demand for both vertical and horizontal buildings types.

FIGURE 12 ADJUSTED ABAG CITYWIDE EMPLOYMENT PROJECTIONS BY MEGA SECTOR: 2040

Building Types by ABAG Mega Industry Category	2010 Base Year Employment	% of 2010 Jobs	2040 Employment Projections	% of 2040 Jobs	Net Change	Reallocated % of "Other Sectors"	Adjusted Change	Share of Increment
Agriculture and Natural Resources <i>NAICS: 11, 21, 22 (Agriculture, Forestry, Fishing, and Hunting; Mining, Quarrying, and Oil and Gas Extraction; and Utilities)</i>	1,270	0%	1,560	0%	290	N/A	290	0%
Vertical -Office Based Industries <i>NAICS: 52-53 FIRE; 54 Professional, Scientific, and Technical; 55 Management; 56 Admin and Support and Waste Management</i>	87,475	23%	126,830	23%	39,355	10,110	49,465	30%
Other Building Types (institutional) <i>NAICS: 61 Ed. Service, 62 Healthcare/Soc.Asst., 71</i>	84,770	22%	159,585	29%	74,815	8,313	83,128	50%
Horizontal Industrial Based Industries <i>NAICS: 31-32 Manufacturing; 42 Wholesale Trade, 48-49, Transportation and Warehousing</i>	84,700	22%	88,465	16%	3,765	16,012	19,777	12%
Other <i>NAICS: 23 Construction, 51 Information, 92 Public Administration</i>	93,465	24%	127,900	23%	34,435			N/A
Retail	35,830	9%	50,535	9%	14,705		14,705	9%
Total	387,510	100%	554,875	100%	167,365	34,435	167,365	100%

Source: Association of Bay Area Government, 2020; Strategic Economics, 2020.

*Allocated based on growth by NAICS code City share of incremental growth by NAICS code 2009-2018, see Appendix C

FIGURE 13 2040 IP/TEC EMPLOYMENT CAPTURE SCENARIOS

Building Types by ABAG Mega Industry Category	North San José IP/TEC Capture Rate		South San José IP/TEC Capture Rate		Citywide IP/TEC Area Capture Rate	
	% of 35,000 Jobs (Based on 2018 shares)	North San José Employment by Building Type (2018)	% of 35,000 Jobs (Based on 2018 shares)	South San José Employment by Building Type (2018)	% of 35,000 Jobs (Based on 2018 shares)	IP/TEC Employment by Building Type (2018)
Vertical -Office Based Industries <i>NAICS: 52-53 FIRE; 54 Professional, Scientific, and Technical; 55 Management; 56 Admin and Support and Waste Management</i>	51%	25,227	7%	3,463	56%	27,701
Other Building Types (Institutional) <i>NAICS: 61 Ed. Service, 62 Healthcare/Soc.Asst., 71</i>	8%	6,650	1%	831	8%	6,650
Horizontal Industrial Based Industries <i>NAICS: 31-32 Manufacturing; 42 Wholesale Trade, 48-49, Transportation and Warehousing</i>	-103%	(20,370)	84%	16,613	-4%	(791)

Source: Association of Bay Area Government, 2020; Strategic Economics, 2020.

These projections and demand scenarios make the following key points:

- Despite ongoing declines in manufacturing employment in San José, there will still be growth in demand for horizontal space driven primarily by industries that provide support to households and other businesses in the City such as wholesale trade and construction.
- There could be considerable additional future demand for office space in IP/TEC areas which could continue to put market pressure on property owners to redevelop older industrial or flex buildings for office space.
- The existing industrial building stock in the IP/TEC North Area is probably subject to greater pressure for conversion, despite accounting for a significant share of the City's employment in industries associated with horizontal building types.
- The demand for horizontal space shown in the IP/TEC South Area capture rate scenario may be greatly overstated because in the 2009-2018 time period, this area captured a significant amount of new manufacturing jobs, even as the City lost manufacturing jobs overall. The future of manufacturing-related employment is very uncertain because the manufacturing industry is moving towards ever-increasing automation. Therefore, it is difficult to interpret this capture rate scenario in terms of what it might imply regarding future locational preferences for manufacturing, or other industries associated with horizontal building types especially vis-à-vis NCV.
- Transportation and warehousing will probably play a very limited role in future demand for horizontal space in the IP/TEC areas, since this industry already has a very small presence in these areas.

III. INDUSTRIAL DEVELOPER INTERVIEWS

The employment trends and projection trend data discussed in the previous section provides general information about the kinds of industries and buildings associated with IP/TEC designated areas in San José and how this mix has changed over the past ten years. However, this quantitative analysis lacks the specificity necessary to fully understand how NCV might fit into the overall context of San José's economy and what kinds of industries and built space might locate in this area, if land were available for development. To fill this gap, interviews were conducted with individuals representing three real estate firms with significant horizontal building holdings in San José: and/or recent interest in developing land in NCV. The three firms, Panattoni Development Company, Majestic Realty, and Prologis Logistics Real Estate, all operate in San José, but also regionally, nationally, and at an international scale, so the interviewees were able to offer a local, regional, and even national perspective on the trends and conditions driving demand for space in NCV. These firms also build and hold their properties, signifying a focus on long term market and economic conditions in the places where they chose to invest. Panattoni and Majestic have diversified portfolios including office, industrial, and logistics buildings. These two firms also owned or had optioned land for future development in NCV but had backed away from these plans once the POST/OSA open space purchase was made using City support. Prologis primarily presents itself as a logistics-oriented company, but the firm also has a mixed building inventory including many kinds of warehouse and industrial flex buildings. However, Prologis does not own traditional office buildings and the firm does not own any buildings in the southern part of San José, nor are they looking to expand into that area. Each person was interviewed individually via telephone using a standard set of questions to ensure consistency in the responses.

Additional information regarding the interviewees and a full summary of the Interview responses organized by question, are included in Appendix D. **The developer interview key findings/implications are provided below:**

- Current market demand for land in NCV is primarily for large-scale logistics buildings. This use is consistent with the zoning for NCV. Logistics related uses are also allowed in the IP land use designation but are considered more as an ancillary than primary use.
- NCV's primary competitive advantage for the logistics industry is the "San José address" which makes this area appear to be an extension of the East Bay I-880 industrial corridor, and would therefore achieve higher rents than similar space built further south in Morgan Hill or Gilroy.
- The representatives from Panattoni and Majestic also cited the large parcel sizes available in NCV as necessary for building a minimum critical mass of logistics space. However, Prologis is not interested in building large logistics buildings in San José; this firm is focused on last mile logistics operations, which need to be closer to population concentrations and to an available work force. All three interviewees agreed that they would prefer to build logistics buildings further north in the City and that the regional wastewater treatment plant area would be more desirable than NCV if that land were available.
- The three interviewees consistently reported that large logistics facilities tend to employ 1 person per 1,000 square feet or fewer and are built with a floor area ratio (FAR) of between .35 and .40. If these FARs and employment densities are applied to the 785 gross acres

potentially remaining for development in NCV, this development pattern would yield between 10,600 and 12,000 jobs, depending on the FAR.

- Before the open space acquisition, Majestic Realty was working to obtain entitlements for 325 acres in NCV. The company was proposing to build 80 percent of this land as logistics space at a .45 FAR and 1,000 square feet per employee and 20 percent of the land as office space with a .35 FAR and assuming 350 square feet per employee. The Majestic Realty representative made it clear that the office portion of this proposal was highly speculative and would not be built for at least ten years, if at all; however, if this 80/20 ratio were applied to the entire 785 gross acres, this development pattern would yield approximately 19,000 jobs.
- Logistics jobs tend to be low wage and potentially vulnerable to automation.
- Multi-story logistics buildings will become more common in the next few years, maybe in the next market cycle, but in today's market, these buildings are only feasible in very specific urban locations and not in San Jose.
- The existing supply of general purpose industrial and industrial/flex buildings in San José is very important to the City's economy and could be protected from future encroachment from office buildings as well as housing. However, it is also important to recognize that most of this older space will not be used for manufacturing, but for other business support industries.
- All three interviewees agreed that limiting development in NCV was unlikely to have any significant or long-lasting impact on San José's future economic growth and expansion.

IV. RECOMMENDATIONS GENERAL PLAN POLICIES MODIFICATIONS TO SUPPORT CONTINUED GROWTH IN SAN JOSÉ'S IP/TEC RELATED INDUSTRIES

San José's existing IP/TEC areas represent an important resource for the City's economic activity because these places include a diverse building mix and can accommodate a wide range of industry types. According to the ABAG employment projections by Mega Industry Category, over the next two decades, San Jose's employment growth is likely to occur in industries that are associated with both vertical building types and horizontal buildings. The three developers interviewed for this study corroborated this finding with regard to industry mix, and went on to say that from a market/locational perspective that NCV is a less desirable location because it lacks proximity to the population densities and highway accessibility offered by North San José. The developers went on to say that this locational preference includes wholesale trade, construction, and last mile logistics as well as office-based businesses. While two of the three developers interviews did consider building logistics buildings in the NCV area, they acknowledged that this area was challenging financially and that it might be hard to make a pro forma work due to development costs and potentially lower rents than what similar buildings in better locations might achieve. All three developers said that they thought San Jose overall was a good place to do businesses and would continue to look for opportunities to operate in the City, but that from their perspective, removing NCV from the City's future employment growth capacity would have a small, probably insignificant, impact on the City's overall economic future.

At the same time, the future employment projections and all three developers support the conclusions that if the City does not continue to protect the horizontal buildings in the existing IP areas, this could have a significant impact on the City's economic future. The City has already begun to address this issue by creating the TEC land use designation as the preferred location for dense vertical buildings within the former IP areas. However, the IP designation remains very general and still allows for such a broad use mix, that it might not go far enough in protecting the City's existing or future horizontal building inventory. Therefore, the following recommendations are focused on preserving the flexibility and agility inherent in the IP/TEC building types while also addressing potential land use conflicts between office buildings and lower value space, especially in the North San José IP areas.

Also, as has been noted in several places above, these recommendations are based on analyses that occurred prior to the COVID-19 pandemic. As a result, short-term demand for high density office buildings may be curtailed, but demand for lower density R&D or even industrial flex buildings might increase as these buildings typically have extensive surface parking, enabling workers to commute by car rather than transit as recommended by the Centers for Disease Control, and are more easily adopted to lower density work spaces. What is less clear, even in the short-term is whether locational preferences that favor the northern parts of San Jose over the NCV area for all industries will continue, or if certain industries will eventually see a significant competitive advantage to locating in a less accessible location at the City's southern edge.

RECOMMENDATION 1: CONSIDER REDEFINING THE INDUSTRIAL PARK LAND USE DESIGNATION IN THE GENERAL PLAN

The current IP land use designation allows for a wide range of building types with a maximum FAR and building height that allows intensive office buildings. However, there are many other locations in San José, including the current TEC areas, which can support similar building intensities. By removing office buildings as an allowable use in IP areas and reducing allowable FARs to densities that could be more compatible with 2-3 story industrial or infill logistics buildings, this would alleviate some potential market pressure to redevelop older industrial buildings and allow industries associated with horizontal building types to continue to operate in both the North and South IP areas. An alternative to changing the IP designation might be to reevaluate where the IP designation has been applied and to redesignate some areas as Light Industrial (LI) or to TEC.

There may be some places within the IP area that could warrant an overlay zone allowing for new office construction if the office building includes some manufacturing or logistics space. San Francisco is experimenting with a similar program in its South of Market area. However, the amount of new industrial space that is likely to be produced with such a policy is limited and would likely be insufficient to produce enough new space to meet existing demand at rental rates affordable to most firms utilizing existing horizontal building types.

RECOMMENDATION 2: RETAIN THE TEC LAND USE DESIGNATION

The TEC land use designation appears to have been relatively successful at attracting higher density office buildings that support technology driven businesses. This designation could be retained in its current form. The TEC designation could be applied to some areas currently designated IP around the San José International Airport.

RECOMMENDATION 3: CONSIDER SHIFTING JOBS TO THE ALVISO MASTER PLAN EMPLOYMENT LANDS GROWTH AREA

Although there has been developer interest in building large logistics buildings in NCV, the three developers interviewed for this study all agreed that locations in the northern part of San José are more desirable for their logistics users. The Alviso Master Plan Employment Lands Growth Area, north of Highway 237, could support logistics buildings where appropriate and given the demand and locational benefits. This area may not be as well suited to higher intensity uses but would offer sufficient land to accommodate both the building sizes and parking requirements necessary to support logistics users and create a critical mass of activity. While it may be expensive to address potential flooding or other environmental issues, given that developers were willing to address these same issues in NCV, including participating in a community facilities district, it is likely that they will be able to absorb similar site development costs in exchange for what is a better location than NCV.

V. APPENDICES

This appendix includes the following supplementary information:

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APPENDIX A DETAILED EMPLOYMENT TRENDS

Industry Sectors by Building Type	2009			North San José 2018			Net Change, 2009-2018	% of Submarket 2009-2018 Increment	% Change, 2009-2018
	Employment	% of North San José Employment	% of City Employment	Employment	% of Submarkets' Employment	% of City Employment			
Industrial Based/Horizontal jobs									
31-33---- (Manufacturing)	39,524	52%	69%	30,958	36%	61%	(8,566)	-74%	-22%
42---- (Wholesale Trade)	4,574	6%	31%	6,443	7%	40%	1,869	16%	41%
48-49 (Transportation and Warehousing)	1,679	2%	16%	1,590	2%	13%	(89)	-1%	-5%
23 (Construction)	1,211	2%	7%	2,055	2%	8%	845	7%	70%
Industrial Building Type Total	46,987	62%	47%	41,046	47%	39%	(5,941)	-51%	-13%
Office Based/Vertical Jobs									
52-53 (FIRE)	1,572	2%	10%	5,279	6%	31%	3,707	32%	236%
54 (Professional, Scientific, and Technical Services)	9,178	12%	30%	15,242	18%	38%	6,064	52%	66%
55 (Management of Companies)	869	1%	20%	1,821	2%	35%	952	8%	109%
56 (Admin and Support -- Office component (50%))	4,031	5%	32%	4,875	6%	28%	844	7%	21%
61, 62 (Education and Healthcare -- office component (20%))	464	1%	4%	793	1%	5%	329	3%	71%
51 (Information)	2,224	3%	26%	4,103	5%	29%	1,879	16%	84%
Vertical jobs total	18,338	24%	22%	32,113	37%	29%	13,775	119%	75%
Other/Unclassified									
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	3,489	5%	5%	4,504	5%	5%	1,015	9%	29%
56 (Admin and Support -- non-office component (50%))	4,031	5%	32%	4,875	6%	28%	844	7%	21%
61, 62 (Education, Healthcare -- non-office component (80%))	1,858	2%	4%	3,173	4%	5%	1,315	11%	71%
81 (Other, Excluding Public Administration)	529	1%	3%	977	1%	8%	448	4%	85%
92 (Public Administration) [5]	18	0%	1%	109	0%	1%	91	1%	517%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	87	0%	3%	91	0%	4%	4	0%	5%
Total, Other/Unclassified	10,010	13%	7%	13,728	16%	7%	3,714	32%	37%
Total, All Industries	75,335	100%	23%	86,887	100%	21%	11,552	100%	15%

California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020

Industry Sectors by Building Type	2009			South San José 2018			Net Change, 2009-2018	% of Total 2009-2018 Increment	% Change, 2009-2018
	Employment	% of South San José Employment	% of City Employment	Employment	% of Submarket Employment	% of City Employment			
Industrial Building/Horizontal Jobs									
31-33--- (Manufacturing)	3,173	54%	6%	6,451	50%	13%	3,278	47%	103%
42--- (Wholesale Trade)	319	5%	2%	1,018	8%	6%	699	10%	219%
48-49 (Transportation and Warehousing)	-	0%	0%	6	0%	0%	6	0%	
23 (Construction)	141	2%	1%	972	8%	4%	830	12%	587%
Industrial Building Type Total	3,634	62%	4%	8,446	65%	8%	4,813	68%	132%
Office-Based/Vertical Jobs									
52-53 (FIRE)	112	2%	1%	151	1%	1%	39	1%	35%
54 (Professional, Scientific, and Technical Services)	787	13%	3%	1,706	13%	4%	919	13%	117%
55 (Management of Companies)	392	7%	9%	483	4%	9%	91	1%	23%
56 (Admin and Support – Office component (50%))	193	3%	2%	397	3%	2%	204	3%	105%
61, 62 (Education and Healthcare – office component (20%))	11	0%	0%	96	1%	1%	85	1%	761%
51 (Information)	-	0%	0%	535	4%	4%	535	8%	
Vertical jobs total	1,496	25%	2%	3,369	26%	3%	1,872	27%	125%
Other/Unclassified									
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	180	3%	0.3%	263	2%	0%	83	1%	46%
56 (Admin and Support – non-office component (50%))	193	3%	1.5%	397	3%	2%	204	3%	105%
61, 62 (Education, Healthcare – non-office component (80%))	45	1%	0.1%	385	3%	1%	340	5%	761%
81 (Other, Excluding Public Administration)	78	1%	0.5%	53	0%	0%	(24)	0%	-31%
92 (Public Administration) [5]	216	4%	7.6%	-	0%	0%	(216)	-3%	-100%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	50	1%	1.8%	9	0%	0%	(40)	-1%	-81%
Total, Other/Unclassified	762	13%	0.5%	1,108	9%	1%	387	6%	46%
Total, All Industries	5,891	100%	2%	12,923	100%	3%	7,032	100%	119%

California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020

Industry Sectors by Building Type	2009		Citywide 2018		Net Change, Total Employment	% Change Citywide, 2009-2018
	Employment	% of Total Employment	Employment	% of Total Employment		
Industrial Building/Horizontal Jobs						
31-33---- (Manufacturing)	56,912	17%	50,824	12%	(6,088)	-11%
42---- (Wholesale Trade)	14,574	4%	15,990	4%	1,415	10%
48-49 (Transportation and Warehousing)	10,675	3%	12,316	3%	1,641	15%
23 (Construction)	17,147	5%	25,925	6%	8,779	51%
Industrial Building Type Total	99,308	30%	105,055	26%	5,747	6%
Office-Based/Vertical Jobs					-	
52-53 (FIRE)	16,155	5%	17,154	4%	999	6%
54 (Professional, Scientific, and Technical Services)	30,092	9%	40,092	10%	10,000	33%
55 (Management of Companies)	4,297	1%	5,225	1%	929	22%
56 (Admin and Support -- Office component (50%))	12,655	4%	17,135	4%	4,480	35%
61, 62 (Education and Healthcare -- office component (20%))	11,178	3%	16,383	4%	5,205	47%
51 (Information)	8,581	3%	14,124	3%	5,543	65%
Vertical jobs total	82,958	25%	110,114	27%	27,156	33%
Other/Unclassified					-	
44-45, 71, 72 (Retail, Arts and Recreation, Food Services)	69,818	21%	89,267	22%	19,449	28%
56 (Admin and Support -- non-office component (50%))	12,655	4%	17,135	4%	4,480	35%
61, 62 (Education, Healthcare -- non-office component (80%))	44,711	13%	65,532	16%	20,821	47%
81 (Other, Excluding Public Administration)	16,323	5%	12,174	3%	(4,149)	-25%
92 (Public Administration) [5]	2,842	1%	7,400	2%	4,558	160%
11, 21, 22, 99 (Agriculture, Natural Resources, Utilities, and Unclassified)	2,814	1%	2,373	1%	(441)	-16%
Total, Other/Unclassified	149,164	45%	193,882	47%	45,159	30%
Total, All Industries	331,430	100%	409,051	100%	77,621	23%

Source: California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020

APPENDIX B DETAILED INDUSTRIAL PARK AND TRANSIT EMPLOYMENT CENTER BUILDING INVENTORY TRENDS (Sq Ft), 2010 – 2020

	North San José				South San José			
	Office	R&D	Industrial/Flex	North San José Total	Office	R&D	Industrial/Flex	South San José Total
2010	11,608,206	16,827,864	16,786,269	45,222,339	1,062,907	3,534,296	3,397,763	7,994,966
2011	11,608,206	16,683,703	16,440,909	44,732,818	1,062,907	3,534,296	3,397,763	7,994,966
2012	11,506,099	16,346,019	15,702,212	43,554,330	1,062,907	3,534,296	3,397,763	7,994,966
2013	11,506,099	15,864,987	15,642,116	43,013,202	1,062,907	3,534,296	3,397,763	7,994,966
2014	11,506,099	15,864,987	15,642,116	43,013,202	1,062,907	3,534,296	3,397,763	7,994,966
2015	12,142,099	15,747,267	15,583,084	43,472,450	1,062,907	3,534,296	3,397,763	7,994,966
2016	12,343,099	15,747,267	15,583,084	43,673,450	1,212,907	3,534,296	3,676,515	8,423,718
2017	12,561,273	15,693,673	15,583,084	43,838,030	1,212,907	3,534,296	3,949,624	8,696,827
2018	12,561,273	15,693,673	15,583,084	43,838,030	1,212,907	3,534,296	4,115,264	8,862,467
2019	12,561,273	15,693,673	15,583,084	43,838,030	1,212,907	3,534,296	3,952,710	8,699,913
2020 YTD	12,561,273	15,693,673	15,583,084	43,838,030	1,212,907	3,534,296	3,952,710	8,699,913
Net Change	953,067	(1,134,191)	(1,203,185)	(1,384,309)	150,000	0	554,947	704,947

Source: California Employment Development Department, 2009 – 2018; Costar, 2020; Strategic Economics, 2020

APPENDIX C EMPLOYMENT RE-ALLOCATION FOR “OTHER” MEGA INDUSTRY CATEGORY

Industry	Net Change, 2009-2018	Percent Change, 2009-2018	Number of 2040 jobs redistributed to different building types
23 (Construction)	8,779	46%	16,012
51 (Information)	5,543	29%	10,110
92 (Public Administration)	4,558	24%	8,313
Total	18,879	100%	34,435

Source: California Employment Development Department, 2009 – 2018; Strategic Economics, 2020

Interviewees

Tim Schaedler, Partner
Panattoni Development Company

Marc Burns, Senior Vice President
Majestic Realty

Christina Jackson, Vice President, Investment Office
Prologis Logistics Real Estate

Interview Summary by Question

1. WHAT IS YOUR HISTORY WITH NORTH COYOTE VALLEY, HAVE YOU CONSIDERED DEVELOPING PROJECTS THERE, AND IF SO, WHAT KIND OF PROJECTS?

All three interviewees like doing business in San José and own multiple buildings/properties in the City. Two of the three have owned or sought to purchase property in NCV. One developer owned 20 acres in the area but sold it to Peninsula Open Space Trust (POST); the other was trying to purchase about 600 acres of land but did not complete the transaction. The third interview said that they have not considered purchasing land in NCV.

2. In the final analysis, why didn't you get any projects built in NCV?

Both interviewees who were looking at development projects in NCV said that they either sold or didn't pursue a land purchase because they thought there was no longer political support for industrial development in this area.

3. Would you consider building a similar project in North Coyote Valley today? If yes, why. If no, why not?

The developer who was planning to purchase the 600 acres was very bullish on NCV as a location and was willing to address the many environmental constraints, that, by their calculations, would have resulted in a net developable area of about 325 acres. In doing their due diligence, this person said that they had already prepared an extensive background analysis, including estimating benefits the City would receive including but not limited to an increased tax base and new job creation. The company's development program included an 80/20 percent split between industrial/warehouse buildings and higher density office uses. That said, the office use (the 20 percent) was considered highly speculative. While the developer said they could start building industrial space as soon as they got approvals with an estimated ten years to absorb the industrial land, the office would probably happen until closer to the ten year mark and to attract users, would potentially require asking rents that considerably below asking rents in northern San José. These low rents were not helpful to the developer's pro forma, but they were assuming that if after ten years, they could not find any office

users, that the City would allow them to change land designated for office uses to more industrial/warehouse space.

The second developer who divested themselves of their NCV holding would do a project there but felt that none of the details that needed resolution from the City were lining up. This included the lack of political support, no clear path to entitlements, and no clear information about infrastructure requirements or how these would be funded. While there is an adopted Community Facilities District (CFD) in the area, the District has never been activated so this would need to be updated as well. This developer did not consider having to pay into a CFD as a barrier to development but was concerned about the process to get the District up and running.

While the third developer owns many industrial buildings in San José, they expressed no interest in NCV. This location is too far from where their users want to be. This group already owns over 40 industrial buildings in San José, but these buildings are all closer to the City's denser core areas in North San José. This interviewee says that their current buildings support a wide range of tenants such as: small service businesses, parcel delivery, manufacturing, restaurant supply, printing companies, and construction companies conducting onsite fabrication as well as using the space to warehouse materials.

4. What do you see as the key positive and negative locational attributes associated with sites in North Coyote Valley? (a. large parcels, b. highway access, c. infrastructure costs, d. other)

NCV's positive attributes include proximity to Interstate 101, offering a reverse commute for many San José residents who might want to work in the area, can draw trucks out of the City's core, buildable land for new modern logistics space, enough land to create a critical mass of built space.

For the two developers interested in building in NCV, the area's major drawback was the political challenge to getting projects approved.

Important locational attributes cited by the third developer include: proximity to transit, sufficient on-site parking, and close to high intensity areas with lots of activity. This developer was also concerned with property that is close to the labor supply that supports their tenants. Labor supply is also a significant issue for this developer's company. They provided their own work force training program especially geared to getting workers into logistics related jobs. NCV was considered too inaccessible for a broad workforce base.

5. What other locations in San José or in the Bay Area do you think are competitive with North Coyote Valley and why?

Despite being interested in developing in Coyote Valley, one developer did mention that most users would prefer to be further north, closer to Interstate 880. This same interviewee saw NCV as being at the very southern end of the industrial market that extends from Oakland into San José. They also thought that, despite being at the very southern edge of this market area, a San José address would still garner a higher rent than Morgan Hill or Gilroy.

The two developers who did consider projects in NCV did consider "Plant Lands" north of Highway 237 as a more desirable location. All three developers agreed that northern San José was a far preferable location for their users.

6. What kind of commercial buildings do you think are best suited to a location like North Coyote Valley and why? (a. Industrial to be used for manufacturing, b. warehouse and logistics, c. office/R&D, c. other)

NCV is considered a good logistics location, but since the basic building type for warehouse and manufacturing uses are approximately the same, either use could go in this area. One interviewee said that some cities are now starting to restrict uses in areas that typically accommodate a mix of industrial and distribution space by only allowing “advanced manufacturing” uses. This use restriction is very unrealistic. All third interviewees agree that this kind of “normal” space that can flex back and forth between manufacturing and warehouse/logistics is becoming increasingly scarce in the Bay Area partly because cities are encouraging more “higher value” uses in these areas. Cities are not doing enough to protect their older industrial areas, especially as land for new development becomes increasingly scarce.

7. For each building type mentioned above, what is the average size building you would expect to build (square feet) in North Coyote Valley? (a. industrial to be used for manufacturing, b. warehouse and logistics, c. office/R&D, d. other).

Two of the interviewees are interested in potentially purchasing land in San José where they could build new/industrial/logistics buildings. These developers concurred that for logistics buildings, a typical floor area ratio (FAR) would be .40 to .45. One also said that 250,000 square feet is the ideal building size. This allows for enough economy of scale to justify costs. New manufacturing buildings tend to have a lower FAR, typically .35, because they require more parking.

The second developer interested in building new larger logistics related buildings said that the logistics industry is in flux right now and it is hard to tell exactly what the right “sweet spot” would be for a new logistics building; but that the range could be anywhere from 20,000-400,000 square feet depending on the user. This interviewee also said that they would need about 50-100 acres of land to be able to build out a project in increments so that they could carefully phase buildout in response to demand with a prototypic building being about 125,000 square feet on 20 acres with 1,000 parking spaces for employees and small delivery vans.

The third developer’s company is currently acquiring industrial buildings in what they consider to be good “infill” locations in San José. This company sees that the market fundamentals for existing industrial buildings remains very strong and they think the future for logistics in San José will be more in first/last mile (FLM) delivery, rather than for the larger distribution facilities. The economics of FLM logistics will eventually lead to more multi-story distribution facilities on relatively small parcels. Although the San José market is not “there yet,” this firm sees that as conditions change, redeveloping low density industrial buildings into multi-story buildings will be an option. This company is purchasing existing industrial properties with parcels as small as 2.5-3 acres in what they consider to be the “right” infill locations. The company is then locating their larger distribution facilities in places that have direct access to Interstate 5.

8. For each building type mentioned above, do you have a sense of how many square feet you would assume per employee? (a. industrial space for manufacturing, b. warehouse and logistics space, c. office/R&D, d. other).

All three interviewees agreed that 1 job per 1,000 (1:1,000) square feet is about the expected employment density for manufacturing/logistics space. More traditional manufacturing space can be

at 1 job per 500 feet (1:500). The 1:1,000 ratio was considered “high” for logistics space and typically reflects “e-commerce” logistics. While the interviewees did not provide a specific job density, they did all also agree that non-e-commerce logistics has a lower employment ratio than 1:1,000. These facilities also need significant room for employee parking.

One interviewee shared that e-commerce logistics require three times the floor area of the distribution requirements for conventional retailers due to the need to be able to handle returns. Therefore, this company is segmenting its logistics activities into the FLM distribution, where location and “need for speed” are paramount, versus the larger distribution “hubs” which can be located further away from dense population centers.

9. What kinds of end users do you envision for buildings in North Coyote Valley (a. large companies, b. mid-sized companies, c. small companies)?

The two interviewees most familiar with NCV consider logistics uses as their primary target tenant type. However, other users who require large out-door storage, such as companies operating large vehicle fleets, might also be interested in this location because there would be plenty of room for storage and maintenance.

10. Would you build speculative buildings in North Coyote Valley, if so why, if not, why not?

Large scale logistics buildings are the only use interviewees would be willing to build on a speculative basis in NCV. One interviewee said they would be willing to consider building other building types, including office, but only with significant pre-leasing activity or on a build to suit basis. For now, this developer says there is little or no market-based evidence that there is demand for any uses other than logistics.

What general trends do you see driving location decisions for industrial, warehouse, and office users in the Bay Area and what do you think these trends mean for North Coyote Valley as a location?

All three interviewees agree that there is very strong ongoing demand for industrial land in San José and in the Bay Area. They all consider pressure from cities to “upzone” this land for higher and better commercial uses, including office, to be problematic for the region’s economy. One of the developers wants public agencies, including San José and Santa Clara County, to consider allowing larger logistics facilities to locate on existing publicly owned land, including the “plant lands” in Alviso or the County’s fairgrounds. However, the other two developers agreed that FLM logistics is an increasingly strong niche for industrial land in San José, while the larger distribution hub facilities will probably continue to migrate to other locations including both southern Santa Clara County and the central valley.

11. If there is no additional available land for development in North Coyote Valley, do you think this has significant implications for San José’s economy and why?

One interviewee said that they think the San José market will adjust to the lack of land supply by building more vertical logistics space on smaller parcels. They think that at one time, NCV would have been a good location for a technology related campus. But as conditions have changed in the Bay Area, technology campuses no longer want locations this far from the region’s core employment concentrations. In today’s market, logistics is really the only market use for this land. This interviewee sees the overall market trend for logistics space in the Bay Area, not just San José, as becoming both more vertical in central locations; and moving further out to locations where land is cheaper and there is good highway accessibility for the larger distribution hubs.

The second interviewee said that San José remains a very robust market for all types of commercial uses but that it will be important to retain the more traditional industrial users and uses as these businesses represent an opportunity to support a diverse range of jobs and incomes. This interviewee also emphasized the point that NCV is not well-suited to household serving uses, like large scale retail or entertainment uses because it is not convenient to a large population base.

The third developer is also very bullish on San José, but they would not consider investing in NCV. However, echoing the concerns raised in addressing earlier questions, this interviewee continued to express the need to preserve the opportunity for manufacturing and logistics space in San José's northern industrial areas which are also subject to pressure from office/R&D users.