INDUSTRIAL LAND SUPPLY AND DEMAND

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INTRODUCTION
This Technical Memo is the first product from the Industrial Land and Jobs Study, which complements the 2015 MTC Goods Movement Needs Assessment. This study analyzes the demand for and supply of industrially zoned land in the nine-county region, both now and in the future.

CHARACTERIZING THE DEMAND FOR INDUSTRIAL LAND
The demand for industrial land has shifted dramatically as the economy has restructured from manufacturing to services. This section examines the trends in industrial land demand, based on both interviews with 12 experts in real estate and logistics, and a review of relevant literature. Trends in industrial space and logistics add up to a mixed picture in terms of the need for and location of industrial land. Changes in warehousing are generally leading to smaller spaces, except for the large warehouses on the periphery demanded by e-commerce giants. Yet, the overall demand for warehousing space is increasing dramatically due to the rise of just-in-time delivery. Likewise, trends in the maker movement, sustainability, technology, and productivity are also creating a demand for smaller spaces, mostly in the core, but to the extent that manufacturing firms are in-sourcing, impacts are likely to be in the periphery. At the same time, transportation needs are generally demanding more space in core areas, for both loading and parking.

INDUSTRIAL LANDS INVENTORY
The goal of the analysis in this section is to determine the supply of industrially zoned land in the nine-county Bay Area. The analysis found almost 98,000 acres of industrially zoned land located in the nine-county region (Figure A). Notable differences among sub-regions are the concentration of heavy industrial land in the East Bay, the reliance on mixed use-commercial zones in the Peninsula, and in general, the mixture of industrial and office uses (industrial-office) in both the Peninsula and the South Bay. Alameda County has the most industrial land, followed by Contra Costa, Santa Clara, and Solano. Yet, despite this concentration, market activity is largely concentrated in San Francisco and Santa Clara counties.

TABLE A. INDUSTRIAL LANDS INVENTORY

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Stock (acres)</th>
<th>% R&amp;D</th>
<th>% Warehouse</th>
<th>% Manufacturing</th>
<th>% Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Bay</td>
<td>247,027</td>
<td>20%</td>
<td>60%</td>
<td>19%</td>
<td>1%</td>
</tr>
<tr>
<td>South Bay</td>
<td>180,702</td>
<td>53%</td>
<td>29%</td>
<td>14%</td>
<td>4%</td>
</tr>
<tr>
<td>North Bay</td>
<td>54,189</td>
<td>7%</td>
<td>76%</td>
<td>16%</td>
<td>1%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>50,220</td>
<td>26%</td>
<td>54%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>30,444</td>
<td>23%</td>
<td>64%</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Table A. Industrial Building Stock by Type (2015)
Source: CBRE

EXECUTIVE SUMMARY

BUILDINGS ON INDUSTRIAL LAND
This section describes built space and occupancy patterns on industrial land based on private real estate data from CBRE that captures the amount of industrial space available and the value of those spaces. In sum, outside of San Francisco much of the Bay Area’s industrial land is occupied at very low densities, perhaps to accommodate parking, loading, and other surface uses. Warehouses comprise half of the region’s stock, with R&D comprising another 30% (Table A). Warehouse development dominates in every sub-region except the South Bay, where R&D is concentrated. New construction is occurring mostly in the East and North Bay. There is a significant amount of older stock, particularly in San Francisco, Alameda, San Mateo, and Marin counties. Rents are generally high and have recovered from the recession, particularly in San Francisco and the Peninsula, and for R&D (Figure B). Vacancy rates are now reaching historic lows, except for R&D (Figure C).

Figure A. Industrially zoned land in the San Francisco Bay Area (nine counties and inner Bay Area).
BUSINESS TRENDS ON INDUSTRIALLY ZONED LAND

Industrial businesses locate in many different zones. For instance, a small construction contractor might operate out of a home in a residential district. Larger contractors are more likely to be dependent on industrially zoned land. Likewise, auto repair shops can be found as readily in commercial zones as on industrial land. Tech businesses are found throughout all types of zones, depending on their size and production process (e.g., whether they are conducting manufacturing, software design, research and development, or some combination). At the same time, industrial land, whether exclusive or mixed-use, also houses many types of businesses. For instance, older retail establishments such as corner stores or diners may be grandfathered into industrial zones. Flexible zoning regulations on industrial land may permit a great variety of uses, from government offices to professional services.

For this analysis we examined the distribution of businesses across industrially zoned and other land in all nine counties, to determine what type of industries were concentrated on industrial land. We develop a typology based on the location quotient (LQ), which measures the concentration of industries in a particular area relative to the larger region within which it sits (the reference region).

This analysis differentiates between the industrial land-dependent industries that are located throughout the region, and the industrial land-dependent businesses that are actually located on industrially zoned land (Figure D). As this diagram illustrates, the industrial land-dependent businesses on industrial land are a subset of the industrial land-dependent businesses throughout the region. For our projections of industrial land demand, we analyze both trends in these businesses on industrial land and the larger set of industrial land-dependent businesses. This latter group of businesses may be considered the latent demand for industrially zoned land. Overall, our analysis found that in 2011, there were 205,561 jobs in industrial land-dependent industries actually located on industrially zoned land, and 600,824 industrial land-dependent jobs overall in the region.

Figure E maps the location of the industries identified as highly dependent on exclusive industrial land.
zoning in the region (based on the location quotient, which measures the concentration of industries in a particular area relative to the larger region within which it sits, or the reference region). This map sums Dun & Bradstreet/NETS employment (for 2011) by block group. The greatest concentrations of industrial land-dependent employment occur in southern Alameda County (from San Leandro to Fremont) and northern Santa Clara County (primarily San Jose). Other concentrations occur near SFO, along the Northern Waterfront, and near Livermore. These concentrations suggest where the region might want to consider more stringent protections for industrial land in the future, in order to support regional economic growth.

About 9% of industrial-land dependent jobs move in an average year, with most moves occurring within the nine-county region. Cities experiencing the most churn include Santa Clara, San Jose, Fremont, Milpitas, and San Francisco. San Francisco industrial areas are more likely to experience move-outs than move-ins. Areas that are top job gainers and not losers include Hayward, SFO, Oakland, and Pleasanton. Figure F shows the net change in industrial land-dependent jobs due to moves in the Bay Area from 1990 to 2012.
PART I: INTRODUCTION
This Technical Memo is the first product from the Industrial Land and Jobs Study, which complements the 2015 MTC Goods Movement Needs Assessment. This study analyzes the demand for and supply of industrially zoned land in the nine-county region, both now and in the future.

The next section of this report describes the current and future demand for industrial land, and also provides a brief overview of the Bay Area economy. Section III provides the inventory of industrial land, describing its extent, type, and location throughout the nine-county region. Section IV then examines market trends, including both occupancy and new completions, for the built industrial stock in the region, most of which is located on industrial land. Section V examines the location and trends of businesses on industrial land, identifying what we call “industrial land-dependent” industries.

For this report, we have compiled the most up-to-date information available on industrial zones within the Bay Area’s 101 jurisdictions and unincorporated areas. Bay Area jurisdictions had the opportunity to review and correct the data, and about one-third offered minor corrections to the inventory.
PART II: CHARACTERIZING THE DEMAND FOR INDUSTRIAL LAND
The demand for industrial land has shifted dramatically as the economy has restructured from manufacturing to services. This section first examines the trends in industrial land demand, based on both interviews with 12 experts in real estate and logistics, and a review of relevant literature. Then we examine economic trends specific to the Bay Area, using County Business Patterns from 1990 to 2012.

**TRENDS SHAPING INDUSTRIAL LAND DEMAND**

In this section we examine trends in the use of industrial land and space in order to determine how demand is shifting in both the region’s core and its periphery. After providing an overview of the role of industrial land in the regional economy, we look at trends in both industrial space—specifically, warehousing and storage, manufacturing, and R&D—and freight logistics. Although some trends, particularly those reported by trade publications, might be more speculative than evidence-based, reporting them is useful to get a sense of what stakeholders in the field are thinking about today. We focus mainly on U.S. trends and hypothesize on what these trends imply for space and location of industrial uses in metropolitan regions.

**Industrial Land**

Zoning land for industrial use performs two different functions. Separating lower (agricultural, industrial) uses from higher (commercial, residential), prevents the negative externalities associated with production from impacting less noxious uses. Further, it signals the types of physical and legal improvements that will be appropriate to maximize the land’s productive capacity—i.e., the land’s highest and best use.

Two types of industrial zones are common: exclusive and mixed. Exclusive zoning preserves industrial zoning by prohibiting higher uses despite market interest. Exclusive zoning is particularly appropriate when (1) the industrial district is economically viable, functioning as a business incubator or housing businesses linked to other local clusters; or (2) negative externalities are an issue. Mixed use zoning allows higher uses, either commercial, residential, or both. Since higher uses pay higher rents, this can put pressure on industrial businesses, who may eventually need to leave for lower-cost locations.

Recent work highlights the contribution of industrial areas and their activities to the regional economy: as job generators; as providers of supplies and services, such as back-office functions or automobile repair, to businesses and households; and as reservoirs of low-cost space that can incubate startup businesses. Industrially zoned land performs a role in the regional economy as a reserve of relatively low-cost land and large buildings with potentially flexible use: many industrial sites can accommodate not just production but also back-office functions, storage, loading, parking, and even research and development. They can also be subdivided when firms decrease in size. In contrast to more modern office buildings, this type of space offers firms the flexibility they seek in today’s economy, with the ability to shift between vertical and horizontal organization, and to easily add or shed employees.

Across the U.S., many municipalities and counties have recently undertaken studies of industrial land supply, typically in response to developer pressures to convert the land to residential,
commercial, or mixed use. It is mostly the strong market regions that are re-evaluating how much industrial land they need. A 2010 review of over twenty such studies found three general concerns leading to industrial land preservation: the recognition that industrial businesses (or more broadly, production, distribution and repair firms) support both the residential sector and other businesses, that they need to be located close by their customers, and that the availability of affordable land is key to maintaining these businesses. Just in the past couple of years, New York City, Washington DC, Montgomery County, MD, and the Puget Sound Region have produced updated industrial land studies.

**Industrial Space**

The market for industrial space in the Bay Area has evolved and matured considerably in the recent decades. Earlier real estate cycles saw the out-migration of many large-scale industrial users from San Francisco and the Peninsula to the outer areas of the region, mostly to the south and east (for instance, to the Livermore Valley area). This out-migration continues, but is increasingly likely to leapfrog out of the region into the Central Valley, with its abundant supply of developing land. At the same time, however, job growth in the core has created new demand for land in the region’s core, close to the workforce. The largest segment of demand is for distribution space, since companies still prefer to locate their warehouse space within 15 miles of the corporate office. For instance, both Philz and Peet’s coffee companies have recently acquired large warehouse spaces in Oakland.

Much of this market is seeking new generation space, warehouse buildings with high ceilings, in order to stack goods higher. Older industrial buildings in the core – even from as recently as the 1960s – do not work well for distribution functions, so this older stock tends to be torn down rather than converted. The market for this stock is largely companies like Apple or Tesla, who are willing to pay a premium for warehouse space in proximity to their headquarters or manufacturing, not so much to store finished products but rather supplies or even office furniture from their campuses. Because of the lack of land and challenges of dealing with existing buildings in the core, developers are building new industrial developments on spec, to the extent possible in desirable areas such as the 880 corridor, and if not, the Central Valley.

Interviewees suggested that the greatest pressure for the conversion of industrial land to housing or higher commercial uses will occur near transit. The areas experiencing most conversion are those that allow office construction alongside industrial; the differential in land prices often leads to the redevelopment of the industrial parcels for office. In some cases, cities also allow nonconforming uses, such as schools or churches, to be built in industrial areas, which changes the character of the area and sets the stage for future conversion.

**Warehousing and Storage**

Warehouse location is fundamental to transporting goods to consumers both in a competitive time frame and in a cost effective manner. Housing inventory in close proximity to the company’s consumers reduces delivery costs and permits companies to store product mixes more appropriate for specialized market segments.
E-commerce is expected to quadruple its share of retail trade in the next ten years, with 30% of all retail online by 2025. The increase in e-commerce influences business decisions about optimal warehouse location, inventory management, and amount of warehouse space. Companies consider these factors in attempt to minimize travel time and shipping expenses, both to satisfy customers and to reduce the shipping cost absorbed by the company.

In general, companies are moving their inventory to smaller distribution centers close to their consumer base. Amazon Prime’s Same Day delivery is an example of a delivery option that caters to consumers’ desire for “instant delivery gratification.” As part of this effort, Amazon is leasing very large warehouse spaces on the periphery of the region, while also investing in the last mile of delivery, in a modification of the traditional hub-and-spoke arrangement that involves smaller regionalized warehouses. With regards to inventory management, companies such as Walmart are opting to put more inventory in their distribution centers as opposed to their stores.

Thus, the demand for just-in-time delivery is leading to a new kind of fulfillment center which is using predictive analytics to move goods closer to markets. Fulfillment facilities differ from traditional warehouses; often built to custom specifications, they allow faster processing of orders through technology, and tend to be located in higher population (and cost) areas than the larger distribution centers.

New warehouse buildings, particularly fulfillment centers for e-commerce, include more parking than in the past because of the “high touch” nature of e-commerce, which results in higher employment densities. The new generation of space has wider aisles; minimum 30 feet clear heights in order to stack higher; and high sprinkler capacity in order to be able to stack plastic, rubber, or flammable materials to the ceiling. Cross-dock facilities, which allow loading on two sides of the building, are increasingly in demand from users like Amazon, and many of the warehouses are flow-through facilities that require more truck bays. In general, these buildings utilize much more land for these transportation functions.

Yet, while the shift in consumer behavior has increased demand for warehousing space, the increase in supply is not comparable; the rise in demand for instant delivery has occurred more quickly than developers can build space in the core. Moreover, the demand from e-commerce is putting pressure on warehouse space throughout the region: even areas like the North Bay report a lack of small, centralized warehouse spaces. Further, demand for traditional types of spaces remains strong, particularly storage yards and truck yards. Many businesses are also demanding hybrid spaces that combine office and warehouse, with perhaps some space for small-scale production. This type of space is particularly in demand in the South Bay.

A future trend to watch is shared space for warehousing. One company has created an internet market that connects warehouse space users in need of space with those in possession of excess capacity. This should allow for higher occupancy rates and more efficient use of space.
**Manufacturing and R&D**

With a growing “maker movement”, on-demand production, and the productivity increases made possible by the Internet of Things (IoT), or what some are calling the 4th Industrial Revolution, the role of manufacturing in cities today looks quite different from the way it did just a few decades ago. In 2006, the first Maker Faire, held in San Mateo, attracted around 20,000 people. This year, over 140,000 people attended the annual event, and the “maker movement” has gone international. The more sustainable, locally-sourced and produced, highly customized products of today’s manufacturing sector rely on industrial and mixed-use land in the region’s core. This suggests the new viability of walkable, amenity-rich, urban industrial neighborhoods.

This new movement, because of its smaller scale, does not have the negative environmental and traffic impacts of the older manufacturing sector. As Ilana Preuss, founder of Re-Cast City, writes, “The new definition of modern manufacturing can be done in close proximity to other uses. New urban manufacturers make better neighbors because their processes create less noise and fewer environmental impacts.” At the same time, many are small: brokers report the greatest demand for spaces as small as 1,000 square feet, housing just a couple workers in a small office, plus a small warehouse space with a roll door. Subdividing buildings is expensive and landlords prefer to rent entire buildings, creating a shortage of such spaces. Due to high land costs, many of San Francisco’s 600 makers conduct their actual production in cheaper areas in the East Bay while headquartered in the City. Subletting or sharing a lease is another approach commonly used.

More advanced technologies, like 3D printing, have also influenced the industry by removing some barriers to entry for firms who otherwise lacked access to financial capital. Many expect reliance on 3D printing to lead to new demand for industrial land within more urban areas.

Another industry trend is in-sourcing, or moving the production or warehousing process closer to the consumer because it reduces delivery costs and allows for more late-stage customized product variation. Many of these manufacturers are also selling direct to consumer. As one industrial real estate expert put it, “Domestic manufacturers today are a different breed than their predecessors, often working with low overhead and looking to sell small batches of product directly to consumers.” Reshoring of selective types of manufacturing (often machine-based) is often occurring through contract manufacturing, which allows companies to prototype products and protect intellectual capital while decreasing turn-around time relative to offshore operations.

In order to cut costs, some manufacturing firms are also experimenting with on-demand production. By keeping a very low inventory, smaller manufacturers can customize products without running into overstock issues and avoiding extra supply chain costs. This additional value created through flexibility and on-demand production requires proximity to the market.

Productivity improvements made possible through the IoT also create what some call “mass craftsmanship.” This “smart manufacturing” uses embedded sensors and integrated software to collect plant operations and supply chain data, analyze that data and drive real-time improvements in production and procurement processes. This allows for greater speed and flexibility, in what one supply chain professional calls “demand-driven on steroids.” It may also allow manufacturers to replace retiring workers with technology, reducing labor demand. Because this new manufacturing mode requires modernized infrastructure, and converting older buildings to modern manufacturing and distribution standards is prohibitively expensive, these high-tech businesses disproportionately tend to locate outside of the older core industrial areas. One way that cities stay competitive is through offering low power rates through independently owned utilities (as in Santa Clara, which is attracting data centers).
Historically, manufacturing space included 5-10% office space, e.g., for design and R&D. Now, more high tech companies are moving towards manufacturing close to larger office operations to enable quicker response time and more collaboration between design, production, and marketing.

Freight and logistics
Intermodal freight seems to be regaining importance in the United States, particularly on the West Coast. According to the American Railroad Association, the domestic share of total U.S. rail intermodal traffic has increased in the last few years, with a portion of truck freight now being moved by a mix of both rail and truck. Not only is increased cost-effectiveness generating new interest in freight hubs, but also new technologies are making rail freight more innovative; for instance, one company offers the possibility to store food on the train, with each train unit acting as mini-warehouses.

Thus it seems that intermodal hubs – that is, spaces for merchandise-transfer from truck to rail, or from ship to rail – will gain importance in upcoming years. Intermodal freight creates a need for more efficient coordination of transfers from one mode to another. For this reason, experts in the industry anticipate that intermodal hubs will focus their efforts on becoming logistics hubs as well. This involves either making use of a third-party logistics firm (3PL), or integrating a transportation management system (TMS) to make shipping more efficient.

We hypothesize that increased intermodal freight implies a need for more space for these transfers, as well as off-site storage, to occur, and that this would occur in urban cores due to railroad stations and ports that are usually already centrally located. However, this trend might also mean the consolidation of transportation and logistics spaces in fewer, more concentrated intermodal hubs. (And in fact, the Oakland port is already losing out to the Southern California ports as an intermodal hub.)

Relatedly, improving port management is a growing concern within the industry – not only to accommodate the demand for intermodal freight, but also to reduce port congestion. In the Californian context, the Port of Los Angeles/Long Beach and the Port of Oakland have both recently looked into port management strategies, including implementation of off-peak programs and the extension of port hours, respectively. We hypothesize that this will imply a plateau or a decreased need for port space in the urban core, as these strategies seek to optimize existing infrastructure and land.

In terms of air travel, airports are steadily expanding, often surrounded by related new industrial, commercial, and residential development. Airports appear to be particularly strong candidates for expansion when they are situated in proximity to rail or major connecting highways, for instance in the case of Dallas-Fort Worth Airport. Air cargo is increasingly demanding space, often from large delivery companies managing their own distribution facilities (e.g., FedEx and UPS). This would imply a need for more land. In most (though not all) cases, airports are located in the periphery of cities or of metropolitan regions, which would thus create higher demand for industrial land at the fringes rather than in the core.

Much speculation is occurring about the potential role of drones. While it remains unclear how
drone regulation and risk will be managed, several articles suggest drones’ imminent importance for shipping and delivery. By potentially altering the cost of transportation of goods, drones might have an impact on firms’ logistics planning, as well as on the location and type of industrial space needed in urban cores. Currently, drones are being tested not just for delivery, but also replacing labor within fulfillment facilities. Nevertheless the implications still remain unclear, and new regulations will need to address routing and delivery.

It is worth touching again on same-day delivery trends (mentioned above). Possible implications of this tendency are, on the one hand, a decrease in the use of third-party delivery trucks for large providers, and on the other hand, an increase in use of third-party delivery trucks by small providers. Innovations are also emerging to respond to this demand. For example some firms are thinking of using private transportation network companies for home delivery or are looking to the addition of urban fulfillment centers in their supply chain, which means that “inventory-replenishment trucks, en-route to brick-and-mortar’s stores from a distribution center can stop by a fulfillment center to pick up customers’ online orders.” Overall, the increased efficiency of shipping and delivery is also linked to the “Internet of Things” (see above), as it allows for more demand-responsive, postponed freight and logistics planning.

**Conclusion**

In sum, trends in industrial space and logistics add up to a mixed picture in terms of the need for and location of industrial land. As Table II.1 describes, changes in warehousing are generally leading to smaller spaces, except for the large warehouses on the periphery demanded by e-commerce giants. Yet, the overall demand for warehousing space is increasing dramatically due to the rise of just-in-time delivery. Likewise, trends in the maker movement, sustainability, technology, and productivity are also creating a demand for smaller spaces, mostly in the core, but to the extent that manufacturing firms are in-sourcing, impacts are likely to be in the periphery. At the same time, transportation needs are generally demanding more space in core areas, for both loading and parking.
Table II.1: Business trends and their implications for industrial space in urban cores and peripheries

<table>
<thead>
<tr>
<th>Industrial sector</th>
<th>Business trends</th>
<th>Demand for space</th>
<th>Location of demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehousing</td>
<td>Inventory management</td>
<td>--</td>
<td>Periphery</td>
</tr>
<tr>
<td></td>
<td>E-commerce</td>
<td>++</td>
<td>Core/periphery</td>
</tr>
<tr>
<td></td>
<td>Warehouse &quot;sharing&quot;</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Maker movement</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>Sustainability</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>3D printing, DIY</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>manufacturing</td>
<td>+ +</td>
<td>Periphery</td>
</tr>
<tr>
<td></td>
<td>In-sourcing</td>
<td>++</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>On-demand</td>
<td>+ +</td>
<td>Periphery</td>
</tr>
<tr>
<td></td>
<td>Productivity improvements</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td>Freight/logistics</td>
<td>Intermodal freight</td>
<td>++</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>Management of port space</td>
<td>--</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>Drones</td>
<td>??</td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>Airports</td>
<td>++</td>
<td>Periphery</td>
</tr>
</tbody>
</table>

Table II.2: Top 10 Industrial Sectors by Employment – Bay Area, 2012

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Industry Title</th>
<th>Jobs</th>
<th>% Change 1990-2012</th>
<th>LQ 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>423690</td>
<td>Other Electronic Parts and Equipment Merchant Wholesalers</td>
<td>53,101</td>
<td>239%</td>
<td>2.37</td>
</tr>
<tr>
<td>423430</td>
<td>Computer and Computer Peripheral Equipment and Software Merchant Wholesalers</td>
<td>20,964</td>
<td>-4%</td>
<td>2.03</td>
</tr>
<tr>
<td>334413</td>
<td>Semiconductor and Related Device Manufacturing</td>
<td>12,595</td>
<td>-70%</td>
<td>2.74</td>
</tr>
<tr>
<td>325412</td>
<td>Pharmaceutical Preparation Manufacturing</td>
<td>11,991</td>
<td>182%</td>
<td>2.13</td>
</tr>
<tr>
<td>334516</td>
<td>Analytical Laboratory Instrument Manufacturing</td>
<td>7,419</td>
<td>12%</td>
<td>2.70</td>
</tr>
<tr>
<td>336414</td>
<td>Guided Missile and Space Vehicle Manufacturing</td>
<td>6,989</td>
<td>-76%</td>
<td>3.25</td>
</tr>
<tr>
<td>334418</td>
<td>Printed Circuit Assembly (Electronic Assembly) Manufacturing</td>
<td>6,341</td>
<td>-26%</td>
<td>2.11</td>
</tr>
<tr>
<td>334515</td>
<td>Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals</td>
<td>5,445</td>
<td>-71%</td>
<td>2.39</td>
</tr>
<tr>
<td>333242</td>
<td>Semiconductor Machinery Manufacturing</td>
<td>4,095</td>
<td>18%</td>
<td>3.43</td>
</tr>
<tr>
<td>334412</td>
<td>Bare Printed Circuit Board Manufacturing</td>
<td>3,862</td>
<td>-56%</td>
<td>2.04</td>
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</tbody>
</table>
BUSINESS TRENDS IN THE BAY AREA

As discussed in ABAG’s 2015 State of the Region report, the Bay Area is continuing its long-term restructuring, with steady growth in health, social services and education, and leisure and hospitality. Although more volatile, regional economic boom periods also see growth in professional services, business services, and information. Longer term, there are declines in manufacturing and financial services, particularly pronounced during economic busts. San Francisco is currently dominating in professional and technical job growth, while the information sector continues to grow in Santa Clara County. Distributed more evenly throughout the region is growth in health, social services, accommodation, and food.

Using data from the U.S. Census Bureau’s County Business Patterns, we examined employment in the nine county Bay Area region at the most detailed industry category available (6-digit NAICS) from 1990 to 2012, using the definition of industrial developed by San Francisco (production, distribution, and repair or PDR sectors). Overall, there were 1,176,770 jobs in PDR industries in 1990, and 1,047,441 in 2012, a decline of 11% in a region where the economy overall grew by 14%.

There are several large industries in the Bay Area with a location quotient greater than 2 that likely rely on industrial land—mainly wholesale and manufacturing industries. Many are also industries that show long-term growth trends from 1990 to 2012 as well as short-term growth trends from 2005 to 2012 (Table II.2). Other Electronic Parts and Equipment Merchant Wholesalers added over 16,000 jobs from 2005 to 2012, and Analytical Laboratory Instrument Manufacturing added more than 2,000 jobs.

There are many industries, particularly in manufacturing, that have declined since 1990. Those industries experiencing the largest long term declines are Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing, which employed 1,700 people in 1990 and is nonexistent today; Boat Building, which employed 5,400 people in 1990 and only 24 people today; and Blank Magnetic and Optical Recording Media Manufacturing, which employed 6,100 people in 1990 and 57 people today. Among manufacturing industries, semiconductor, electrical instrument measuring, computer storage device, and electronic computer manufacturing are in decline. Drywall and installation contractors, commercial printing, specialty trade contractors, highway and bridge construction, and electric power distribution are also experiencing job losses. Growing industries are mostly in wholesaling, transportation, and logistics services, such as Other Electronic Parts and Equipment Merchant Wholesalers. Electronic shopping generates additional demand for logistics and transportation industries, while passenger air transportation is likely to add jobs as well. Part V of this report explores these trends in more detail.
PART III: INDUSTRIAL LANDS INVENTORY
The goal of the analysis in this section is to determine the supply of industrially zoned land in the nine-county Bay Area. But because land use and zoning can differ despite requirements for them to align, and because much of the land identified may be undeveloped, these zoning numbers only provide a baseline understanding of where there is opportunity for industrial activity. Subsequent analysis (beginning with the information provided in Part IV) will look to understand the use and occupancy of this industrial land, as well as recent development activities.

The following begins with a description of our research approach, including the collection and analysis of primary and secondary data on zoning at the parcel level. The next section describes the amount and distribution of industrially zoned land across counties, looking specifically at seven categories that range from heavy industrial to mixed-use residential and industrial. Maps display the location of industrially zoned land in more detail. A final section examines recent sales transactions of industrial parcels.

**METHODOLOGY AND DEFINITIONS**

For this analysis we draw on 2014 county tax assessor parcel data for each of the nine counties, linked to shapefiles in ArcGIS. From the assessor data, we obtained lot square footage, sales transactions, and select data about buildings, described in Part IV. Neither the county tax assessors nor the regional agencies (MTC/ABAG) had a reliable and current database of zoning by parcel that we could use, so we collected the most up-to-date zoning information available as of June 2015 from all cities and unincorporated areas in the nine-county region. Some cities and areas were able to provide us with digital zoning files in ArcGIS format, while others only had zoning available in PDF format. For these, our research team had to enter the data manually into tables and GIS. Cities were given the opportunity to correct the zoning designations we collected and entered via the project website (www.bayareaindustrialland.com). In addition, we conducted fieldwork in all nine counties to verify the accuracy of the database (described more in Appendix II).

Common categorizations for industrial land were identified across different zoning codes. These commonalities were then used to create a regional classification of industrial lands for this analysis (Table III.1). Because this study seeks ultimately to determine where best to preserve and convert industrially zoned land, it is important to distinguish between industrial zones that are dedicated only to industrial uses—henceforth the “exclusive” industrial categories—and those that allow a mixture of uses and/or activities. The exclusive industrial designation typically is for industrial uses which could be incompatible with other uses, because of impacts of noise, traffic, or odor. It also encompasses light industrial uses such as light manufacturing, wholesale, and repair, which are not necessarily noxious, but are typically characterized by a different type of economic activity than in offices or stores. We also include special districts designated for transportation or utility in this category. Mixed-use categories include both designated mixed-use zones allowing industrial, commercial, and/or residential, and industrial zones that allow office buildings as of right (not as an ancillary use), without a quota or limit. Appendix I provides some sample zoning codes by category by way of illustration, and a full list of the zoning categorizations can be found at the project website.
Table III.1. Regional Zoning Classifications and Descriptions

Note that agricultural designations are not included. See Appendix II for more details.

<table>
<thead>
<tr>
<th>EXCLUSIVE INDUSTRIAL CATEGORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Industrial</td>
</tr>
<tr>
<td>Medium Industrial</td>
</tr>
<tr>
<td>Light Industrial</td>
</tr>
<tr>
<td>Transportation and utilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MIXED USE INDUSTRIAL CATEGORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial-Office</td>
</tr>
<tr>
<td>Mixed use industrial-residential</td>
</tr>
<tr>
<td>Mixed use industrial-commercial</td>
</tr>
</tbody>
</table>

Table III.2. Amount and Distribution of Industrial Land*

| Source: County Assessors' DataQuick Database; See Appendix II for methodological notes on how total acreage was calculated |

* Calculations based on gross regional land area.

<table>
<thead>
<tr>
<th>East Bay</th>
<th>Total (Acres)</th>
<th>Total IL (Acres)</th>
<th>Percent IL of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>476,064</td>
<td>24,192</td>
<td>5.1%</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>477,745</td>
<td>20,206</td>
<td>4.2%</td>
</tr>
<tr>
<td>Peninsula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Mateo</td>
<td>291,520</td>
<td>10,845</td>
<td>3.7%</td>
</tr>
<tr>
<td>South Bay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Clara</td>
<td>830,787</td>
<td>18,501</td>
<td>2.2%</td>
</tr>
<tr>
<td>North Bay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solano</td>
<td>543,426</td>
<td>14,432</td>
<td>2.7%</td>
</tr>
<tr>
<td>Napa</td>
<td>504,137</td>
<td>3,931</td>
<td>0.8%</td>
</tr>
<tr>
<td>Sonoma</td>
<td>1,016,546</td>
<td>1,996</td>
<td>0.2%</td>
</tr>
<tr>
<td>Marin</td>
<td>337,158</td>
<td>1,750</td>
<td>0.5%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>30,427</td>
<td>1,971</td>
<td>6.5%</td>
</tr>
<tr>
<td>Total</td>
<td>4,507,811</td>
<td>97,823</td>
<td>2.2%</td>
</tr>
</tbody>
</table>
AMOUNT AND DISTRIBUTION OF INDUSTRIAL LANDS

The gradual urbanization and industrialization of the Bay Area, particularly since 1850, has led to a distinct pattern of industrial land location. Initially, industrial uses were confined to the core city and port areas, mostly in San Francisco and the East Bay. In the early to mid-20th century, industrial uses expanded into the South Bay. Most recently, parts of the North Bay have industrialized as well, typically on large lots with convenient highway access. Meanwhile, some of the older industrial land in the core has undergone conversion to commercial and residential use.

Given these waves of industrialization, the amount of industrial land is not evenly distributed across counties (Figure III.1). While some of this distribution may be attributed to the overall size of each county, several counties that have a significantly higher share of land zoned for industrial use (e.g. 4.2% of land in Contra Costa County has industrial zoning—see Table III.2). The share of land zoned for industrial use corresponds roughly to goods movement patterns: as discussed in the MTC Regional Goods Movement Plan Task 2C Technical Memorandum (2015), the leading counties in terms of output of goods movement dependent industries are Santa Clara, Contra Costa, Alameda, and Solano counties. Meanwhile, in many of the North Bay counties less than 1% of land is zoned for industrial uses—this may be partially attributed to the regional zoning classifications excluding agricultural uses for methodological purposes (see Appendix II).

TYPE OF INDUSTRIAL LANDS

The type of industrial land also varies from county to county (Figure III.2). East Bay counties have significant land zoned for heavy and medium industrial uses that could potentially conflict with their surroundings. For example, in Contra Costa County the City of Antioch’s M-2 Heavy Industrial allows for: “production of and extraction of metals or chemical products from raw materials, steel works and finishing mills, chemical or fertilizer plants, petroleum and gas refiners, paper mills, lumber mills, asphalt, concrete and hot mix batch plants, power generation plants, glass works, textile mills, concrete products manufacturing and similar uses.”

North Bay counties have a large share of land for transportation, which includes land zoned for bus or rail yards, power generation and other utilities, airport-related facilities, and related corridors. For example, in Solano County, the City of Rio Vista’s zoning C-2A Airport Commercial District was included in this total. The C-2A zoning designation is intended to “supply a complete range of airport related services at the airport.”

Combining the seven categories above into the broader classifications described in Table III.1 (Exclusive and Mixed-Use) we see additional patterns of how industrial land is distributed. In Figure III.3 the Exclusive Industrial classification is zoned for more intense industrial activities while the Mixed-Use zoning provides the potential for multiple kinds of activities on the land. A table that includes these numbers by individual counties can be found in the Appendix III.

These broader classifications give a sense of the different intensities of industrial land across the
Figure III.2. Distribution of Industrial Land Categories
Source: County Assessors' DataQuick Database

Figure III.3. Distribution of Consolidated Industrial Land Categories
Source: County Assessors' DataQuick Database
region and the kinds of activities that this land supports. For example East Bay counties have significantly more land zoned for exclusive industrial uses, while the South Bay has a more even balance of exclusive industrial and mixed-use. The zoning patterns seen in Figure III.2 and III.3 may be an indication of the kinds of industries that have already concentrated in different areas, and/or it may point to cities’ efforts to attract new/additional businesses with specific industrial land use needs or position the land for non-industrial uses.

INDUSTRIAL LAND BY CITY

The assessors’ data also allowed us to determine the amount of industrial land available in cities. Table III.3 shows the ‘top ten’ cities with the most land zoned for industrial activities. Appendix III provides a list of the top fifty cities.

Oakland and San Jose top the list, each with over 6,000 acres of industrially zoned land. Figures III.4-III.8 map the land in these areas (see Appendix IV for maps of the rest of the region). The majority of Oakland’s industrial zoning allows for exclusive industrial uses (e.g. heavy, medium, or light industry), while San Jose has a higher proportion of mixed-use industrial zoning, or industrial zones where office uses are allowed.

<table>
<thead>
<tr>
<th>County</th>
<th>City</th>
<th>Total IL Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>Oakland</td>
<td>6,999</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>San Jose</td>
<td>6,410</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>Martinez</td>
<td>4,956</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>Richmond</td>
<td>4,919</td>
</tr>
<tr>
<td>Solano</td>
<td>Unincorporated Area</td>
<td>4,487</td>
</tr>
<tr>
<td>Alameda</td>
<td>Fremont*</td>
<td>4,180</td>
</tr>
<tr>
<td>Alameda</td>
<td>Hayward</td>
<td>3,610</td>
</tr>
<tr>
<td>San Mateo</td>
<td>Unincorporated Area</td>
<td>3,143</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>Concord</td>
<td>2,722</td>
</tr>
<tr>
<td>Solano</td>
<td>Benicia</td>
<td>2,702</td>
</tr>
</tbody>
</table>

Table III.3. Cities with Highest Amount of Industrially Zoned Land
Source: County Assessors’ DataQuick Database

* According to Fremont’s own inventory of industrially zoned land, the total is slightly higher: 4,360 acres.
With the exception of South San Francisco—where the majority of land is zoned for light industrial—the industrial land in San Mateo cities are also primarily zoned for mixed-use activities (Figure III.6). In contrast, most industrial land in Contra Costa County is zoned heavy industrial, as shown in Figure III.7. Solano County, with 16% of the region’s industrial land, is mostly medium industrial and industrial-office.

**SALES TRANSACTIONS**

Another indicator of the market for industrial land is the frequency of sales transactions. Sales of industrial parcels may indicate strong business demand, or could be occurring because of intentions to convert the land to other uses. Based on an analysis of assessors’ data, we found that over the last ten years the most active and volatile markets for industrial land were: Alameda, Santa Clara and San Francisco Counties. This is most likely due to the faster rate of urbanization in these areas. Of particular note is the high volume of transactions in San Francisco, given the relatively small amount of industrial land.

Yet, while the number of transactions (depicted above) is about equal in Santa Clara and San Francisco, Santa Clara outpaces all counties in terms of the total acreage of industrial land transacted over the last five years (Table III.4). Solano County in the North Bay saw a small number of transactions, but a relatively high amount of square footage as a result of several larger transactions (ranging from 25-300 acres) in the cities of Fairfield, Rio Vista, and unincorporated areas.
Table III.4. Transaction of Industrially Zoned Land from 2010-2014

<table>
<thead>
<tr>
<th>County</th>
<th>Total Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Bay</td>
<td></td>
</tr>
<tr>
<td>Santa Clara</td>
<td>4,037</td>
</tr>
<tr>
<td>North Bay</td>
<td></td>
</tr>
<tr>
<td>Solano</td>
<td>2,940</td>
</tr>
<tr>
<td>Napa</td>
<td>800</td>
</tr>
<tr>
<td>Sonoma</td>
<td>330</td>
</tr>
<tr>
<td>Marin</td>
<td>98</td>
</tr>
<tr>
<td>East Bay</td>
<td></td>
</tr>
<tr>
<td>Alameda</td>
<td>3,150</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>1,349</td>
</tr>
<tr>
<td>Peninsula</td>
<td></td>
</tr>
<tr>
<td>San Mateo</td>
<td>1,274</td>
</tr>
<tr>
<td>San Francisco</td>
<td>146</td>
</tr>
</tbody>
</table>

Source: County Assessors’ Dataquick Database

Figure III.9. Transactions of Industrially Zoned Parcels (by number of parcels)
In sum, the analysis found almost 98,000 acres of industrially zoned land located in the nine-county region. Notable differences among sub-regions are the concentration of heavy industrial land in the East Bay, the reliance on mixed use-commercial zones in the Peninsula, and in general, the mixture of industrial and office uses (industrial-office) in both the Peninsula and the South Bay. Alameda County has the most industrial land, followed by Contra Costa, Santa Clara, and Solano. Yet, despite this concentration, market activity is largely concentrated in San Francisco and Santa Clara counties.
PART IV: BUILDINGS ON INDUSTRIAL LAND
BACKGROUND, METHODOLOGY AND DEFINITIONS

To accompany the zoning analysis in Part III that identifies the opportunities under existing regulations for industrial activity, this research also sought to understand occupancy patterns.

As an initial step towards understanding the built space and its utilization, we used private real estate data from CBRE that captures the amount of industrial space available and the value of those spaces.\textsuperscript{45} We relied on the following CBRE data points addressing the questions of space and value:

- **Stock:** The total amount of competitive single-tenant and multi-tenant space (in square feet) (also known as net rentable area, or NRA)
- **Completions:** The amount of new space open for occupancy (in square feet) during a period. The figure includes both single and multi-tenant completions.
- **Asking Rents:** Average gross or net asking rents weighted by the number of square feet available for lease.
- **Vacancy Rate:** The total vacant space available for lease divided by the total stock.\textsuperscript{46}

The CBRE data also segment industrial spaces by several different use types. This allowed us to develop a deeper understanding of the actual supply and demand for industrial land in the nine-county region using the following categories:

- **Manufacturing:** Industrial buildings with less than 3 stories and a parking ratio less than 2.5:1 for which less than 25% of the NRA is demised or planned as office space.
- **Warehouse/Distribution:** Industrial buildings with the same criteria as Manufacturing buildings and for which at least 50% of “non-office” space has a clear height of 18 feet or greater.
- **Research & Development:** Industrial buildings with one to three stories for which at least 25% but less than 75% of the NRA is demised or planned as office space or highly improved, and have a parking ratio greater than or equal to 2.5:1. Flex space is included in this category.\textsuperscript{47}

Note that this dataset does not include some older, multi-story industrial buildings. Also, CBRE does not track industrial real estate in Sonoma and Marin Counties. We sought an alternative data source for these counties from Colliers International, but they also do not track this data. A representative from Colliers explained that there is not sufficient commercial real estate in Sonoma and Marin for them to comprehensively track industrial activity in these counties. Thus, these counties are excluded from this analysis.
AVAILABLE INDUSTRIAL SPACE

The CBRE database found 562,582,000 square feet (12,915 acres) of industrial stock in the nine-county region. This is significantly less than the 97,823 acres of industrially zoned land found in Part III (repeated in Table IV.1). This difference occurs because the Assessors’ data includes total land area, while CBRE only calculates the square footage. Thus the industrial space calculations exclude vacant land, parking, loading areas, trailers, older industrial buildings, and so forth.\(^\text{48}\)

<table>
<thead>
<tr>
<th>Region</th>
<th>Stock in Acres (CBRE)</th>
<th>Acres Zoned Industrial (Assessors)</th>
<th>Industrial Building Stock per Land Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco</td>
<td>699</td>
<td>1,971</td>
<td>35%</td>
</tr>
<tr>
<td>South Bay</td>
<td>4,148</td>
<td>10,501</td>
<td>22%</td>
</tr>
<tr>
<td>East Bay</td>
<td>5,671</td>
<td>44,398</td>
<td>13%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>1,153</td>
<td>10,845</td>
<td>11%</td>
</tr>
<tr>
<td>North Bay</td>
<td>1,244</td>
<td>22,109</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,915</strong></td>
<td><strong>97,823</strong></td>
<td><strong>14%</strong></td>
</tr>
</tbody>
</table>

Table IV.1. Comparison of Zoning with Actual Stock
Source: County Assessors’ DataQuick Database and CBRE

Regionally we see that the East Bay has both the highest amount of industrial building stock and acres zoned for industrially uses, while San Francisco has the least (Figure IV.1). With these calculations, it should also be noted that the North Bay excludes Marin and Sonoma Counties, but there is likely limited industrial activity occurring there.

BUILDING COVERAGE

Another way to assess the intensity of development is to look at floor area ratios, or building coverage. For this calculation, we returned to the Assessors’ data collected on building square footage, excluding vacant lots and potential industrial activity on other, unidentified parcels. The building coverage calculations in Table IV.2 are the result of dividing the building square footage by the total lot size of parcels where development has occurred. Over 100% suggests a high floor area ratio because of multi-story buildings. In Sonoma and Marin, ratios are very low, probably due to parking or other surface uses.

Solano County in the North Bay had the highest intensity developments on industrial lands (138% of the developed land covered by buildings). Yet the standard deviation was very high, indicating that some buildings on industrial lands are multiple stories, while others are much less dense. In addition to showing the large range in intensity for industrial buildings, these coverage calculations may be an indication that industrial land is being developed for other non-industrial uses that lends itself to denser building types.

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Building Coverage</th>
<th>Standard Deviation</th>
<th>IL Parcels Counted</th>
<th>Total IL Parcels</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solano</td>
<td>138%</td>
<td>662%</td>
<td>698</td>
<td>2493</td>
</tr>
<tr>
<td>Napa</td>
<td>51%</td>
<td>43%</td>
<td>306</td>
<td>818</td>
</tr>
<tr>
<td>Sonoma</td>
<td>38%</td>
<td>35%</td>
<td>585</td>
<td>1554</td>
</tr>
<tr>
<td>Marin</td>
<td>31%</td>
<td>16%</td>
<td>32</td>
<td>843</td>
</tr>
<tr>
<td>San Francisco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Francisco</td>
<td>110%</td>
<td>282%</td>
<td>9608</td>
<td>10563</td>
</tr>
<tr>
<td>Peninsula</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Mateo</td>
<td>55%</td>
<td>64%</td>
<td>664</td>
<td>3882</td>
</tr>
<tr>
<td>East Bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alameda</td>
<td>52%</td>
<td>51%</td>
<td>5019</td>
<td>9297</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>44%</td>
<td>46%</td>
<td>2326</td>
<td>4043</td>
</tr>
<tr>
<td>South Bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Santa Clara</td>
<td>50%</td>
<td>50%</td>
<td>5727</td>
<td>9029</td>
</tr>
</tbody>
</table>

Table IV.2. Percent of IL Covered by a Building
Source: County Assessors’ DataQuick Database

Solano County in the North Bay had the highest intensity developments on industrial lands (138% of the developed land covered by buildings). Yet the standard deviation was very high, indicating that some buildings on industrial lands are mul-

Figure IV.1. Regional Total Industrial Stock, 2015
Source: County Assessors’ DataQuick Database and CBRE
tiple stories, while others are much less dense. In addition to showing the large range in intensity for industrial buildings, these coverage calculations may be an indication that industrial land is being developed for other non-industrial uses that lends itself to denser building types.

**TYPE OF INDUSTRIAL USES**

Real estate databases can give us a sense of the type of space available. Regionally, warehouse space takes up the most land area at 51% of all industrial stock. Manufacturing demands the least space at 16% of the total stock (Figure IV.2). The ‘Other’ category includes special use and space that is non-classifiable.

**CONSTRUCTION ACTIVITY**

In general, construction activity of industrial space has slowed over the last ten years. The exceptions are in the Peninsula from 2005-2009 and San Francisco from 2010-2015 (Table IV.4). This decrease in construction is likely the result of the recession, and a lag time over the last five years in real estate cycles as new construction is still in the process of coming online now that the market has recovered.

Solano County in the North Bay had the highest intensity developments on industrial lands (138% of the developed land covered by buildings). Yet the standard deviation was very high, indicating that some buildings on industrial lands are multiple stories, while others are much less dense. In addition to showing the large range in intensity for industrial buildings, these coverage calculations may be an indication that industrial land is being developed for other non-industrial uses that lends itself to denser building types.

In most counties, warehouse space comprises 50%-75% of the total industrial stock. The exception is the South Bay where R&D is the dominant industrial uses (Table IV.3).

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Stock (sqft)</th>
<th>R&amp;D</th>
<th>Warehouse</th>
<th>Manufacturing</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Bay</td>
<td>247,027</td>
<td>20%</td>
<td>60%</td>
<td>19%</td>
<td>1%</td>
</tr>
<tr>
<td>South Bay</td>
<td>180,702</td>
<td>53%</td>
<td>29%</td>
<td>14%</td>
<td>4%</td>
</tr>
<tr>
<td>North Bay</td>
<td>54,189</td>
<td>7%</td>
<td>76%</td>
<td>16%</td>
<td>1%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>50,220</td>
<td>26%</td>
<td>54%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>30,444</td>
<td>23%</td>
<td>64%</td>
<td>7%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Table IV.3. Industrial Building Stock by Type (2015)  
Source: CBRE
along the 880 corridor, which includes the cities of Hayward, Union City, and Fremont. More than a third (545,000 sqft) of the East Bay R&D space completed from 2005-2009 was along the 880 corridor, while all of the East Bay manufacturing space was completed along 880 from 2010-2015. Warehouse completions were more evenly distributed across the East Bay.

In the North Bay, the construction activity appears to be driven primarily by demand for warehouse space (Table IV.6). This activity was evenly distributed across Solano and Napa counties (Marin and Sonoma counties are not included by CBRE).

### BUILDING AGE

In addition to completion data from CBRE, the Assessors’ data allowed us to look at the average age for all building stock located on industrially zoned land. For those buildings that the Assessor had data, the averages for each county are shown in Table IV.7. An interesting trend to observe is the concentration of older buildings in the core (particularly San Francisco and Alameda), due most likely to the urbanization of these counties earlier in the region's development. In Napa and Solano counties, buildings tend to be much newer.

<table>
<thead>
<tr>
<th></th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Francisco</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>San Francisco</td>
</tr>
<tr>
<td><strong>East Bay</strong></td>
<td></td>
</tr>
<tr>
<td>Alameda</td>
<td>60.6</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>45.6</td>
</tr>
<tr>
<td><strong>North Bay</strong></td>
<td></td>
</tr>
<tr>
<td>Marin</td>
<td>49.2</td>
</tr>
<tr>
<td>Sonoma</td>
<td>41.8</td>
</tr>
<tr>
<td>Solano</td>
<td>38.4</td>
</tr>
<tr>
<td>Napa</td>
<td>28.1</td>
</tr>
<tr>
<td><strong>Peninsula</strong></td>
<td></td>
</tr>
<tr>
<td>San Mateo</td>
<td>48.0</td>
</tr>
<tr>
<td><strong>South Bay</strong></td>
<td></td>
</tr>
<tr>
<td>Santa Clara</td>
<td>40.2</td>
</tr>
</tbody>
</table>

Table IV.7. Average Building Age
Source: County Assessors’ DataQuick Database

<table>
<thead>
<tr>
<th>Year</th>
<th>Warehouse</th>
<th>Manufacturing</th>
<th>R&amp;D</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-2009</td>
<td>4,715</td>
<td>99</td>
<td>252</td>
<td>65</td>
<td>5,131</td>
</tr>
<tr>
<td>2010-2015</td>
<td>1,064</td>
<td>330</td>
<td>42</td>
<td>0</td>
<td>1,436</td>
</tr>
</tbody>
</table>

Table IV.5. East Bay Completions by Building Type (SF x 1000)
Source: CBRE

<table>
<thead>
<tr>
<th>Year</th>
<th>Warehouse</th>
<th>Manufacturing</th>
<th>R&amp;D</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-2009</td>
<td>2,617</td>
<td>223</td>
<td>1,566</td>
<td>195</td>
<td>4,601</td>
</tr>
<tr>
<td>2010-2015</td>
<td>2,006</td>
<td>892</td>
<td>509</td>
<td>275</td>
<td>3,682</td>
</tr>
</tbody>
</table>

Table IV.6. North Bay Completions by Building Type (SFx1000)
Source: CBRE
INDUSTRIAL RENT
Gross rents for all industrial spaces in San Francisco and the Peninsula are higher than regional averages (Figure IV.3). Rents at the core of San Francisco are of particular note: in SOMA the current average gross industrial rents are $41.53/sqft/year and North of Market gross rents are $40.34/sqft/year. Because these rent numbers only include space that is currently available for lease, however, these rent numbers don’t factor in industrial tenants with long-term leases at lower rates.

The smaller total land areas of San Francisco and the northern Peninsula likely plays an important role in restricting the supply of industrial lands and raising the demand/willingness to pay. A supplemental explanation may be the higher proportion of mixed-use zoning in these areas, identified in Part III (Figure III.3), which allows a greater variety of uses and thus attracts a larger market.

Rents for available R&D space in the North, South, and East Bays are below the regional average. For manufacturing space, the East Bay is the only area in the region where rents are below the regional average ($7.22/sqft/year regionally, $6.01/sqft/year in the East Bay). Warehouse rents appear to be the most consistent across the region (Figure IV.3). This consistency of rent may be one reason that over half of the regional industrial stock (seen in Figure IV.2) is warehouse space.

Over the last ten years industrial rents have remained relatively stable—decreasing during the recession, but making a steady comeback since 2012 (Figure IV.4). Rents for R&D have risen the most.
**OCCUPANCY TRENDS**

Similar to historic rent trends, industrial vacancy rates have been steadily recovering post-recession (Figure IV.5). Vacancy rates in the South Bay, the Peninsula, and San Francisco are all approximately 3% for data collected in 2015. For the East and North Bay, vacancy rates in 2015 are slightly higher (4% and 5% respectively). In San Francisco, vacancy rates are still slightly higher than in the 2007 peak, but all other regions are currently experiencing lower vacancy.

While warehouse and manufacturing vacancy rates are similar to aggregate trends depicted in Figure IV.5, R&D vacancy rates in the East and North Bay have been significantly higher over the last ten years (Figure IV.6). R&D vacancy rates are currently dropping regionally, but are still quite high in the East and North Bay at approximately 10% in both areas.
CONCLUSION

In sum, outside of San Francisco, much of the Bay Area’s industrial land is occupied at very low densities, perhaps to accommodate parking, loading, and other surface uses. Warehouses comprise half of the region’s stock, with R&D comprising another 30%. Warehouse development dominates in every sub-region except the South Bay, where R&D is concentrated. New construction is occurring mostly in the East and North Bay. There is a significant amount of older stock, particularly in San Francisco, Alameda, San Mateo, and Marin counties. Rents are generally high and have recovered from the recession, particularly in San Francisco and the Peninsula, and for R&D. Vacancy rates are now reaching historic lows, except for R&D.
PART V: BUSINESS TRENDS ON INDUSTRIALLY ZONED LAND
For this analysis we examined the distribution of businesses across industrially zoned and other land in all nine counties, to determine what type of industries were concentrated on industrial land. We develop a typology based on the location quotient (LQ), which measures the concentration of industries in a particular area relative to the larger region within which it sits (the reference region). If an LQ is greater than 1, it is considered relatively concentrated; if it is less than 1, then it is underrepresented.

We are particularly interested in determining which industries are actually dependent on industrially zoned land, in other words, that seem to avoid locating in other types of zones. For a conservative estimation of such industries, we use a LQ of greater than 2. By using this threshold, we were able to exclude a number of industries that seemed to be locating on industrial land more out of convenience than necessity (e.g., professional service firms, which do not have much impact in terms of noise, traffic, and odor and thus are not incompatible with other uses).

We linked Dun and Bradstreet employment data (from the National Establishment Time Series data) for businesses by address to county assessor data at the parcel level for all nine counties in order to determine which industries in each county are thus heavily dependent on industrially zoned land. For each county, we summed the jobs in each industry by zoning type. Then we created two final groupings: Exclusive Industrial Land and Mixed-Use Industrial Land. Exclusive industrial land includes light, medium, heavy, and transportation zones. Mixed-use (MU) industrial land includes light-office, heavy-office, mixed-use residential, and mixed-use commercial.

Industrial businesses locate in many different zones. For instance, a small construction contractor might operate out of a home in a residential district. Larger contractors are more likely to be dependent on industrially zoned land. Likewise, auto repair shops can be found as readily in commercial zones as on industrial land. Tech businesses are found throughout all types of zones, depending on their size and production process (e.g., whether they are conducting manufacturing, software design, research and development, or some combination). At the same time, industrial land, whether exclusive or mixed-use, also houses many types of businesses. For instance, older retail establishments such as corner stores or diners may be grandfathered into industrial zones. Flexible zoning regulations on industrial land may permit a great variety of uses, from government offices to professional services.

Thus, this analysis differentiates between the industrial land-dependent industries through the LQ method that are located throughout the region, and the industrial land-dependent businesses that are actually located on industrially zoned land (Figure V.1). As this diagram illustrates, the industrial land-dependent businesses on industrial land are a subset of the industrial land-dependent businesses throughout the region. For our projections of industrial
land demand, we analyze both trends in these businesses on industrial land and the larger set of industrial land-dependent businesses. This latter group of businesses may be considered the latent demand for industrially zoned land. Overall, our analysis found that in 2011, there were 205,561 jobs in industrial land-dependent industries actually located on industrially zoned land, and 600,824 industrial land-dependent jobs overall in the region.

LOCATION OF INDUSTRIES DEPENDENT ON INDUSTRIAL LAND

Figure V.2 maps the location of the industries identified as highly dependent on exclusive industrial zoning in the region (more detailed maps are in Appendix V). This map sums Dun & Bradstreet/NETS employment (for 2011) by block group. The greatest concentrations of industrial land-dependent employment occur in southern Alameda County (from San Leandro to Fremont) and northern Santa Clara County (primarily San Jose). Other concentrations occur near SFO, along the Northern Waterfront, and near Livermore. These concentrations suggest where the region might want to consider more stringent protections for industrial land in the future, in order to support regional economic growth.

The following first examines the top 30 industries by employment among those dependent on exclusive industrial land for each of the nine counties. We then provide an overview of the industries dependent on mixed-use industrial land in the following section.
MOBILITY OF INDUSTRIES DEPENDENT ON INDUSTRIAL LAND

Moves section
An important indicator of demand for industrial land is the mobility of firms. If more firms and jobs are moving out of industrial areas than are moving in, demand may be declining. More in-moves suggests increasing demand.

Previous research has shown that overall, only about 10% of firms move during their lifetime. Industrial firms, particularly manufacturing, are more likely to move than other types of industries. Looking only at industrial land-dependent jobs, we find that they move in and out in approximately equal numbers, with a slightly greater share of jobs moving into the Bay Area from the rest of California and the United States than move out.

In terms of absolute numbers of jobs, the most mobile industries are in just four sectors: high-tech manufacturing, construction, transportation, and wholesale (Table V.2). Again, the vast majority of these moves (80-90%) occur within the Bay Area.

The industrial areas from which jobs move are, for the most part, the same areas as those receiving jobs (Table V.1). Cities experiencing the most churn include Santa Clara, San Jose, Fremont, Milpitas, and San Francisco. San Francisco industrial areas are more likely to experience move-outs than move-ins. Areas that are top job gainers and not losers include Hayward, SFO, Oakland, and Pleasanton. Figure V.4 shows the net change in industrial land-dependent jobs due to moves, from 1990 to 2012.

Table V.1. Zip codes with the most industrial land-dependent jobs moving in and out, 1990-2012.

<table>
<thead>
<tr>
<th>Zip</th>
<th>City</th>
<th>Zip</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>95054</td>
<td>Santa Clara</td>
<td>95054</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>95131</td>
<td>San Jose</td>
<td>94538</td>
<td>Fremont</td>
</tr>
<tr>
<td>94043</td>
<td>Mountain View</td>
<td>95134</td>
<td>San Jose</td>
</tr>
<tr>
<td>94538</td>
<td>Fremont</td>
<td>95035</td>
<td>Milpitas</td>
</tr>
<tr>
<td>95035</td>
<td>Milpitas</td>
<td>95131</td>
<td>San Jose</td>
</tr>
<tr>
<td>94103</td>
<td>San Francisco</td>
<td>94105</td>
<td>San Francisco</td>
</tr>
<tr>
<td>94105</td>
<td>San Francisco</td>
<td>94103</td>
<td>San Francisco</td>
</tr>
<tr>
<td>95112</td>
<td>San Jose</td>
<td>94111</td>
<td>San Francisco</td>
</tr>
<tr>
<td>94111</td>
<td>San Francisco</td>
<td>95112</td>
<td>San Jose</td>
</tr>
<tr>
<td>94107</td>
<td>San Francisco</td>
<td>94545</td>
<td>Hayward</td>
</tr>
<tr>
<td>95134</td>
<td>San Jose</td>
<td>94089</td>
<td>Sunnyvale</td>
</tr>
<tr>
<td>94089</td>
<td>Sunnyvale</td>
<td>94128</td>
<td>SFO</td>
</tr>
<tr>
<td>94066</td>
<td>Sunnyvale</td>
<td>94043</td>
<td>Mountain View</td>
</tr>
<tr>
<td>94080</td>
<td>South San Francisco</td>
<td>94539</td>
<td>Fremont</td>
</tr>
<tr>
<td>94101</td>
<td>San Francisco</td>
<td>94107</td>
<td>San Francisco</td>
</tr>
<tr>
<td>94577</td>
<td>San Leandro</td>
<td>94612</td>
<td>Oakland</td>
</tr>
<tr>
<td>94545</td>
<td>Hayward</td>
<td>95110</td>
<td>San Jose</td>
</tr>
<tr>
<td>94102</td>
<td>San Francisco</td>
<td>94080</td>
<td>South San Francisco</td>
</tr>
<tr>
<td>94104</td>
<td>San Francisco</td>
<td>94086</td>
<td>Sunnyvale</td>
</tr>
<tr>
<td>95050</td>
<td>Santa Clara</td>
<td>94588</td>
<td>Pleasanton</td>
</tr>
<tr>
<td>NAICS</td>
<td>Industry description</td>
<td>Total jobs moved, 1990-2012</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>3344</td>
<td>Semiconductor and Other Electronic Component Manufacturing</td>
<td>74,974</td>
<td></td>
</tr>
<tr>
<td>3341</td>
<td>Computer and Peripheral Equipment Manufacturing</td>
<td>50,415</td>
<td></td>
</tr>
<tr>
<td>2382</td>
<td>Building Equipment Contractors</td>
<td>41,436</td>
<td></td>
</tr>
<tr>
<td>3345</td>
<td>Navigational, Measuring, Electromedical, and Control Instruments Manufacturing</td>
<td>37,593</td>
<td></td>
</tr>
<tr>
<td>3342</td>
<td>Communications Equipment Manufacturing</td>
<td>35,594</td>
<td></td>
</tr>
<tr>
<td>5617</td>
<td>Services to Buildings and Dwellings</td>
<td>34,487</td>
<td></td>
</tr>
<tr>
<td>4237</td>
<td>Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers</td>
<td>27,386</td>
<td></td>
</tr>
<tr>
<td>5182</td>
<td>Data Processing, Hosting, and Related Services</td>
<td>21,492</td>
<td></td>
</tr>
<tr>
<td>2383</td>
<td>Building Finishing Contractors</td>
<td>19,255</td>
<td></td>
</tr>
<tr>
<td>2362</td>
<td>Nonresidential Building Construction</td>
<td>17,951</td>
<td></td>
</tr>
<tr>
<td>4881</td>
<td>Support Activities for Air Transportation</td>
<td>17,920</td>
<td></td>
</tr>
<tr>
<td>3231</td>
<td>Printing and Related Support Activities</td>
<td>16,267</td>
<td></td>
</tr>
<tr>
<td>3254</td>
<td>Pharmaceutical and Medicine Manufacturing</td>
<td>15,868</td>
<td></td>
</tr>
<tr>
<td>3333</td>
<td>Commercial and Service Industry Machinery Manufacturing</td>
<td>14,319</td>
<td></td>
</tr>
<tr>
<td>4841</td>
<td>General Freight Trucking</td>
<td>11,912</td>
<td></td>
</tr>
<tr>
<td>5417</td>
<td>Scientific Research and Development Services</td>
<td>11,240</td>
<td></td>
</tr>
<tr>
<td>4238</td>
<td>Machinery, Equipment, and Supplies Merchant Wholesalers</td>
<td>11,104</td>
<td></td>
</tr>
<tr>
<td>4235</td>
<td>Metal and Mineral (except Petroleum) Merchant Wholesalers</td>
<td>10,362</td>
<td></td>
</tr>
<tr>
<td>4885</td>
<td>Freight Transportation Arrangement</td>
<td>10,020</td>
<td></td>
</tr>
<tr>
<td>2381</td>
<td>Foundation, Structure, and Building Exterior Contractors</td>
<td>9,838</td>
<td></td>
</tr>
</tbody>
</table>

Table V.2. Bay Area’s 20 most mobile industries (1990-2012) that are dependent on industrial land

Figure V.4. Net industrial land-dependent jobs from moves, San Francisco Bay Area, 1990-2012.
Zooming in to specific industrial districts reveals distinct mobility patterns. For instance, South of Market in San Francisco saw a net loss of about 4,400 jobs from 1990 to 2012: 24,531 jobs moved out, and 20,102 jobs moved in. But as shown in Figure V.5, jobs moving out of SOMA typically head to other neighborhoods in the south of San Francisco or San Mateo County, while jobs moving into SOMA come from the entire region.

In Fremont, near the future Warm Springs BART station, jobs moving out head almost exclusively to the 580 corridor in the Livermore Valley and Silicon Valley, while jobs move in from much of Silicon Valley (Figure V.6). Overall, the area has experienced a net gain of almost 4,400 jobs, with 12,400 jobs moving out and 16,800 jobs in firms moving in.
The story in West Oakland is more mixed, with a net loss of 2,300 jobs from firm moves (Figure V.7). When firms leave, they go to a variety of locations mostly in the East Bay and Solano County. The firms that move in bring their jobs primarily from San Francisco and the inner East Bay.

INDUSTRIES DEPENDENT ON INDUSTRIAL LAND BY COUNTY

The following first examines the top 30 industries by employment among those dependent on exclusive industrial land for each of the nine counties. We then provide an overview of the industries dependent on mixed-use industrial land in the following section.

Within Santa Clara County, about half the industries dependent on industrial land experienced growth from 1990 to 2012. The largest industry dependent on exclusive industrial land is circuit board manufacturing. There are seven industries, a larger share than other counties, that are dependent on both exclusive and MU industrial land in Santa Clara including Electrical Contractors and Other Wiring Installation Contractors and Plumbing, Heating, and Air-Conditioning Contractors, which combined provide nearly 11,000 jobs. Two of the somewhat unexpected industries that made it to this list are Executive Offices and Other General Government Support. Interviewees noted that public facilities such as these are often built on industrial land out of expediency; thus these uses most likely do not need to be separated on industrial land.

Figure V.7. Destination of jobs moving out of West Oakland (top), and origin of jobs moving into West Oakland (bottom).
<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2010 % change</th>
<th>Exclus. Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>334412</td>
<td>Bare Printed Circuit Board Manufacturing</td>
<td>-.55%</td>
<td>2,026</td>
<td>2.65</td>
<td>Dependent</td>
<td>5,157</td>
<td>2.03</td>
<td>Dependent</td>
</tr>
<tr>
<td>924110</td>
<td>Administration of Air and Water Resource and Solid Waste Management Programs</td>
<td>0%</td>
<td>2,118</td>
<td>8.17</td>
<td>Dependent</td>
<td>300</td>
<td>0.44</td>
<td>Occurring</td>
</tr>
<tr>
<td>238210</td>
<td>Electrical Contractors and Other Wiring Installation Contractors</td>
<td>53%</td>
<td>1,490</td>
<td>2.18</td>
<td>Dependent</td>
<td>4,095</td>
<td>2.70</td>
<td>Dependent</td>
</tr>
<tr>
<td>238220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>12%</td>
<td>1,321</td>
<td>2.43</td>
<td>Dependent</td>
<td>3,235</td>
<td>2.24</td>
<td>Dependent</td>
</tr>
<tr>
<td>561720</td>
<td>Janitorial Services</td>
<td>157%</td>
<td>1,181</td>
<td>2.20</td>
<td>Dependent</td>
<td>2,110</td>
<td>1.48</td>
<td>Partial</td>
</tr>
<tr>
<td>239310</td>
<td>Drywall and Insulation Contractors</td>
<td>-.52%</td>
<td>1,157</td>
<td>5.52</td>
<td>Dependent</td>
<td>319</td>
<td>0.56</td>
<td>Occurring</td>
</tr>
<tr>
<td>921110</td>
<td>Executive Offices</td>
<td>0%</td>
<td>1,116</td>
<td>4.10</td>
<td>Dependent</td>
<td>53</td>
<td>0.07</td>
<td>Occurring</td>
</tr>
<tr>
<td>332710</td>
<td>Machine Shops</td>
<td>6%</td>
<td>1,111</td>
<td>2.82</td>
<td>Dependent</td>
<td>3,054</td>
<td>2.92</td>
<td>Dependent</td>
</tr>
<tr>
<td>335412</td>
<td>Pharmaceutical Preparation Manufacturing</td>
<td>-.97%</td>
<td>1,018</td>
<td>4.66</td>
<td>Dependent</td>
<td>614</td>
<td>1.06</td>
<td>Partial</td>
</tr>
<tr>
<td>334515</td>
<td>Instrument Manufacturing for Measuring and Testing Electric and Electrical Signals</td>
<td>-.65%</td>
<td>1,012</td>
<td>2.67</td>
<td>Dependent</td>
<td>2,057</td>
<td>2.04</td>
<td>Dependent</td>
</tr>
<tr>
<td>334112</td>
<td>Computer Storage Device Manufacturing</td>
<td>-.82%</td>
<td>962</td>
<td>2.35</td>
<td>Dependent</td>
<td>862</td>
<td>0.79</td>
<td>Occurring</td>
</tr>
<tr>
<td>561730</td>
<td>Landscaping Services</td>
<td>85%</td>
<td>895</td>
<td>3.11</td>
<td>Dependent</td>
<td>795</td>
<td>1.04</td>
<td>Partial</td>
</tr>
<tr>
<td>334419</td>
<td>Other Electronic Component Manufacturing</td>
<td>-.55%</td>
<td>787</td>
<td>2.42</td>
<td>Dependent</td>
<td>2,223</td>
<td>2.58</td>
<td>Dependent</td>
</tr>
<tr>
<td>238320</td>
<td>Painting and Wall Covering Contractors</td>
<td>49%</td>
<td>786</td>
<td>3.81</td>
<td>Dependent</td>
<td>291</td>
<td>0.53</td>
<td>Occurring</td>
</tr>
<tr>
<td>484121</td>
<td>General Freight Trucking, Long-Distance, Truckload</td>
<td>-64%</td>
<td>675</td>
<td>6.97</td>
<td>Dependent</td>
<td>258</td>
<td>1.00</td>
<td>Partial</td>
</tr>
<tr>
<td>237110</td>
<td>Water and Sewer Line and Related Structures Construction</td>
<td>52%</td>
<td>640</td>
<td>9.04</td>
<td>Dependent</td>
<td>222</td>
<td>1.18</td>
<td>Partial</td>
</tr>
<tr>
<td>492210</td>
<td>Local Messengers and Local Delivery</td>
<td>-.21%</td>
<td>567</td>
<td>6.31</td>
<td>Dependent</td>
<td>144</td>
<td>0.60</td>
<td>Occurring</td>
</tr>
<tr>
<td>562111</td>
<td>Solid Waste Collection</td>
<td>360%</td>
<td>548</td>
<td>6.84</td>
<td>Dependent</td>
<td>162</td>
<td>0.76</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Commercial and Institutional Building Construction</td>
<td>32%</td>
<td>545</td>
<td>2.37</td>
<td>Dependent</td>
<td>708</td>
<td>1.29</td>
<td>Partial</td>
</tr>
<tr>
<td>811121</td>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>7%</td>
<td>537</td>
<td>3.70</td>
<td>Dependent</td>
<td>574</td>
<td>1.49</td>
<td>Partial</td>
</tr>
<tr>
<td>226320</td>
<td>Flooring Contractors</td>
<td>29%</td>
<td>527</td>
<td>7.55</td>
<td>Dependent</td>
<td>57</td>
<td>0.31</td>
<td>Occurring</td>
</tr>
<tr>
<td>611111</td>
<td>General Automotive Repair</td>
<td>13%</td>
<td>526</td>
<td>2.45</td>
<td>Dependent</td>
<td>497</td>
<td>0.07</td>
<td>Occurring</td>
</tr>
<tr>
<td>322211</td>
<td>Conjugated and Solid Fiber Box Manufacturing</td>
<td>-76%</td>
<td>506</td>
<td>8.46</td>
<td>Dependent</td>
<td>150</td>
<td>0.94</td>
<td>Occurring</td>
</tr>
<tr>
<td>332322</td>
<td>Sheet Metal Work Manufacturing</td>
<td>0%</td>
<td>463</td>
<td>2.93</td>
<td>Dependent</td>
<td>762</td>
<td>1.83</td>
<td>Partial</td>
</tr>
<tr>
<td>237310</td>
<td>Highway, Street, and Bridge Construction</td>
<td>-64%</td>
<td>456</td>
<td>5.19</td>
<td>Dependent</td>
<td>276</td>
<td>1.18</td>
<td>Partial</td>
</tr>
<tr>
<td>921190</td>
<td>Other General Government Support</td>
<td>0%</td>
<td>451</td>
<td>2.68</td>
<td>Dependent</td>
<td>215</td>
<td>0.48</td>
<td>Occurring</td>
</tr>
<tr>
<td>333314</td>
<td>Optical Instrument and Lens Manufacturing</td>
<td>-.92%</td>
<td>436</td>
<td>2.04</td>
<td>Dependent</td>
<td>2,269</td>
<td>4.00</td>
<td>Dependent</td>
</tr>
<tr>
<td>236210</td>
<td>Industrial Building Construction</td>
<td>62%</td>
<td>434</td>
<td>5.67</td>
<td>Dependent</td>
<td>100</td>
<td>0.55</td>
<td>Occurring</td>
</tr>
<tr>
<td>464210</td>
<td>Used Household and Office Goods Moving</td>
<td>-26%</td>
<td>420</td>
<td>6.93</td>
<td>Dependent</td>
<td>24</td>
<td>0.15</td>
<td>Occurring</td>
</tr>
<tr>
<td>465599</td>
<td>All Other Transit and Ground Passenger Transportation</td>
<td>273%</td>
<td>408</td>
<td>8.44</td>
<td>Dependent</td>
<td>62</td>
<td>0.46</td>
<td>Occurring</td>
</tr>
</tbody>
</table>

Table V.3. Top 30 Industries Dependent on Exclusive IL - Santa Clara County
In Alameda County as well, half of the industrial land-dependent industries are experiencing growth, while the other half are in decline. Car transmission and shipping boxes manufacturing both provide over 2,000 jobs and are highly dependent on Exclusive IL. Moreover, the top five industries in Alameda County dependent on light, medium, or heavy industrial land have relatively low employment numbers on MU IL, suggesting these industries are particularly reliant on exclusive industrial land. Only a few of the selected industries are dependent on both Exclusive and MU IL. These industries include: Industrial Machinery and Equipment Merchant Wholesalers, Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers, Highway, Street, and Bridge Construction, Poured Concrete Foundation and Structure Contractors, and Commercial Bakeries.

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2012 % change</th>
<th>Exclusive Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>336310</td>
<td>Motor Vehicle Transmission and Power Train Parts Manufacturing</td>
<td>-1%</td>
<td>2,405</td>
<td>9.33</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>322211</td>
<td>Contingent and Solid Film Box Manufacturing</td>
<td>-15%</td>
<td>2,229</td>
<td>7.38</td>
<td>Dependent</td>
<td>4</td>
<td>0.03</td>
<td>Occurring</td>
</tr>
<tr>
<td>326119</td>
<td>All Other Plastic Product Manufacturing</td>
<td>-1%</td>
<td>1,000</td>
<td>4.16</td>
<td>Dependent</td>
<td>22</td>
<td>0.17</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>-16%</td>
<td>1,925</td>
<td>3.17</td>
<td>Dependent</td>
<td>182</td>
<td>0.36</td>
<td>Occurring</td>
</tr>
<tr>
<td>404121</td>
<td>General Freight Trucking, Long-Distance, Trunkload</td>
<td>67%</td>
<td>1,727</td>
<td>7.00</td>
<td>Dependent</td>
<td>51</td>
<td>0.60</td>
<td>Occurring</td>
</tr>
<tr>
<td>423830</td>
<td>Industrial Machinery and Equipment Merchant Wholesalers</td>
<td>-14%</td>
<td>1,251</td>
<td>6.37</td>
<td>Dependent</td>
<td>329</td>
<td>2.60</td>
<td>Occurring</td>
</tr>
<tr>
<td>421210</td>
<td>Local Messengers and Local Delivery</td>
<td>42%</td>
<td>1,165</td>
<td>3.07</td>
<td>Dependent</td>
<td>77</td>
<td>0.19</td>
<td>Occurring</td>
</tr>
<tr>
<td>322630</td>
<td>Regulation and Administration of Transportation Programs</td>
<td>0%</td>
<td>1,260</td>
<td>9.42</td>
<td>Dependent</td>
<td>62</td>
<td>0.36</td>
<td>Occurring</td>
</tr>
<tr>
<td>423492</td>
<td>Other Grocery and Related Products Merchant Wholesalers</td>
<td>-4%</td>
<td>1,092</td>
<td>2.83</td>
<td>Dependent</td>
<td>122</td>
<td>0.56</td>
<td>Occurring</td>
</tr>
<tr>
<td>480110</td>
<td>Freight Transportation Arrangements</td>
<td>207%</td>
<td>816</td>
<td>5.09</td>
<td>Dependent</td>
<td>42</td>
<td>2.67</td>
<td>Occurring</td>
</tr>
<tr>
<td>333119</td>
<td>Other Commercial Printing</td>
<td>N/A</td>
<td>836</td>
<td>4.85</td>
<td>Dependent</td>
<td>28</td>
<td>0.61</td>
<td>Occurring</td>
</tr>
<tr>
<td>423610</td>
<td>Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers</td>
<td>6%</td>
<td>814</td>
<td>3.46</td>
<td>Dependent</td>
<td>335</td>
<td>2.52</td>
<td>Occurring</td>
</tr>
<tr>
<td>336211</td>
<td>Motor Vehicle Body Manufacturing</td>
<td>-21%</td>
<td>723</td>
<td>8.58</td>
<td>Dependent</td>
<td>3</td>
<td>0.09</td>
<td>Occurring</td>
</tr>
<tr>
<td>444110</td>
<td>General Freight Trucking, Local</td>
<td>10%</td>
<td>720</td>
<td>2.75</td>
<td>Dependent</td>
<td>82</td>
<td>0.70</td>
<td>Occurring</td>
</tr>
<tr>
<td>423510</td>
<td>Metal Service Centers and Other Metal Merchant Wholesalers</td>
<td>-29%</td>
<td>697</td>
<td>4.42</td>
<td>Dependent</td>
<td>7</td>
<td>0.11</td>
<td>Occurring</td>
</tr>
<tr>
<td>424730</td>
<td>Dairy Product (except Dairy) Merchant Wholesalers</td>
<td>-61%</td>
<td>679</td>
<td>4.73</td>
<td>Dependent</td>
<td>62</td>
<td>0.10</td>
<td>Occurring</td>
</tr>
<tr>
<td>423110</td>
<td>Automobile and Other Motor Vehicle Merchant Wholesalers</td>
<td>-71%</td>
<td>668</td>
<td>5.58</td>
<td>Dependent</td>
<td>7</td>
<td>0.03</td>
<td>Occurring</td>
</tr>
<tr>
<td>424200</td>
<td>Wine and Distilled Alcoholic Beverage Merchant Wholesalers</td>
<td>127%</td>
<td>654</td>
<td>5.04</td>
<td>Dependent</td>
<td>14</td>
<td>0.30</td>
<td>Occurring</td>
</tr>
<tr>
<td>236310</td>
<td>Highway, Street, and Bridge Construction</td>
<td>-2%</td>
<td>647</td>
<td>2.76</td>
<td>Dependent</td>
<td>200</td>
<td>2.15</td>
<td>Occurring</td>
</tr>
<tr>
<td>238110</td>
<td>Poured Concrete Foundation and Structure Contractors</td>
<td>2%</td>
<td>644</td>
<td>3.30</td>
<td>Dependent</td>
<td>234</td>
<td>3.20</td>
<td>Occurring</td>
</tr>
<tr>
<td>211110</td>
<td>Commercial Bakeries</td>
<td>23%</td>
<td>576</td>
<td>3.56</td>
<td>Dependent</td>
<td>400</td>
<td>3.34</td>
<td>Occurring</td>
</tr>
<tr>
<td>354220</td>
<td>Painting and Wall Covering Contractors</td>
<td>14%</td>
<td>563</td>
<td>2.40</td>
<td>Dependent</td>
<td>69</td>
<td>0.74</td>
<td>Occurring</td>
</tr>
<tr>
<td>333312</td>
<td>Fabricated Structural Metal Manufacturing</td>
<td>-6%</td>
<td>551</td>
<td>3.91</td>
<td>Dependent</td>
<td>43</td>
<td>0.77</td>
<td>Occurring</td>
</tr>
<tr>
<td>321112</td>
<td>Soil Turfand Landscape Investment</td>
<td>74%</td>
<td>350</td>
<td>9.31</td>
<td>Dependent</td>
<td>3</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>481999</td>
<td>Other Services Related to Advertising</td>
<td>-1%</td>
<td>227</td>
<td>6.14</td>
<td>Dependent</td>
<td>6</td>
<td>0.10</td>
<td>Occurring</td>
</tr>
<tr>
<td>562910</td>
<td>Remediation Services</td>
<td>-17%</td>
<td>222</td>
<td>4.00</td>
<td>Dependent</td>
<td>90</td>
<td>1.73</td>
<td>Partial</td>
</tr>
<tr>
<td>322492</td>
<td>Leather and Other Leather Product (except Leather Goods) Manufacturing</td>
<td>-10%</td>
<td>512</td>
<td>6.69</td>
<td>Dependent</td>
<td>90</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>423940</td>
<td>Industrial Supplies Merchant Wholesalers</td>
<td>-44%</td>
<td>502</td>
<td>3.25</td>
<td>Dependent</td>
<td>54</td>
<td>0.16</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Heavy Duty Truck Manufacturing</td>
<td>133%</td>
<td>200</td>
<td>9.20</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>338310</td>
<td>Coal Preparation and Mining</td>
<td>-39%</td>
<td>189</td>
<td>2.73</td>
<td>Dependent</td>
<td>39</td>
<td>0.56</td>
<td>Occurring</td>
</tr>
</tbody>
</table>

Table V.4. Top 30 Industries Dependent on Exclusive IL - Alameda County
REPORT: PART V

Contra Costa County has slightly more declining than growing industries, and the growing industries are considerably smaller than those in decline. Within Contra Costa County, Petroleum Refineries make up the largest share of employment among industries dependent on industrial land followed by handbag and purse manufacturing. Again, the top five industries have relatively low levels of employment on land zoned MU-industrial and only Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables, the Postal Service, and Other Scientific and Technical Consulting Services are dependent on both Exclusive and MU IL.

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>2010-2012 % change</th>
<th>Exclusive Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>324110</td>
<td>Petroleum Refineries</td>
<td>-25%</td>
<td>1,345</td>
<td>6.98</td>
<td>Dependent</td>
<td>350</td>
<td>1.51</td>
<td>Partial</td>
</tr>
<tr>
<td>316992</td>
<td>Women’s Handbag and Purse Manufacturing</td>
<td>0%</td>
<td>1,020</td>
<td>14.39</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>311312</td>
<td>Cane Sugar Refining</td>
<td>N/A</td>
<td>950</td>
<td>16.41</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>351221</td>
<td>Rolled Steel Shape Manufacturing</td>
<td>-9%</td>
<td>750</td>
<td>16.41</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>6%</td>
<td>553</td>
<td>3.15</td>
<td>Dependent</td>
<td>197</td>
<td>1.07</td>
<td>Partial</td>
</tr>
<tr>
<td>333413</td>
<td>Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables</td>
<td>-63%</td>
<td>533</td>
<td>9.76</td>
<td>Dependent</td>
<td>330</td>
<td>5.72</td>
<td>Dependent</td>
</tr>
<tr>
<td>238310</td>
<td>Drywall and Insulation Contractors</td>
<td>-93%</td>
<td>505</td>
<td>6.80</td>
<td>Dependent</td>
<td>29</td>
<td>0.50</td>
<td>Occurring</td>
</tr>
<tr>
<td>221110</td>
<td>Site Preparation Contractors</td>
<td>-9%</td>
<td>416</td>
<td>5.32</td>
<td>Dependent</td>
<td>29</td>
<td>0.50</td>
<td>Occurring</td>
</tr>
<tr>
<td>232210</td>
<td>Highway, Street, and Bridge Construction</td>
<td>-5%</td>
<td>408</td>
<td>6.74</td>
<td>Dependent</td>
<td>10</td>
<td>0.13</td>
<td>Occurring</td>
</tr>
<tr>
<td>493110</td>
<td>Postal Service</td>
<td>0%</td>
<td>300</td>
<td>2.61</td>
<td>Dependent</td>
<td>448</td>
<td>2.79</td>
<td>Dependent</td>
</tr>
<tr>
<td>523120</td>
<td>Administration of Public Health Programs</td>
<td>0%</td>
<td>271</td>
<td>3.34</td>
<td>Dependent</td>
<td>50</td>
<td>0.43</td>
<td>Occurring</td>
</tr>
<tr>
<td>444990</td>
<td>Other Scientific and Technical Consulting Services</td>
<td>17%</td>
<td>266</td>
<td>4.65</td>
<td>Dependent</td>
<td>174</td>
<td>2.17</td>
<td>Dependent</td>
</tr>
<tr>
<td>334519</td>
<td>Other Measuring and Controlling Device Manufacturing</td>
<td>11%</td>
<td>250</td>
<td>12.85</td>
<td>Dependent</td>
<td>20</td>
<td>0.70</td>
<td>Occurring</td>
</tr>
<tr>
<td>422920</td>
<td>Furniture and Home Furnishings Merchant Wholesalers</td>
<td>-25%</td>
<td>242</td>
<td>9.34</td>
<td>Dependent</td>
<td>1</td>
<td>0.04</td>
<td>Occurring</td>
</tr>
<tr>
<td>446400</td>
<td>Other Support Activities for Road Transportation</td>
<td>-44%</td>
<td>201</td>
<td>16.03</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>173200</td>
<td>Commercial and Institutional Building Construction</td>
<td>36%</td>
<td>245</td>
<td>2.99</td>
<td>Dependent</td>
<td>73</td>
<td>0.99</td>
<td>Occurring</td>
</tr>
<tr>
<td>232220</td>
<td>Home Furnishings Merchant Wholesalers</td>
<td>-49%</td>
<td>223</td>
<td>6.65</td>
<td>Dependent</td>
<td>22</td>
<td>0.94</td>
<td>Occurring</td>
</tr>
<tr>
<td>337210</td>
<td>Mattress Manufacturing</td>
<td>-29%</td>
<td>200</td>
<td>15.19</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>311111</td>
<td>Commercial Bakersies</td>
<td>63%</td>
<td>198</td>
<td>10.13</td>
<td>Dependent</td>
<td>2</td>
<td>0.10</td>
<td>Occurring</td>
</tr>
<tr>
<td>238990</td>
<td>All Other Specialty Trade Contractors</td>
<td>-60%</td>
<td>188</td>
<td>3.54</td>
<td>Dependent</td>
<td>67</td>
<td>1.20</td>
<td>Partial</td>
</tr>
<tr>
<td>516111</td>
<td>Internet Service Providers</td>
<td>N/A</td>
<td>187</td>
<td>5.63</td>
<td>Dependent</td>
<td>5</td>
<td>0.14</td>
<td>Occurring</td>
</tr>
<tr>
<td>411110</td>
<td>General Freight Trucking, Local</td>
<td>-27%</td>
<td>162</td>
<td>2.94</td>
<td>Dependent</td>
<td>90</td>
<td>1.24</td>
<td>Partial</td>
</tr>
<tr>
<td>355188</td>
<td>All Other Basic Organic Chemical Manufacturing</td>
<td>N/A</td>
<td>127</td>
<td>10.41</td>
<td>Dependent</td>
<td>2</td>
<td>0.31</td>
<td>Occurring</td>
</tr>
<tr>
<td>311310</td>
<td>Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance</td>
<td>-27%</td>
<td>121</td>
<td>2.99</td>
<td>Dependent</td>
<td>68</td>
<td>1.14</td>
<td>Partial</td>
</tr>
<tr>
<td>335111</td>
<td>Plastic Material and Resin Manufacturing</td>
<td>20%</td>
<td>118</td>
<td>12.14</td>
<td>Dependent</td>
<td>7</td>
<td>0.48</td>
<td>Occurring</td>
</tr>
<tr>
<td>485112</td>
<td>Bus and Other Motor Vehicle Transit Systems</td>
<td>14%</td>
<td>114</td>
<td>15.85</td>
<td>Dependent</td>
<td>3</td>
<td>0.73</td>
<td>Occurring</td>
</tr>
<tr>
<td>32414</td>
<td>Direct Health and Medical Insurance Carriers</td>
<td>-46%</td>
<td>114</td>
<td>3.21</td>
<td>Dependent</td>
<td>78</td>
<td>1.32</td>
<td>Partial</td>
</tr>
<tr>
<td>444110</td>
<td>Beer and Ale Makers, Wholesalers</td>
<td>-12%</td>
<td>112</td>
<td>10.41</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>364120</td>
<td>Convention and Trade Show Organizers</td>
<td>-9%</td>
<td>100</td>
<td>13.60</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>562920</td>
<td>Religious and Educational Services</td>
<td>-61%</td>
<td>149</td>
<td>7.50</td>
<td>Dependent</td>
<td>7</td>
<td>0.34</td>
<td>Occurring</td>
</tr>
</tbody>
</table>

Table V.5. Top 30 Industries Dependent on Exclusive IL - Contra Costa County
In San Francisco County, there are almost twice as many Declining industries than growing industries that are dependent on industrial land, and the growing industries are considerably smaller than those in decline. Many of the growing industries are in construction; surprisingly, several of the industries dependent on exclusive industrial land are services.

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2012 % change</th>
<th>Exclusive Jobs</th>
<th>LJ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LJ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>491110</td>
<td>Postal Service</td>
<td>0%</td>
<td>1,460</td>
<td>11.51</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>234190</td>
<td>Electrical Contractors and Other Wiring Installation Contractors</td>
<td>12%</td>
<td>967</td>
<td>5.82</td>
<td>Dependent</td>
<td>405</td>
<td>1.91</td>
<td>Partial</td>
</tr>
<tr>
<td>311615</td>
<td>Poultry Processing</td>
<td>0%</td>
<td>847</td>
<td>16.92</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>424800</td>
<td>Fresh Fruit and Vegetable Merchant Wholesalers</td>
<td>54%</td>
<td>584</td>
<td>15.23</td>
<td>Dependent</td>
<td>18</td>
<td>0.31</td>
<td>Occurring</td>
</tr>
<tr>
<td>315322</td>
<td>Women’s and girls’ cut and sew blouse and shirt manufacturing</td>
<td>N/A</td>
<td>575</td>
<td>15.62</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>321110</td>
<td>Wood Window and Door Manufacturing</td>
<td>51%</td>
<td>548</td>
<td>15.58</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>922120</td>
<td>Police Protection</td>
<td>0%</td>
<td>506</td>
<td>4.33</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>361200</td>
<td>Janitorial Services</td>
<td>69%</td>
<td>445</td>
<td>3.99</td>
<td>Dependent</td>
<td>311</td>
<td>2.18</td>
<td>Dependent</td>
</tr>
<tr>
<td>334220</td>
<td>Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing</td>
<td>-99%</td>
<td>424</td>
<td>11.94</td>
<td>Dependent</td>
<td>122</td>
<td>2.69</td>
<td>Dependent</td>
</tr>
<tr>
<td>238220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>-45%</td>
<td>421</td>
<td>2.62</td>
<td>Dependent</td>
<td>182</td>
<td>1.23</td>
<td>Partial</td>
</tr>
<tr>
<td>452910</td>
<td>Warehouse Clubs and Supercenters</td>
<td>-76%</td>
<td>405</td>
<td>16.92</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>812331</td>
<td>Linen Supply</td>
<td>-81%</td>
<td>390</td>
<td>16.62</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>926120</td>
<td>Regulation and Administration of Transportation Programs</td>
<td>0%</td>
<td>350</td>
<td>2.73</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>226220</td>
<td>Commercial and Institutional Building Construction</td>
<td>26%</td>
<td>348</td>
<td>2.09</td>
<td>Dependent</td>
<td>623</td>
<td>2.92</td>
<td>Dependent</td>
</tr>
<tr>
<td>485310</td>
<td>Taxi Service</td>
<td>-7%</td>
<td>346</td>
<td>13.19</td>
<td>Dependent</td>
<td>2</td>
<td>0.06</td>
<td>Occurring</td>
</tr>
<tr>
<td>811111</td>
<td>General Automotive Repair</td>
<td>-23%</td>
<td>327</td>
<td>4.02</td>
<td>Dependent</td>
<td>276</td>
<td>2.66</td>
<td>Dependent</td>
</tr>
<tr>
<td>541613</td>
<td>Marketing Consulting Services</td>
<td>109%</td>
<td>324</td>
<td>2.42</td>
<td>Dependent</td>
<td>343</td>
<td>2.01</td>
<td>Partial</td>
</tr>
<tr>
<td>238510</td>
<td>Glass and Glazing Contractors</td>
<td>-35%</td>
<td>317</td>
<td>12.61</td>
<td>Dependent</td>
<td>13</td>
<td>0.14</td>
<td>Occurring</td>
</tr>
<tr>
<td>424490</td>
<td>Other Grocery and Related Products Merchant Wholesalers</td>
<td>-57%</td>
<td>305</td>
<td>5.20</td>
<td>Dependent</td>
<td>39</td>
<td>0.53</td>
<td>Occurring</td>
</tr>
<tr>
<td>922190</td>
<td>Legal Counsel and Prosecution</td>
<td>0%</td>
<td>206</td>
<td>5.07</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>4441</td>
<td>Building Material and Supplies Dealers</td>
<td>N/A</td>
<td>205</td>
<td>8.06</td>
<td>Dependent</td>
<td>57</td>
<td>1.26</td>
<td>Partial</td>
</tr>
<tr>
<td>485410</td>
<td>School and Employee Bus Transportation</td>
<td>109%</td>
<td>285</td>
<td>16.86</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>423220</td>
<td>Home Furnishing Merchant Wholesalers</td>
<td>-59%</td>
<td>276</td>
<td>5.56</td>
<td>Dependent</td>
<td>117</td>
<td>1.80</td>
<td>Partial</td>
</tr>
<tr>
<td>423210</td>
<td>Furniture Merchant Wholesalers</td>
<td>-35%</td>
<td>273</td>
<td>5.51</td>
<td>Dependent</td>
<td>107</td>
<td>1.69</td>
<td>Partial</td>
</tr>
<tr>
<td>511510</td>
<td>Television Broadcasting</td>
<td>-9%</td>
<td>269</td>
<td>2.27</td>
<td>Dependent</td>
<td>435</td>
<td>2.87</td>
<td>Dependent</td>
</tr>
<tr>
<td>484110</td>
<td>General Freight Trucking, Local</td>
<td>-95%</td>
<td>256</td>
<td>7.60</td>
<td>Dependent</td>
<td>19</td>
<td>0.44</td>
<td>Occurring</td>
</tr>
<tr>
<td>424930</td>
<td>Florist, Nursery Stock, and Flowers Supplies Merchant Wholesalers</td>
<td>-45%</td>
<td>205</td>
<td>13.65</td>
<td>Dependent</td>
<td>15</td>
<td>0.63</td>
<td>Occurring</td>
</tr>
<tr>
<td>238330</td>
<td>Flooring Contractors</td>
<td>7%</td>
<td>216</td>
<td>10.27</td>
<td>Dependent</td>
<td>11</td>
<td>0.41</td>
<td>Occurring</td>
</tr>
<tr>
<td>922190</td>
<td>Other Justice, Public Order, and Safety Activities</td>
<td>0%</td>
<td>217</td>
<td>4.13</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>442210</td>
<td>Floor Covering Stores</td>
<td>-69%</td>
<td>213</td>
<td>8.60</td>
<td>Dependent</td>
<td>16</td>
<td>0.51</td>
<td>Occurring</td>
</tr>
</tbody>
</table>

Table V.6. Top 30 Industries Dependent on Exclusive IL - San Francisco County
Of all the Bay Area counties, San Mateo has the greatest share of growing industries and jobs that are dependent on industrial land. Likely because of SFO, the top industry dependent on Exclusive IL is Freight Transportation Arrangement, though it is also dependent on MU IL. Perhaps because so much of the land in the county is mixed-use, many industries are concentrated on both Exclusive and Mixed-Use industrial land. There is very little heavy manufacturing in the county.

Table V.7. Top 30 Industries Dependent on Exclusive IL - San Mateo County

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2012 % change</th>
<th>Exclusive Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>488520</td>
<td>Freight Transportation Arrangement</td>
<td>23%</td>
<td>1,109</td>
<td>4.05</td>
<td>Dependent</td>
<td>443</td>
<td>2.21</td>
<td>Dependent</td>
</tr>
<tr>
<td>488119</td>
<td>Other Airport Operations</td>
<td>744%</td>
<td>669</td>
<td>2.42</td>
<td>Dependent</td>
<td>7</td>
<td>0.02</td>
<td>Occurring</td>
</tr>
<tr>
<td>561720</td>
<td>Janitorial Services</td>
<td>41%</td>
<td>830</td>
<td>3.21</td>
<td>Dependent</td>
<td>310</td>
<td>0.77</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>79%</td>
<td>656</td>
<td>2.87</td>
<td>Dependent</td>
<td>658</td>
<td>1.85</td>
<td>Partial</td>
</tr>
<tr>
<td>811111</td>
<td>General Automotive Repair</td>
<td>14%</td>
<td>520</td>
<td>4.05</td>
<td>Dependent</td>
<td>146</td>
<td>0.72</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Commercial and Institutional Building Construction</td>
<td>12%</td>
<td>492</td>
<td>2.08</td>
<td>Dependent</td>
<td>468</td>
<td>1.27</td>
<td>Partial</td>
</tr>
<tr>
<td>424490</td>
<td>Other Grocery and Related Products Merchant Wholesalers</td>
<td>-41%</td>
<td>453</td>
<td>5.11</td>
<td>Dependent</td>
<td>217</td>
<td>1.57</td>
<td>Partial</td>
</tr>
<tr>
<td>423330</td>
<td>Industrial Machinery and Equipment Merchant Wholesalers</td>
<td>-73%</td>
<td>439</td>
<td>5.65</td>
<td>Dependent</td>
<td>141</td>
<td>1.16</td>
<td>Partial</td>
</tr>
<tr>
<td>518210</td>
<td>Data Processing, Hosting, and Related Services</td>
<td>642%</td>
<td>437</td>
<td>2.29</td>
<td>Dependent</td>
<td>417</td>
<td>1.65</td>
<td>Partial</td>
</tr>
<tr>
<td>334220</td>
<td>Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing</td>
<td>-26%</td>
<td>430</td>
<td>3.44</td>
<td>Dependent</td>
<td>235</td>
<td>1.21</td>
<td>Partial</td>
</tr>
<tr>
<td>812320</td>
<td>Drycleaning and Laundry Services (except Coin-Operated)</td>
<td>-47%</td>
<td>428</td>
<td>4.42</td>
<td>Dependent</td>
<td>145</td>
<td>0.96</td>
<td>Occurring</td>
</tr>
<tr>
<td>351311</td>
<td>Converting-Wiring Device Manufacturing</td>
<td>-100%</td>
<td>423</td>
<td>11.90</td>
<td>Dependent</td>
<td>20</td>
<td>0.36</td>
<td>Occurring</td>
</tr>
<tr>
<td>561621</td>
<td>Security Systems Services (except Locksmiths)</td>
<td>-81%</td>
<td>405</td>
<td>6.47</td>
<td>Dependent</td>
<td>46</td>
<td>0.45</td>
<td>Occurring</td>
</tr>
<tr>
<td>332710</td>
<td>Machine Shops</td>
<td>-7%</td>
<td>401</td>
<td>4.72</td>
<td>Dependent</td>
<td>123</td>
<td>0.93</td>
<td>Occurring</td>
</tr>
<tr>
<td>334113</td>
<td>Computer Terminal Manufacturing</td>
<td>N/A</td>
<td>400</td>
<td>9.59</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>237310</td>
<td>Highway, Street, and Bridge Construction</td>
<td>-71%</td>
<td>376</td>
<td>6.76</td>
<td>Dependent</td>
<td>53</td>
<td>0.61</td>
<td>Occurring</td>
</tr>
<tr>
<td>811121</td>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>2%</td>
<td>329</td>
<td>4.41</td>
<td>Dependent</td>
<td>107</td>
<td>0.92</td>
<td>Occurring</td>
</tr>
<tr>
<td>334510</td>
<td>Electromedical and Electrosurgical Apparatus Manufacturing</td>
<td>80%</td>
<td>326</td>
<td>5.34</td>
<td>Dependent</td>
<td>71</td>
<td>0.75</td>
<td>Occurring</td>
</tr>
<tr>
<td>325510</td>
<td>Paint and Coating Manufacturing</td>
<td>-70%</td>
<td>323</td>
<td>12.20</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>541720</td>
<td>Landscaping Services</td>
<td>159%</td>
<td>308</td>
<td>2.11</td>
<td>Dependent</td>
<td>126</td>
<td>1.87</td>
<td>Partial</td>
</tr>
<tr>
<td>335311</td>
<td>Power, Distribution, and Specialty Transformer Manufacturing</td>
<td>28%</td>
<td>295</td>
<td>12.06</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238360</td>
<td>Tile and Terrazzo Contractors</td>
<td>60%</td>
<td>258</td>
<td>7.07</td>
<td>Dependent</td>
<td>32</td>
<td>0.56</td>
<td>Occurring</td>
</tr>
<tr>
<td>441110</td>
<td>Gasoline Stations with Convenience Stores</td>
<td>-51%</td>
<td>240</td>
<td>4.22</td>
<td>Dependent</td>
<td>30</td>
<td>0.34</td>
<td>Occurring</td>
</tr>
<tr>
<td>323114</td>
<td>Quick Printing</td>
<td>N/A</td>
<td>239</td>
<td>3.39</td>
<td>Dependent</td>
<td>360</td>
<td>3.28</td>
<td>Dependent</td>
</tr>
<tr>
<td>238320</td>
<td>Painting and Wall Covering Contractors</td>
<td>46%</td>
<td>238</td>
<td>3.55</td>
<td>Dependent</td>
<td>112</td>
<td>0.71</td>
<td>Occurring</td>
</tr>
<tr>
<td>6241</td>
<td>Individual and Family Services</td>
<td>N/A</td>
<td>228</td>
<td>2.21</td>
<td>Dependent</td>
<td>61</td>
<td>0.38</td>
<td>Occurring</td>
</tr>
<tr>
<td>423640</td>
<td>Industrial Supplies Merchant Wholesalers</td>
<td>-76%</td>
<td>210</td>
<td>6.35</td>
<td>Dependent</td>
<td>30</td>
<td>0.58</td>
<td>Occurring</td>
</tr>
<tr>
<td>423220</td>
<td>Home Furnishing Merchant Wholesalers</td>
<td>-18%</td>
<td>196</td>
<td>5.52</td>
<td>Dependent</td>
<td>50</td>
<td>0.89</td>
<td>Occurring</td>
</tr>
<tr>
<td>424660</td>
<td>Food and Seafood Merchant Wholesalers</td>
<td>206%</td>
<td>193</td>
<td>5.87</td>
<td>Dependent</td>
<td>6</td>
<td>0.12</td>
<td>Occurring</td>
</tr>
<tr>
<td>423120</td>
<td>Motor Vehicle Supplies and New Parts Merchant Wholesalers</td>
<td>29%</td>
<td>189</td>
<td>4.27</td>
<td>Dependent</td>
<td>192</td>
<td>2.86</td>
<td>Dependent</td>
</tr>
</tbody>
</table>
Like San Mateo County, Solano County has a much larger share of industries dependent on industrial land that are growing, rather than declining. However, the total number of jobs is much lower. Top industries dependent on exclusive industrial land are refineries, construction, heavy manufacturing, and food-related wholesale.

Aside from the expected manufacturing, wholesale, and construction industries that are dependent on exclusive industrial land in the Bay Area, transportation industries also play a prominent role in exclusive industrial land employment. In addition to Freight Trucking and Passenger Air Transportation in a couple of key counties, car and automobile-related industries appear near the top of the list in most of the counties.

Table V.8. Top 30 Industries Dependent on Exclusive IL - Solano County

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2012 % change</th>
<th>Pure Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>324110</td>
<td>Petroleum Refineries</td>
<td>52%</td>
<td>505</td>
<td>11.02</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>-22%</td>
<td>422</td>
<td>3.34</td>
<td>Dependent</td>
<td>245</td>
<td>1.75</td>
<td>Partial</td>
</tr>
<tr>
<td>311310</td>
<td>Nonchocolate Confectionery Manufacturing</td>
<td>450%</td>
<td>440</td>
<td>10.94</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>424820</td>
<td>Wine and Distilled Alcoholic Beverage Merchant Wholesalers</td>
<td>-33933%</td>
<td>435</td>
<td>9.49</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>416190</td>
<td>Cosmetics, Beauty Supplies, and Perfume Stores</td>
<td>282%</td>
<td>302</td>
<td>7.11</td>
<td>Dependent</td>
<td>1</td>
<td>0.02</td>
<td>Occurring</td>
</tr>
<tr>
<td>423840</td>
<td>Industrial Supplies Merchant Wholesalers</td>
<td>322%</td>
<td>276</td>
<td>3.04</td>
<td>Dependent</td>
<td>6</td>
<td>0.17</td>
<td>Occurring</td>
</tr>
<tr>
<td>238210</td>
<td>Electrical Contractors and Other Wiring Installation Contractors</td>
<td>-4%</td>
<td>263</td>
<td>2.74</td>
<td>Dependent</td>
<td>232</td>
<td>2.34</td>
<td>Dependent</td>
</tr>
<tr>
<td>561499</td>
<td>All Other Business Support Services</td>
<td>-92%</td>
<td>250</td>
<td>9.23</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>332420</td>
<td>Metal Can Manufacturing</td>
<td>0%</td>
<td>231</td>
<td>11.04</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>236220</td>
<td>Commercial and Institutional Building Construction</td>
<td>-24%</td>
<td>229</td>
<td>3.09</td>
<td>Dependent</td>
<td>38</td>
<td>0.50</td>
<td>Occurring</td>
</tr>
<tr>
<td>325410</td>
<td>Pharmaceutical Preparation Manufacturing</td>
<td>138477%</td>
<td>228</td>
<td>7.28</td>
<td>Dependent</td>
<td>111</td>
<td>3.43</td>
<td>Partial</td>
</tr>
<tr>
<td>562910</td>
<td>Remediation Services</td>
<td>-48%</td>
<td>218</td>
<td>3.63</td>
<td>Dependent</td>
<td>53</td>
<td>2.03</td>
<td>Dependent</td>
</tr>
<tr>
<td>238120</td>
<td>Structural Steel and Precast Concrete Contractors</td>
<td>-71%</td>
<td>213</td>
<td>10.01</td>
<td>Dependent</td>
<td>2</td>
<td>0.09</td>
<td>Occurring</td>
</tr>
<tr>
<td>334510</td>
<td>Analytical Laboratory Instrument Manufacturing</td>
<td>1047%</td>
<td>206</td>
<td>2.56</td>
<td>Dependent</td>
<td>650</td>
<td>7.82</td>
<td>Dependent</td>
</tr>
<tr>
<td>423430</td>
<td>Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers</td>
<td>-1943%</td>
<td>198</td>
<td>4.59</td>
<td>Dependent</td>
<td>244</td>
<td>5.48</td>
<td>Dependent</td>
</tr>
<tr>
<td>423230</td>
<td>Home Furnishing Merchant Wholesalers</td>
<td>63%</td>
<td>186</td>
<td>5.25</td>
<td>Dependent</td>
<td>147</td>
<td>4.02</td>
<td>Dependent</td>
</tr>
<tr>
<td>333460</td>
<td>Masonry Contractors</td>
<td>-92%</td>
<td>183</td>
<td>6.69</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>424130</td>
<td>Industrial and Personal Service Paper Merchant Wholesalers</td>
<td>-6%</td>
<td>180</td>
<td>3.99</td>
<td>Dependent</td>
<td>33</td>
<td>1.60</td>
<td>Partial</td>
</tr>
<tr>
<td>423120</td>
<td>Motor Vehicle Supplies and New Parts Merchant Wholesalers</td>
<td>-14%</td>
<td>168</td>
<td>4.93</td>
<td>Dependent</td>
<td>84</td>
<td>2.39</td>
<td>Dependent</td>
</tr>
<tr>
<td>812331</td>
<td>Linen Supply</td>
<td>-100%</td>
<td>164</td>
<td>3.54</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>311514</td>
<td>Dry, Condensed, and Evaporated Dairy Product Manufacturing</td>
<td>-34212%</td>
<td>160</td>
<td>11.04</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>327911</td>
<td>Cut Stone and Stone Product Manufacturing</td>
<td>-3377%</td>
<td>156</td>
<td>10.77</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238910</td>
<td>Site Preparation Contractors</td>
<td>-80%</td>
<td>152</td>
<td>5.93</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>333333</td>
<td>Plate Work Manufacturing</td>
<td>-7121%</td>
<td>150</td>
<td>11.04</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238390</td>
<td>Other Building Finishing Contractors</td>
<td>-74%</td>
<td>150</td>
<td>7.17</td>
<td>Dependent</td>
<td>5</td>
<td>0.23</td>
<td>Occurring</td>
</tr>
<tr>
<td>237310</td>
<td>Highway, Street, and Bridge Construction</td>
<td>-34%</td>
<td>150</td>
<td>2.25</td>
<td>Dependent</td>
<td>61</td>
<td>0.89</td>
<td>Occurring</td>
</tr>
<tr>
<td>493110</td>
<td>General Warehousing and Storage</td>
<td>2127%</td>
<td>146</td>
<td>2.60</td>
<td>Dependent</td>
<td>445</td>
<td>7.66</td>
<td>Dependent</td>
</tr>
<tr>
<td>484110</td>
<td>General Freight Trucking, Local</td>
<td>16%</td>
<td>139</td>
<td>2.73</td>
<td>Dependent</td>
<td>9</td>
<td>0.17</td>
<td>Occurring</td>
</tr>
<tr>
<td>311910</td>
<td>All Other Miscellaneous Food Manufacturing</td>
<td>-96%</td>
<td>130</td>
<td>11.04</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>56221</td>
<td>Waste Treatment and Disposal</td>
<td>N/A</td>
<td>130</td>
<td>3.25</td>
<td>Dependent</td>
<td>3</td>
<td>0.18</td>
<td>Occurring</td>
</tr>
</tbody>
</table>
### Table V.9. Top 20 Industries Dependent on MU Industrial Land

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>MU Jobs</th>
<th>MU LQ</th>
<th>Status</th>
<th>Pure Jobs</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>334413</td>
<td>Semiconductor and Related Device Manufacturing</td>
<td>27,361</td>
<td>2.96</td>
<td>Dependent</td>
<td>4,721</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>334119</td>
<td>Other Computer Peripheral Equipment Manufacturing</td>
<td>11,100</td>
<td>3.48</td>
<td>Dependent</td>
<td>690</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>423690</td>
<td>Other Electronic Parts and Equipment Merchant Wholesalers</td>
<td>8,603</td>
<td>3.25</td>
<td>Dependent</td>
<td>794</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>541618</td>
<td>Other Management Consulting Services</td>
<td>5,510</td>
<td>4.69</td>
<td>Dependent</td>
<td>230</td>
<td>San Mateo</td>
</tr>
<tr>
<td>334412</td>
<td>Bare Printed Circuit Board Manufacturing</td>
<td>5,157</td>
<td>2.03</td>
<td>Dependent</td>
<td>2,826</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>238210</td>
<td>Electrical Contractors and Other Wiring Installation Contractors</td>
<td>4,895</td>
<td>2.70</td>
<td>Dependent</td>
<td>1,490</td>
<td>Santa Clara</td>
</tr>
<tr>
<td>334512</td>
<td>Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use</td>
<td>3,000</td>
<td>7.97</td>
<td>Dependent</td>
<td>0</td>
<td>San Mateo</td>
</tr>
<tr>
<td>622110</td>
<td>General Medical and Surgical Hospitals</td>
<td>2,885</td>
<td>2.58</td>
<td>Dependent</td>
<td>0</td>
<td>San Francisco</td>
</tr>
<tr>
<td>923130</td>
<td>Administration of Human Resource Programs (except Education, Public Health, and Veterans’ Affairs Programs)</td>
<td>2,750</td>
<td>18.11</td>
<td>Dependent</td>
<td>0</td>
<td>Alameda</td>
</tr>
<tr>
<td>561320</td>
<td>Temporary Help Services</td>
<td>2,072</td>
<td>13.90</td>
<td>Dependent</td>
<td>0</td>
<td>Sonoma</td>
</tr>
<tr>
<td>524114</td>
<td>Direct Health and Medical Insurance Carriers</td>
<td>1,750</td>
<td>14.21</td>
<td>Dependent</td>
<td>0</td>
<td>Marin</td>
</tr>
<tr>
<td>923120</td>
<td>Administration of Public Health Programs</td>
<td>1,657</td>
<td>10.68</td>
<td>Dependent</td>
<td>0</td>
<td>Alameda</td>
</tr>
<tr>
<td>511210</td>
<td>Software Publishers</td>
<td>1,560</td>
<td>4.81</td>
<td>Dependent</td>
<td>50</td>
<td>San Francisco</td>
</tr>
<tr>
<td>517110</td>
<td>Wired Telecommunications Carriers</td>
<td>1,547</td>
<td>3.58</td>
<td>Dependent</td>
<td>180</td>
<td>San Francisco</td>
</tr>
<tr>
<td>236210</td>
<td>Industrial Building Construction</td>
<td>1,279</td>
<td>8.51</td>
<td>Dependent</td>
<td>52</td>
<td>Solano</td>
</tr>
<tr>
<td>541511</td>
<td>Custom Computer Programming Services</td>
<td>1,166</td>
<td>2.04</td>
<td>Dependent</td>
<td>380</td>
<td>San Francisco</td>
</tr>
<tr>
<td>621610</td>
<td>Home Health Care Services</td>
<td>1,084</td>
<td>7.63</td>
<td>Dependent</td>
<td>134</td>
<td>Contra Costa</td>
</tr>
<tr>
<td>511120</td>
<td>Periodical Publishers</td>
<td>1,076</td>
<td>6.71</td>
<td>Dependent</td>
<td>39</td>
<td>San Francisco</td>
</tr>
<tr>
<td>441110</td>
<td>New Car Dealers</td>
<td>1,035</td>
<td>4.80</td>
<td>Dependent</td>
<td>4</td>
<td>Contra Costa</td>
</tr>
<tr>
<td>511110</td>
<td>Newspaper Publishers</td>
<td>1,000</td>
<td>12.55</td>
<td>Dependent</td>
<td>140</td>
<td>Contra Costa</td>
</tr>
</tbody>
</table>
INDUSTRIES DEPENDENT ON MIXED-USE INDUSTRIAL LAND

We also looked at the industries dependent on mixed-use (MU) industrial land, which, similar to the pure industrial, we defined as having a location quotient greater than 2. Because MU industrial land includes uses such as light-office, heavy-office, mixed-use residential, and mixed-use commercial, there is a more diverse mix of industries within this grouping. Often they locate on mixed-use land because they encompass a wide variety of functions, from production, to administration and management, to R&D, to distribution. There are fewer manufacturing, wholesale, and transportation industries as a whole compared to those dependent on exclusive industrial land, with notable exceptions in Santa Clara, San Mateo, and Sonoma.

In Santa Clara County, the manufacturing sector plays a dominant role. Semiconductor and Related Device Manufacturing and Other Computer Peripheral Equipment Manufacturing employ a combined 38,000 people on MU industrial land, a significantly higher number than those on exclusive industrial land. Additionally, Other Electronic Parts and Equipment Merchant Wholesalers employ another 8,600 on MU industrial land while Bare Printed Circuit Board Manufacturing employs 5,100. Within San Mateo County, Other Management Consulting Services employs 5,500 on MU industrial land while Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use is the 7th largest industry among all counties in this category, responsible for 3,000 jobs.

In terms of employment, Alameda County does not have many large industries in this category and those industries that are sited on MU industrial land may not necessary require industrial land at all. Administration of Human Resource Programs (except Education, Public Health, and Veterans’ Affairs Programs) employs 2,700 people and Administration of Public Health Pro-
NOTES AND APPENDICES
NOTES

1. Rent numbers for the Peninsula and San Francisco are calculated by aggregating CBRE sub-regions regions. In particular, the sub-regions that comprised San Francisco are very small so sample sizes are much smaller. As a result, San Francisco and the Peninsula calculations may have higher margins of error. Often in San Francisco there was no data for certain sub-regions because data was not collected or was not available. For the warehouse rent data, the sub-regions San Francisco Downtown, San Francisco Downtown West, and San Francisco Outer Area were excluded from the aggregate. For the manufacturing rent data, San Francisco Downtown and San Francisco Downtown West were excluded from the aggregate. For the warehouse rent data, San Francisco Downtown and San Francisco Outer Area were excluded from the aggregate.

2. Interviews with real estate brokers covered the following areas: East Bay and Central Valley: Alameda and San Joaquin Counties; North Bay: Santa Rosa, Novato Healdsburg; North 880 Corridor: Richmond, Berkeley, Oakland, Alameda, Emeryville; South 880 Corridor: Fremont; San Francisco (large-scale and small-scale industrial); South Bay/Silicon Valley, Northern Waterfront region of Contra Costa County.


23. Ibid.

26. Find sources from Tom O'Brien (mentions this in his PowerPoint for CP 217)
27. Find sources from Tom O'Brien
30. Find sources from Tom O'Brien (mentions this in his PowerPoint for CP 217) and also sources about Port of Oakland
39. The source of the assessor’s data was DataQuick, while the shapefiles came from Boundary Shapefiles.
40. Though MTC developed a zoning layer for the last Plan Bay Area, it organized the zoning files by building type, rather than permitted uses, which is the focus of this study.
41. City of Antioch Zoning Code
42. City of Rio Vista Zoning Code
43. Counties were divided into the five geographic groups as follows: San Francisco (San Francisco County), South Bay (Santa Clara County), North Bay (Marin, Napa, Sonoma, and Solano Counties), Peninsula (San Mateo County), East Bay (Alameda and Contra Costa Counties)
44. Methodological Note on Total Land Acreage Transacted: Five large outlier properties were excluded from San Mateo.
45. During the time of research CBRE data was available through Q2 of 2015
46. CBRE EA Industrial Outlook: Methodology, Glossary of Terms, 2013
47. CBRE EA Industrial Outlook: Methodology, Table A.2 Definition of Use Type, 2013
48. We also do not know if the industrial stock counted by CBRE is located on the industrially zoned parcels identified by the Assessors’ data.
49. Counties were divided into the five geographic groups as follows: San Francisco (San Francisco County), South Bay (Santa Clara County), North Bay (Napa, and Solano Counties), Peninsula (San Mateo County), East Bay (Alameda and Contra Costa Counties). Marin and Sonoma counties are not included in North Bay totals.
50. Methodological Note on Building Coverage: Some entries in the Assessor’s data were excluded from this calculation to reduce error. The first exclusion was any lot size entry in the database that was either left blank or was entered as a zero. We assumed that these entries were caused by a reporting error in the Assessor’s database. The second exclusion was any entry with a building square footage of zero. These were excluded after spot checking entries using google earth. The spot check found that the majority of the parcels did have a structure on them, despite indicating a building square footage of zero. As a result, the building coverage calculations in Table 2 only include parcels that have already been developed and exclude vacant parcels. This process of excluding entries significantly reduced our sample size (seen in the last two columns).
51. Rent numbers for the Peninsula and San Francisco are calculated by aggregating CBRE sub-regions regions. In particular, the sub regions that comprised San Francisco are very small so sample sizes are much smaller. As a result, San Francisco and the Peninsula calculations my have higher margins of error.
Often in San Francisco there was no data for certain sub-regions because data was not collected or was not available. For the warehouse rent data, the sub-regions San Francisco Downtown, San Francisco Downtown West, and San Francisco Outer Area were excluded from the aggregate. For the manufacturing rent data, San Francisco Downtown and San Francisco Downtown West were excluded from the aggregate. For the warehouse rent data, San Francisco Downtown and San Francisco Outer Area were excluded from the aggregate.

## Appendix I. Example Zoning Codes

<table>
<thead>
<tr>
<th>Category</th>
<th>Example Zoning Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Industrial</td>
<td>Antioch, M-2 Heavy Industrial: &quot;Uses include production of and extraction of metals or chemical products from raw materials, steel works and finishing mills, chemical or fertilizer plants, petroleum and gas refiners, paper mills, lumber mills, asphalt, concrete and hot mix batch plants, power generation plants, glassworks, textile mills, concrete products manufacturing and similar uses.&quot;</td>
</tr>
<tr>
<td>Medium Industrial</td>
<td>Santa Rosa, IG General Industrial: &quot;Areas appropriate for industrial and manufacturing activities, warehousing, wholesaling and distribution uses. Uses may generate truck traffic and operate 24 hours. Retail and business service that could be more appropriately in another zone are not permitted. Land uses allowed in the IG zoning district have the potential for creating objectionable noise, smoke, odor, dust, noxious gases, glare, heat, vibration, or industrial wastes.&quot;</td>
</tr>
<tr>
<td>Light Industrial</td>
<td>San Bruno, M-1 Industrial: &quot;Purpose. To establish areas for warehousing, light manufacturing, and fabrication.&quot;</td>
</tr>
<tr>
<td>Transportation and utilities</td>
<td>San Carlos, A Airport: &quot;The Airport District is established to: A. Protect land uses around the San Carlos Airport from potential hazards of airport operations. B. Identify a range of uses compatible with airport accident hazard and airport noise exposure. C. Prohibit the development of incompatible uses that are detrimental to the general health, safety and welfare and to existing and future airport operations. D. Comply with Federal Aviation Administration (FAA) regulations.&quot;</td>
</tr>
<tr>
<td>Industrial-Office</td>
<td>Newark, MT Industrial Technology Park District: &quot;reserves appropriately located areas for research and administrative facilities and specialized industries to concentrate in mutually beneficial relationships. Development in all industrial parks should be of the highest quality and should have no significant impacts on adjacent properties.&quot;</td>
</tr>
<tr>
<td>Mixed use industrial-residential</td>
<td>San Francisco, UMU Urban Mixed Use: &quot;intended to promote a vibrant mix of uses while maintaining the characteristics of this formerly industrially-zoned area.&quot;</td>
</tr>
<tr>
<td>Mixed use industrial-commercial</td>
<td>San Jose, CIC Combined Industrial/Commercial District: &quot;The CIC Combined Industrial/Commercial zoning designation is intended for commercial or industrial uses, or a compatible mixture of these uses, that support the goals of the combined industrial/commercial general plan designation. The district allows for a broad range of commercial uses with a local or regional market, including big box retail, and a narrower range of industrial uses, primarily industrial park in nature, but including some low-intensity light industrial uses. Assembly uses and day care centers are allowed where they are compatible with and will not impose constraints on neighboring industrial uses.&quot;</td>
</tr>
</tbody>
</table>
Appendix II. Methodological Notes on IL Percentage Calculations

Total Acreage
The total acreage used for the calculations in Table 3.2 does not come from the same Assessor’s dataset as the industrial parcels. Instead, the official land areas were calculated in GIS using the county shapefiles (clipped to exclude water) from MTC. This methodological decision was made because in several counties the total land area from the Assessor’s database did not match the official numbers provided by the local governments. Many were in reasonable ranges, but two counties in particular were not close enough to use as denominators for our percentage calculations. In Alameda, the Assessor’s total was 252 square miles under the official land area, while San Mateo was 599 square miles over the official land area number.

We detected that these discrepancies are a result of several factors in Assessor’s data, including: incomplete or misreporting of data, parcels that include land under water, overlaps in parcel boundaries and/or parcels with multi-story buildings being counted several times. Similar issues may exist in the industrial parcels, but because the total number of parcels is much lower we assume the error is also lower. We were also able to spot check many of the industrial parcels using Google maps to determine if the acreage reported by the Assessor seemed reasonable.

Despite these methodological issues, the range of potential percentages for total industrial land is still quite small. When we used the Assessor’s total land number as the denominator, we found that 2.2% of land in the nine county region is zoned for industrial.

The acreage for ten industrially zoned parcels in San Mateo county were also recalculated using GIS to determine if their very large size was a result of a data entry error. These recalculated parcel sizes were supplemented for the original Assessor’s data in these 10 instances.

Agricultural Designations
Agricultural designations that specifically allow for industrial uses were rare in the city zoning codes reviewed. This made it difficult to separate industrial uses from purely agricultural activity that can take up a significant number of acres. As a result, all agricultural designations were excluded to avoid skewing the results. This may explain why North Bay counties’ percent of industrial land was much lower than other counties. For example, areas zoned for wineries were not included because even though there may be industrial uses on that land (e.g., processing the grapes), it is difficult to separate that land area from the larger vineyard land.

Only two counties – Contra Costa (33,708 acres) and San Mateo (1,725 acres) – had parcels that were explicitly zoned for both industrial and/or agricultural uses. Other cities may have had similar zoning ‘on the books’ but no parcels were found that actually contained that industrial agriculture zoning.

Fieldwork
Many industrial zones allow other uses such as schools or restaurants, or have nonindustrial uses that predate the industrial zoning of the area. We have quantified the amount of land in the Bay Area is zoned industrial, but we also wanted to estimate how much of that land currently has other uses on it in reality.

To estimate the nonindustrial uses on industrial land in the Bay Area, we first took a geographically random sample of fifty industrially zoned parcels for each of the nine counties using GIS software. (This software ensures a geographical spread, because a simple random sample could still be clustered in a few cities or even one city.) The sample includes only light industrial, medium industrial, heavy industrial, and transportation zoning categories, since many mixed-use categories allow a variety of uses.
Second, we looked at the fifty parcels in the sample for each county on Google Maps satellite view and street view, to see if we could tell if the parcel currently has a nonindustrial use (or whenever the most recent Google photos were taken). If it was not clear what the use on the parcel was, we visited the sites in person to make a determination.

Empty lots were considered industrial and were not included in our count of nonindustrial uses on industrial land. However, a parking lot or a construction site that was clearly nonindustrial was counted as a nonindustrial use of industrial land. For example, in Santa Clara County, the Levi Stadium parking lot was zoned industrial but we marked it as having a nonindustrial use in our data.

Across the Bay Area, we found that 10% of the sampled parcels had current nonindustrial uses, or a total of 6.5% of the industrial acreage in the region. The chart below shows the percent nonindustrial use by county. The highest levels of nonindustrial uses on industrial land by county were in Santa Clara and Sonoma Counties. Housing accounted for much of the nonindustrial uses on industrial land, particularly in San Francisco. Other nonindustrial uses included parks, dog parks, cemeteries, schools, and retail. Most of the land with nonindustrial uses was zoned for light industrial.

<table>
<thead>
<tr>
<th>County</th>
<th>Percentage of Industrial Land in Sample with Nonindustrial Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Area</td>
<td>10%</td>
</tr>
<tr>
<td>Alameda</td>
<td>8%</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>10%</td>
</tr>
<tr>
<td>Marin</td>
<td>6%</td>
</tr>
<tr>
<td>Napa</td>
<td>2%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>8%</td>
</tr>
<tr>
<td>San Mateo</td>
<td>8%</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>20%</td>
</tr>
<tr>
<td>Solano</td>
<td>4%</td>
</tr>
<tr>
<td>Sonoma</td>
<td>24%</td>
</tr>
</tbody>
</table>
Appendix III. Industrial Land by County and City.

Complete Industrial Land Classification by County

<table>
<thead>
<tr>
<th></th>
<th>Mixed-Use</th>
<th>100% Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Industrial-office</td>
<td>MU-commercial</td>
</tr>
<tr>
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<tr>
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Industrially Zoned Land per City (top 50)
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<td>RODEO</td>
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<td>Brisbane</td>
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<td>Milpitas</td>
<td>1,374</td>
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<td>San Francisco</td>
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<td>862</td>
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<td>791</td>
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<td>Unincorporated Area</td>
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<td>Healdsburg</td>
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Appendix IV. Industrial Land by County.
Appendix V. Top Industries Dependent on Industrial Land in Marin, Napa, and Sonoma Counties.

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>1990-2012 % change</th>
<th>Exclusive Jobs</th>
<th>LQ</th>
<th>Status</th>
<th>MU Jobs</th>
<th>LQ</th>
<th>Status</th>
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<tbody>
<tr>
<td>562111</td>
<td>Solid Waste Collection</td>
<td>792%</td>
<td>97</td>
<td>54.78</td>
<td>Dependent</td>
<td>57</td>
<td>6.43</td>
<td>Dependent</td>
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<tr>
<td>562920</td>
<td>Materials Recovery Facilities</td>
<td>-74%</td>
<td>83</td>
<td>76.53</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
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<tr>
<td>811121</td>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>-31%</td>
<td>72</td>
<td>15.02</td>
<td>Dependent</td>
<td>134</td>
<td>5.59</td>
<td>Dependent</td>
</tr>
<tr>
<td>423590</td>
<td>Other Miscellaneous Durable Goods Merchant Wholesalers</td>
<td>-23%</td>
<td>69</td>
<td>23.53</td>
<td>Dependent</td>
<td>12</td>
<td>0.82</td>
<td>Occurring</td>
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<tr>
<td>488410</td>
<td>Motor Vehicle Towing</td>
<td>91%</td>
<td>64</td>
<td>38.30</td>
<td>Dependent</td>
<td>5</td>
<td>0.60</td>
<td>Occurring</td>
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<tr>
<td>423710</td>
<td>Hardware Merchant Wholesalers</td>
<td>-91%</td>
<td>61</td>
<td>44.09</td>
<td>Dependent</td>
<td>8</td>
<td>1.16</td>
<td>Partial</td>
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<tr>
<td>238220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>40%</td>
<td>45</td>
<td>5.32</td>
<td>Dependent</td>
<td>174</td>
<td>4.11</td>
<td>Dependent</td>
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<tr>
<td>561720</td>
<td>Janitorial Services</td>
<td>333%</td>
<td>39</td>
<td>7.18</td>
<td>Dependent</td>
<td>31</td>
<td>1.14</td>
<td>Partial</td>
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<td>541710</td>
<td>Research and Development in the Physical, Engineering, and Life Sciences</td>
<td>N/A</td>
<td>34</td>
<td>4.32</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>811310</td>
<td>Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance</td>
<td>-7%</td>
<td>30</td>
<td>12.79</td>
<td>Dependent</td>
<td>3</td>
<td>0.26</td>
<td>Occurring</td>
</tr>
<tr>
<td>511110</td>
<td>Newspaper Publishers</td>
<td>-43%</td>
<td>29</td>
<td>4.12</td>
<td>Dependent</td>
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<td>0.00</td>
<td>Occurring</td>
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<tr>
<td>238390</td>
<td>Other Building Finishing Contractors</td>
<td>18%</td>
<td>26</td>
<td>17.15</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
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<tr>
<td>621330</td>
<td>Offices of Mental Health Practitioners (except Physicians)</td>
<td>177%</td>
<td>26</td>
<td>6.13</td>
<td>Dependent</td>
<td>2</td>
<td>0.09</td>
<td>Occurring</td>
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<tr>
<td>811111</td>
<td>General Automotive Repair</td>
<td>12%</td>
<td>26</td>
<td>4.40</td>
<td>Dependent</td>
<td>133</td>
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<td>423920</td>
<td>Toy and Hobby Goods and Supplies Merchant Wholesalers</td>
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<td>27.71</td>
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<td>0</td>
<td>0.00</td>
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<td>621310</td>
<td>Offices of Chiropractors</td>
<td>-33%</td>
<td>22</td>
<td>6.29</td>
<td>Dependent</td>
<td>11</td>
<td>0.63</td>
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<td>236118</td>
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<td>1.18</td>
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<tr>
<td>523930</td>
<td>Investment Advice</td>
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<td>0.18</td>
<td>Occurring</td>
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<td>562591</td>
<td>Septic Tank and Related Services</td>
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<td>237110</td>
<td>Water and Sewer Line and Related Structures Construction</td>
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<td>0.95</td>
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<td>Other Grocery and Related Products Merchant Wholesalers</td>
<td>-41%</td>
<td>19</td>
<td>4.36</td>
<td>Dependent</td>
<td>20</td>
<td>0.92</td>
<td>Occurring</td>
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<td>Wood Kitchen Cabinet and Countertop Manufacturing</td>
<td>-55%</td>
<td>15</td>
<td>14.89</td>
<td>Dependent</td>
<td>15</td>
<td>2.98</td>
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<td>813211</td>
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<td>3.89</td>
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<td>15</td>
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<td>Dependent</td>
<td>11</td>
<td>0.46</td>
<td>Occurring</td>
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<tr>
<td>541211</td>
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<td>30.85</td>
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<td>0.00</td>
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<td>Fresh Fruit and Vegetable Merchant Wholesalers</td>
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<td>21.44</td>
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<tr>
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<td>Marinas</td>
<td>258%</td>
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<td>0.00</td>
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<td>15</td>
<td>0.92</td>
<td>Occurring</td>
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<tr>
<td>NAICS</td>
<td>Description</td>
<td>1990-2012 % change</td>
<td>Exclusive Jobs</td>
<td>LQ</td>
<td>Status</td>
<td>MU Jobs</td>
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<td>Status</td>
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<td>811111</td>
<td>General Automotive Repair</td>
<td>-20%</td>
<td>12</td>
<td>4.63</td>
<td>Dependent</td>
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<td>0.00</td>
<td>Occurring</td>
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<td>Commercial and Institutional Building Construction</td>
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<td>4.85</td>
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<td>3.08</td>
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<td>337110</td>
<td>Wood Kitchen Cabinet and Countertop Manufacturing</td>
<td>-9%</td>
<td>4</td>
<td>9.40</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
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<td>321911</td>
<td>Wood Window and Door Manufacturing</td>
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<td>6.46</td>
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<td>Occurring</td>
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<td>811121</td>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>47%</td>
<td>4</td>
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<td>2.17</td>
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<td>441310</td>
<td>Automotive Parts and Accessories Stores</td>
<td>-5%</td>
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<td>423840</td>
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<td>9.23</td>
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<td>Business Associations</td>
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<td>Accounting, Tax Preparation, Bookkeeping, and Payroll Services</td>
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<td>3.23</td>
<td>Dependent</td>
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<td>0.00</td>
<td>Occurring</td>
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<td>238310</td>
<td>Drywall and Insulation Contractors</td>
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<td>4</td>
<td>2.95</td>
<td>Dependent</td>
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<td>1.05</td>
<td>Partial</td>
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<td>484110</td>
<td>General Freight Trucking, Local</td>
<td>495%</td>
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<td>Dependent</td>
<td>4</td>
<td>3.08</td>
<td>Dependent</td>
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<tr>
<td>562991</td>
<td>Septic Tank and Related Services</td>
<td>325%</td>
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<td>12.93</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
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<td>321999</td>
<td>All Other Miscellaneous Wood Product Manufacturing</td>
<td>439%</td>
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<td>11.08</td>
<td>Dependent</td>
<td>2</td>
<td>10.5</td>
<td>Dependent</td>
</tr>
<tr>
<td>339950</td>
<td>Sign Manufacturing</td>
<td>209%</td>
<td>3</td>
<td>9.69</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>811198</td>
<td>All Other Automotive Repair and Maintenance</td>
<td>1015%</td>
<td>3</td>
<td>8.62</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>488510</td>
<td>Freight Transportation Arrangement</td>
<td>177%</td>
<td>3</td>
<td>7.05</td>
<td>Dependent</td>
<td>4</td>
<td>13.4</td>
<td>Dependent</td>
</tr>
<tr>
<td>484121</td>
<td>General Freight Trucking, Long-Distance, Truckload</td>
<td>-91%</td>
<td>3</td>
<td>7.05</td>
<td>Dependent</td>
<td>3</td>
<td>7.05</td>
<td>Dependent</td>
</tr>
<tr>
<td>485320</td>
<td>Limousine Service</td>
<td>1550%</td>
<td>3</td>
<td>3.69</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>NAICS</td>
<td>Description</td>
<td>1990-2012 % change</td>
<td>Exclusive Jobs</td>
<td>LQ</td>
<td>Status</td>
<td>MU Jobs</td>
<td>LQ</td>
<td>Status</td>
</tr>
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<td>---------</td>
<td>--------------------------------------------</td>
<td>--------------------</td>
<td>----------------</td>
<td>------</td>
<td>------------</td>
<td>---------</td>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>238220</td>
<td>Plumbing, Heating, and Air-Conditioning Contractors</td>
<td>3%</td>
<td>226</td>
<td>8.10</td>
<td>Dependent</td>
<td>180</td>
<td>1.69</td>
<td>Partial</td>
</tr>
<tr>
<td>238310</td>
<td>Drywall and Insulation Contractors</td>
<td>-72%</td>
<td>151</td>
<td>11.94</td>
<td>Dependent</td>
<td>31</td>
<td>0.64</td>
<td>Occurring</td>
</tr>
<tr>
<td>721110</td>
<td>Hotels (except Casino Hotels) and Motels</td>
<td>108%</td>
<td>147</td>
<td>2.50</td>
<td>Dependent</td>
<td>48</td>
<td>0.21</td>
<td>Occurring</td>
</tr>
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<td>236220</td>
<td>Commercial and Institutional Building Construction</td>
<td>-54%</td>
<td>140</td>
<td>8.98</td>
<td>Dependent</td>
<td>57</td>
<td>0.96</td>
<td>Occurring</td>
</tr>
<tr>
<td>311513</td>
<td>Cheese Manufacturing</td>
<td>-48%</td>
<td>135</td>
<td>50.84</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238130</td>
<td>Framing Contractors</td>
<td>-37%</td>
<td>120</td>
<td>14.94</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>238210</td>
<td>Electrical Contractors and Other Wiring Installation Contractors</td>
<td>3%</td>
<td>110</td>
<td>4.83</td>
<td>Dependent</td>
<td>90</td>
<td>1.04</td>
<td>Partial</td>
</tr>
<tr>
<td>4441</td>
<td>Building Material and Supplies Dealers</td>
<td>#N/A</td>
<td>91</td>
<td>4.43</td>
<td>Dependent</td>
<td>29</td>
<td>0.37</td>
<td>Occurring</td>
</tr>
<tr>
<td>441110</td>
<td>New Car Dealers</td>
<td>-9%</td>
<td>77</td>
<td>3.26</td>
<td>Dependent</td>
<td>173</td>
<td>1.92</td>
<td>Partial</td>
</tr>
<tr>
<td>812111</td>
<td>General Automotive Repair</td>
<td>2%</td>
<td>72</td>
<td>5.62</td>
<td>Dependent</td>
<td>71</td>
<td>1.45</td>
<td>Partial</td>
</tr>
<tr>
<td>812910</td>
<td>Pet Care (except Veterinary) Services</td>
<td>27.4%</td>
<td>71</td>
<td>11.94</td>
<td>Dependent</td>
<td>7</td>
<td>0.31</td>
<td>Occurring</td>
</tr>
<tr>
<td>811121</td>
<td>Automotive Body, Paint, and Interior Repair and Maintenance</td>
<td>10%</td>
<td>70</td>
<td>6.82</td>
<td>Dependent</td>
<td>32</td>
<td>0.82</td>
<td>Occurring</td>
</tr>
<tr>
<td>453998</td>
<td>All Other Miscellaneous Store Retailers (except Tobacco Stores)</td>
<td>-8%</td>
<td>57</td>
<td>3.80</td>
<td>Dependent</td>
<td>25</td>
<td>0.44</td>
<td>Occurring</td>
</tr>
<tr>
<td>311712</td>
<td>Fresh and Frozen Seafood Processing</td>
<td>#N/A</td>
<td>56</td>
<td>61.38</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>621910</td>
<td>Ambulance Services</td>
<td>401%</td>
<td>55</td>
<td>9.93</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>333294</td>
<td>Food Product Machinery Manufacturing</td>
<td>#N/A</td>
<td>50</td>
<td>25.58</td>
<td>Dependent</td>
<td>6</td>
<td>0.80</td>
<td>Occurring</td>
</tr>
<tr>
<td>812331</td>
<td>Linen Supply</td>
<td>39%</td>
<td>50</td>
<td>15.12</td>
<td>Dependent</td>
<td>45</td>
<td>3.57</td>
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<tr>
<td>562910</td>
<td>Remediation Services</td>
<td>-98%</td>
<td>48</td>
<td>39.81</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>811118</td>
<td>Other Automotive Mechanical and Electrical Repair and Maintenance</td>
<td>-65%</td>
<td>48</td>
<td>10.52</td>
<td>Dependent</td>
<td>13</td>
<td>0.75</td>
<td>Occurring</td>
</tr>
<tr>
<td>333999</td>
<td>All Other Miscellaneous General Purpose Machinery Manufacturing</td>
<td>569%</td>
<td>47</td>
<td>33.16</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>722320</td>
<td>Caterers</td>
<td>184%</td>
<td>44</td>
<td>8.77</td>
<td>Dependent</td>
<td>3</td>
<td>0.16</td>
<td>Occurring</td>
</tr>
<tr>
<td>236118</td>
<td>Residential Remodelers</td>
<td>-6%</td>
<td>44</td>
<td>3.96</td>
<td>Dependent</td>
<td>7</td>
<td>0.17</td>
<td>Occurring</td>
</tr>
<tr>
<td>228350</td>
<td>Finish Carpentry Contractors</td>
<td>-2%</td>
<td>40</td>
<td>5.75</td>
<td>Dependent</td>
<td>49</td>
<td>1.85</td>
<td>Partial</td>
</tr>
<tr>
<td>423720</td>
<td>Plumbing and Heating Equipment and Supplies (Hydronics) Merchant: Wholesalers</td>
<td>632%</td>
<td>39</td>
<td>7.62</td>
<td>Dependent</td>
<td>47</td>
<td>2.41</td>
<td>Dependent</td>
</tr>
<tr>
<td>532412</td>
<td>Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing</td>
<td>-17%</td>
<td>38</td>
<td>11.16</td>
<td>Dependent</td>
<td>142</td>
<td>10.9</td>
<td>Dependent</td>
</tr>
<tr>
<td>238170</td>
<td>Siding Contractors</td>
<td>-92%</td>
<td>35</td>
<td>28.27</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
<tr>
<td>332710</td>
<td>Machine Shops</td>
<td>-3%</td>
<td>35</td>
<td>9.22</td>
<td>Dependent</td>
<td>12</td>
<td>0.83</td>
<td>Occurring</td>
</tr>
<tr>
<td>337110</td>
<td>Wood Kitchen Cabinet and Countertop Manufacturing</td>
<td>9%</td>
<td>35</td>
<td>7.93</td>
<td>Dependent</td>
<td>68</td>
<td>4.04</td>
<td>Dependent</td>
</tr>
<tr>
<td>334419</td>
<td>Other Electronic Component Manufacturing</td>
<td>-66%</td>
<td>34</td>
<td>3.98</td>
<td>Dependent</td>
<td>71</td>
<td>2.18</td>
<td>Dependent</td>
</tr>
<tr>
<td>454210</td>
<td>Vending Machine Operators</td>
<td>-50%</td>
<td>33</td>
<td>27.37</td>
<td>Dependent</td>
<td>0</td>
<td>0.00</td>
<td>Occurring</td>
</tr>
</tbody>
</table>
Employment for Industries Dependent on Industrial Land

- < 100
- 101 - 1000
- 1001 - 5000
- > 5000

N
0 5 10 15 20 Miles