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Catching the Green Wave: Developing an Industrial Land Use Strategy for Richmond's Green Economy

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This report can be found online at www.communityinnovation.berkeley.edu

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Executive Summary

In recent months, Richmond has emerged at the forefront of efforts to build a "green economy" in the Bay Area. As part of the East Bay Green Corridor Partnership, Richmond hopes to transform itself into "the first Green Industrial City in the US,"[1] providing a new source of good jobs for local residents and boosting the City's overall bottom line.

This report examines to what extent current planning processes – specifically the General Plan update and the Richmond Waterfront Transit-Oriented Development Plan (aka the "Ferry Plan") – encourage or discourage the growth of green industry in Richmond. **Is the city developing a land use plan that will leave room for the growth and development of the green economy?** Are we analyzing the impact of proposed land use changes on existing jobs and industry?

Industrial Land Matters to the Green Economy
Industrial land is a critical asset for any city attempting to build a green economy. A recent report, which looks at the potential for green industry and "green-collar jobs" in Berkeley and the East Bay, identified five reasons which industrial land matters for green economic growth[2]:

1. Buffer from residential area
2. Access to freeways and facilities
3. Clustering of businesses and the benefits of co-location
4. Space and appropriate building stock
5. Affordability

[1] http://www.ci.richmond.ca.us/index.asp?nid=1353
[2] Pinderhughes, Raquel. 2007. GREEN COLLAR JOBS: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment. This list has been paraphrased and edited for space. For the complete version, and for a copy of the full report, visit www.cityofberkeley.info/sustainable/Government/actionplans.html Although the report focuses on Berkeley, much of the data is regional, and most of the findings are applicable to Richmond.

Richmond has a sizable stock of suitable industrial land – 19% of its total land area – and ample room for growth – close to 1 million square feet of industrial space are currently on the market.[3] With a falling dollar, rising fuel costs and "buy local" trends, Richmond is well positioned to capture a significant percentage of regional industrial growth over the next two decades, and clearly possesses the needed fixed assets required to become a leader in the green economy.

Is Current Planning on Track to Preserve Land for the Green Wave?
The key question is whether or not the current planning trajectory will enable the city to realize its green industry goals. By examining to what extent current planning preserves industrial land and industrial jobs, we can see clearly that more attention to these core components of the green economy is warranted.

Table ES1 – Potential Industrial Land Change in Three Major Industrial Areas

	Existing Zoning	Option 1	Option 2	Option 3
CA-10 - Richmond Parkway Corridor	1185.9	1034.82	1159.8	926.0
CA-11 - South of 580 Area (Southern Waterfront)	935.6	896.5	679.6	512.0
CA-12 - San Pablo Peninsula Area	981.7	247.3	316.8	0
Total Industrial Land	**3103.2**	**2178.6**	**2156.2**	**1437.9**
Gain/Loss Acreage		**-924.6**	**-947.0**	**-1665.3**
% change		-29.8%	-30.5%	-53.7%

Source: "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007" Calculations by author.
http://www.cityofrichmondgeneralplan.org/docs.php

An analysis of land use changes under consideration show that the potential for rezoning and converting industrial land is significant –more than 3,200 acres are being considered for rezoning, half of the city's entire stock.[4] Three core industrial areas

[3] East Bay Overview, 3rd Quarter 2007, Colliers International. Strategic Economics, "Richmond General Plan: Economic Development and Industrial Lands," presentation to Richmond Council of Industries, April 26, 2007.
[4] Calculations are based on "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007". Interpretation of zoning options is taken from "Draft Alternative Land Use Menu, Version 6, October 26, 2007." For existing zoning, industrial land is all land zoned Heavy Industrial, Light Industrial, Industrial/Offiec Flex and Marine Industrial. For new zoning, a generous determination was used – any land considered Business Mix, Live-Work and Port were considered industrial, based on their allowance of light industrial uses. There is a great deal of skepticism about the viability of live-work space in industrial areas – note the controversy surrounding the Artisan Cove development on the Ford Peninsula and the specific objections of the industrial business community. If live/work is removed from consideration, the calculation of potential industrial land loss are even greater.

–the Southern Waterfront, the San Pablo Peninsula and the Richmond Parkway– lose between 30% and 54% of their industrial stock under the three land use scenarios being considered under the general plan, a minimum loss of 1,000 acres.

These possible rezoning changes could seriously impact the more than 3,500 Richmond residents who work in Richmond's industrial land. Despite this fact, both the general plan and the ferry plan rely on projections, rather than available job data, to determine the potential impact of rezoning changes. While the Ferry plan estimates that there will be 1,124 jobs in the study area, analysis of Dun & Bradstreet employment data shows that there currently are 3,368 jobs in 101 different businesses representing 57 different industrial classifications, 82% of which are in blue collar jobs.

Toward a More Strategic Approach to Industrial Land
Richmond is still well positioned to modify its current planning processes to produce a land use plan which preserves industrial land and charts a course towards becoming a green industrial city.

The city should:

1. **Develop a long-term strategic plan for Richmond's industrial land** that provides a framework for future industrial land use and economic development decisions. This plan could be incorporated into a strategic planning process around green industry, and should include an initial industrial land use plan and a set of conversion criteria for future land use decisions around industrial land. **General Plan land use decisions in the three core industrial areas (CA-10, CA-11 and CA-12) should be postponed until this plan is developed.**

2. **Require specific plans and Community Impact Reports (CIR's) for any significant proposed changes to industrial area.** The first such plan should be for the entire Southern Waterfront, updating the out-of-date Knox-Cutting Specific Plan. A placeholder can be inserted into the General Plan to make this possible. This will ensure that the city can simultaneously realize two policy goals – the development of a green economy and the establishment of a ferry terminal – that can potentially conflict.

This is a critical time for the City of Richmond and its dreams of catching the "green wave." Industrial land that is converted to residential or commercial is unlikely to revert to jobs-producing uses. Moreover, the "wave" could potentially slip by as more and more cities across the nation recognize the value of the green economy. By planning more strategically, using available data rather than projections, and conducting inclusive and imaginative specific plans, Richmond can become an economic, environmental and social innovator, and truly establish itself as America's green industrial city.



Introduction

Recent months have seen a great deal of excitement about the possibilities of a "green economy" – businesses whose products and services work towards improving environmental quality. Richmond has been at the forefront of this discussion, especially in light of the December announcement of the East Bay Green Corridor Partnership, a collaboration between UC Berkeley, Lawrence Berkeley National Laboratory and the mayors of Richmond, Oakland, Berkeley and Emeryville to build and maintain viable and sustainable green industries.[5]

As much as a source of tax revenue and engineering jobs, cities see the green economy as a critical source of "green-collar jobs" –blue-collar, manual labor, eco-friendly jobs at living wages. Mayor McLaughlin and Oakland Mayor Ron Dellums have both emphasized the importance of linking green economy initiatives to workforce development and training, and have positioned this initiative as key in improving the job opportunities for low-income communities.[6]

Especially given the strong emphasis on poverty reduction and the explicit goals to link green economic growth to social justice, this new initiative is a potential target for equitable development and growth. It is also consistent with the goals articulated by the general public and the General Plan Advisory Committee (GPAC) as part of the ongoing General Plan overhaul –residents want more and better jobs, a reduction in poverty, and a cleaner and healthier environment.

This raises the question of whether or not the current General Plan update supports the goal of a green economy. **Are we headed towards a land use plan that will leave room**

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[5] East Bay Green Corridor Statement of Principles, December 3, 2007. http://www.ci.berkeley.ca.us/mayor/docs/EBGC.pdf The Partnership does not specifically define green industries by sector, offering a broad definition as business "contributing to environmental improvement and sustainability, and/or producing green products and services." Raquel Pinderhughes offers a specific definition of 22 industrial sectors ranging from bike repair to green construction to recycling. See Appendix 3 for the complete list.

[6] "East Bay mayors, UC chancellor unite for 'Green Wave'", Carolyn Jones, San Francisco Chronicle, Tuesday, December 4, 2007

for the growth and development of the green economy? Do smaller plans in industrial areas, like the recently released Richmond Waterfront Transit-Oriented Development Plan (aka the "Ferry Plan"), maintain existing jobs and help us meet our green-collar goals?

This policy brief explores the role of industrial land in Richmond's green economic growth and economic development in general. It begins by examining the case for preserving industrial land, both for green industry and jobs in general, and proceeds through an analysis of how current planning processes –the General Plan update and the ferry plan– are poised to affect industrial land through rezoning and redevelopment. It concludes with concrete recommendations for incorporating more strategic thinking about industrial land into current plans and ensuring that Richmond maintains and enhances its ticket to catching "the green wave" –a vast supply of industrial land.

Why Land Matters to the Green Economy, And Why Industrial Land Matters

Building a green economy requires more than investment and initiative. It requires space. The core green industries generally involve some aspect of manufacturing, R&D, warehousing or transportation, and require adequate land, access to transportation infrastructure, and suitable building stock.

The City of Richmond's website, in an article about the Partnership, specifically refers to Richmond's "abundance of industrial land, port and rail capacities [that] have attracted green businesses and led it to focus on becoming the first Green Industrial City in the US."[7] A 2006 report by the UC Berkeley Center for Community Innovation (CCI) on the possibilities for growing a green economy in Richmond highlight the preservation

[7] http://www.ci.richmond.ca.us/index.asp?nid=1353

of industrial land as one of four critical policy recommendations needed for turning Richmond's green industry dreams into reality.[8]

An even more recent report commissioned by the City of Berkeley which demonstrates the viability of green-collar jobs for populations with barriers to employment explicitly recognizes the importance of maintaining strong industrial zoning and ample industrial land. The report identifies five key reasons why industrial land matters for green economic growth[9]:

1. **Industrial land provides space for activities which do not work well near housing**. Noise, odors, light pollution, and truck traffic are realities for green businesses, and complaints by residents and homeowners can force out viable businesses.
2. **Industrial land is typically well located with respect to freeways or facilities.** Local streets are often specifically designed to accommodate trucks, forklifts, and the movement of goods.
3. **Sufficient amounts of industrial land allows for clustering of businesses and reinforces the benefits of co-location**. Spatial proximity can help green businesses network, connect with local suppliers, use each others' services and capture value along the supply chain.
4. **To function properly, small green businesses need not only space, but also appropriate building stock.** Buildings found on industrial land provide a number of features that are important to many businesses, including flexible floor plates, tall first stories, loading docks and roll-up doors, reinforced upper floors, and open yards for storage, inventory, and goods handling and manipulation.
5. **Industrially zoned land and the buildings it contains provide another essential benefit to many businesses –affordability.** Rent thresholds are about $.75 - $1.25 per square foot maximum, with many businesses only able to afford <$1.00. This is a fraction of the cost of retail and office space in the Bay Area.

This latter point is particularly relevant for Richmond, and concurs with a similar finding in the earlier CCI report. According to Collier International's most recent market research report on commercial and industrial real estate in the East Bay, asking rents for industrial space are 60% lower than for office space ($0.57/sqft to $1/40/sqft).

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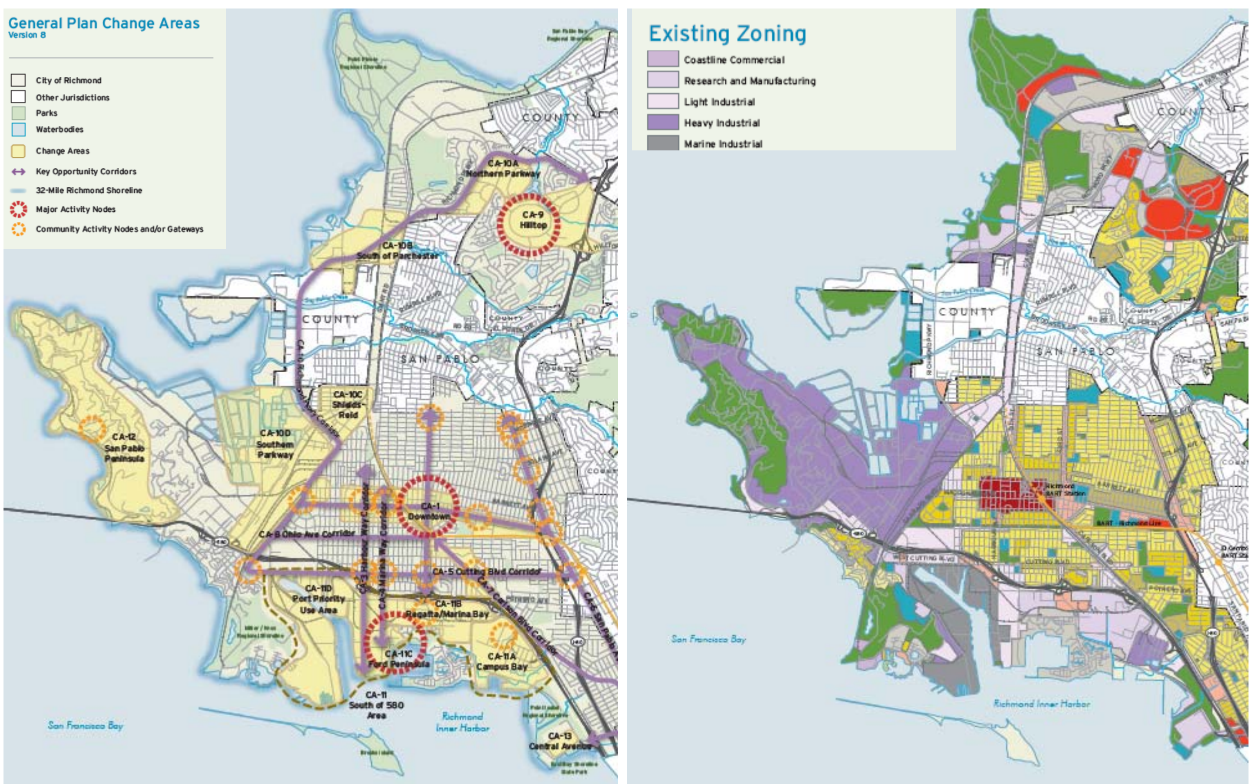
8 Tsou, Jackie. *A Green Wave of Economic Development in Richmond, California: Evaluating Green Economic Development Through an Equity Lens. UC Berkeley* Center for Community Innovation, Spring 2006

9 Pinderhughes, Raquel. 2007. GREEN COLLAR JOBS: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment. This list has been paraphrased and edited for space. For the complete version, and for a copy of the full report, visit www.cityofberkeley.info/sustainable/Government/actionplans.html. Although the report focuses on Berkeley, many of the findings are applicable to Richmond.

There is also significant inventory. In the 3rd quarter of 2007, Richmond had almost one million square feet of industrial space available, or 18% of the total stock.[10]

Richmond is 19% industrial, compared to 6% for San Francisco and less than 5% for Green Corridor partner Oakland.[11] (If large-scale fixed uses like Chevron and the Port are not included, Richmond's share of industrial land would be much lower.) Whereas some may see this large quantity of industrial land as anachronistic in a "new economy," or high vacancy rates as a sign of underutilized space and an argument for conversion, it is better seen as a profound opportunity for the growth of green industry. Add in a falling dollar, rising fuel costs and "buy local" trends, and predictions of the death of local industry appear to be greatly exaggerated. Richmond's vast stock of industrial land and excellent access to water, rail and road transportation infrastructure position the city to capture a significant percentage of regional industrial growth over the next two decades, whether green industry, new economy or old economy.



Maps 1 & 2 - Proposed General Plan "Change Areas" (as of 10/23/07) and existing zoning. One can see that virtually every industrial area in the city (in purple and dark grey) is up for discussion as a "change area".
Source: www.cityofrichmondgeneralplan.org

[10] East Bay Overview, 3rd Quarter 2007, Colliers International.
[11] Strategic Economics, "Richmond General Plan: Economic Development and Industrial Lands," presentation to Richmond Council of Industries, April 26, 2007.

Is Current Planning on Track to Preserve Land for the Green Wave?

If one accepts that available industrial land is a critical resource for growing a green economy, one then must ask whether the planning that is taking place is going to preserve this vital resource. This report examines this question from two angles. First, it analyzes how much industrial land is proposed for conversion and preservation under the various land use scenarios being considered. Both the General Plan Update and the Ferry Plan are far enough along that we can assess their potential impact on industrial lands in terms of the quantity of land being considered for conversion.

Second, it examines to what extent the current proposals analyze the potential impact of land use decisions on existing jobs. If our goal is to build a green economy, our planning should be sending a clear message to industry that preserving jobs matters to Richmond. The line between old economy and green economy jobs is a very thin one, and many of the companies which currently call Richmond home will be critical to any effort at growing green industry and green-collar employment.

Land Use Changes Currently Under Discussion

As one can clearly see from maps 1 and 2 on the previous page, the vast majority of Richmond's industrial land (in purple and grey) is under consideration as a "change area" in the General Plan update. According to the most recently released documents from the planning consultant, 3,236.9 acres of industrial land are up for rezoning under the General Plan process (see table 1). That represents close to half of Richmond's entire industrial stock. If the Chevron refinery is removed from the calculation, it means the vast majority of Richmond's industrial land is up for potential rezoning.

If one analyzes the Southern Waterfront, one of the three primarily industrial change areas, the potential for rezoning is significant.[12] Industrial land is reduced overall by

[12] Calculations are based on "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007". Interpretation of zoning options is taken from "Draft Alternative Land Use Menu, Version 6, October 26, 2007." For existing zoning, industrial land is all land zoned Heavy Industrial, Light Industrial, Industrial/Offiec Flex and

Table 1 - INDUSTRIAL LAND IN GENERAL PLAN "CHANGE AREAS"

Change Area	Sub-Area	Acres
CA-2 - 23rd Street Corridor	B.South	3.8
CA-3 - Harbour Way Corridor (North)		1.0
CA-4 - Marina Way Corridor		2.6
CA-5 - Cutting Blvd. Corridor	A. West	41.1
	D. Southern Parkway	784.3
CA-11 - South of 580 Area (Southern Waterfront)	A. Campus Bay	206.7
	B. Regatta/Marina Bay	162.9
	C. Ford Peninsula	103.7
	D. Port Priority Use Area	462.3
CA-12 - San Pablo Peninsula Area		981.7
CA-13 - Central Avenue Area		39.7
TOTAL INDUSTRIAL LANDS		**3236.9**

Source: "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007" Calculations by author.
http://www.cityofrichmondgeneralplan.org/docs.php

4.2% in Option 1, 27.4% in Option 2, and 45.2% in Option 3. A significant portion of that change occurs in the Campus Bay and Southern Waterfront. Even under Option 1, the lowest possible change threshold, Campus Bay will lose 16 acres (19%), and the Ford Peninsula 21 acres (30%). (See Appendix 1 for a full breakdown of potential changes in the Southern Waterfront).

The San Pablo Peninsula is an even more extreme version of the southern waterfront. Its current 981.7 acres of industrially-zoned land is reduced by at least 2/3 (more than 500 acres) under the most conservative scenario. One scenario, Option 3, which is based on the site plan developed by Upstream LLC, the developers of a proposed casino on the peninsula, completely eliminates all industrially-zoned land, loss of almost 15% of the city's entire stock.

Although the changes proposed in the Parkway corridor are less extreme than either the Southern Waterfront or the San Pablo Peninsula, the overall numbers still add up to a significant drop in industrial space. Table 3 shows the breakdown by planning scenario for the three key industrial areas under consideration. Both Option 1 and Option 2 rezone roughly the same amount of industrial land, close to 1,000 acres in both cases.

Marine Industrial. For new zoning, a generous determination was used – any land considered Business Mix, Live-Work and Port were considered industrial, based on their allowance of light industrial uses. There is a great deal of skepticism about the viability of live-work space in industrial areas – note the controversy surrounding the Artisan Cove development on the Ford Peninsula and the specific objections of the industrial business community. If live/work is removed from consideration, the calculation of potential industrial land loss are even greater.

Option 3 rezones more than 1,600 acres, a loss of more than half of the industrial land in the city. In these three areas alone, the city stands to lose between 13 and 25% of its industrial land.

In addition to the General Plan overhaul, the City of Richmond has been engaged in drafting a new land use plan for the Ford Peninsula, in order to meet the Metropolitan Transportation Commission's Transit-Oriented Development (TOD) requirements for a new ferry.[13] The City Council voted to incorporate that plan into the General Plan discussion, so it must be considered as part of the larger land use planning process underway throughout the entire city.

Table 2 - CA-12 - San Pablo Peninsula Area

Scenario	Industrial Acres	Change
Existing Zoning	981.7	
Option 1	247.3	**-74.8%**
Option 2	316.8	**-67.7%**
Option 3	0	**-100.0%**

Source: "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007" Calculations by author.
http://www.cityofrichmondgeneralplan.org/docs.php

Table 3 - POTENTIAL INDUSTRIAL LAND CHANGE IN THREE MAJOR INDUSTRIAL AREAS

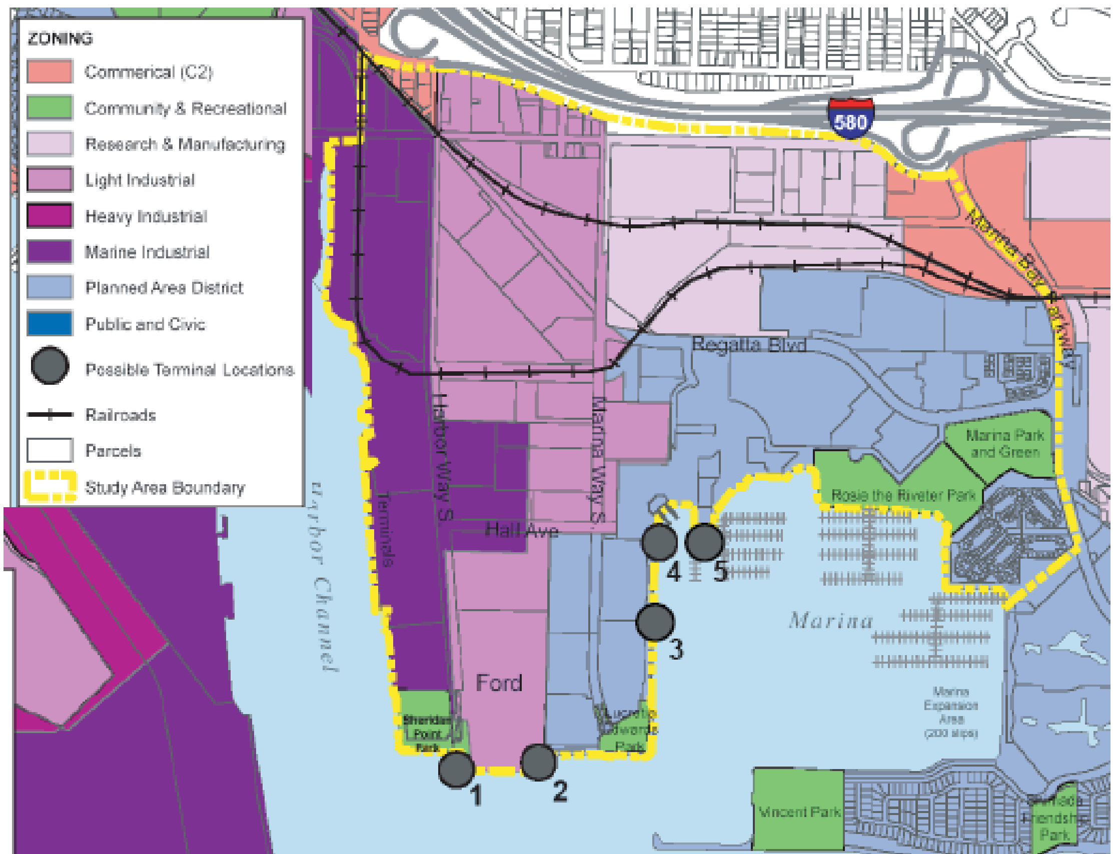
	Existing Zoning	**Option 1**	**Option 2**	**Option 3**
CA-10 - Richmond Parkway Corridor	1185.9	1034.82	1159.8	925.99
CA-11 - South of 580 Area (Southern Waterfront)	935.6	896.5	679.57	511.95
CA-12 - San Pablo Peninsula Area	981.7	247.3	316.8	0
TOTAL INDUSTRIAL LAND	3103.2	2178.62	2156.17	1437.94
Gain/Loss Acreage		**-924.58**	**-947.03**	**-1665.26**
% change		-29.8%	-30.5%	-53.7%

Source: "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007" Calculations by author.

[13] Although some may see the "ferry plan" as a transportation plan, it is focused specifically on land use changes around the proposed ferry terminal in Marina Bay. The Water Transportation Authority (WTA) was the lead agency on the plan, which was authored by the consulting firm DC&E. The City of Richmond was a key stakeholder in the plan, which was accepted for consideration by the City Council. *Richmond Waterfront Transit-Oriented Development Plan, Administrative Draft*, The San Francisco Bay Area Water Transit Authority, August 31, 2007

The ferry plan focuses primarily on the Ford Peninsula and the Regatta/Marina Bay portions of the Southern Waterfront. Map 3 shows both the study area and the existing zoning in the ferry plan area. According to the plan, approximately half of the area is zoned industrial, although that is likely an underestimate because it does not count the research and manufacturing areas north of the residential development of Marina Bay (area shown in light purple).

According to the proposed land use plan (Map 3 below), land zoned for industrial use would shrink to 30% of the total land area –approximately one million square feet on 11 acres of land. Much of that new development would be targeted along the Marina Bay Corridor, which would become primarily a residential street south of Regatta Boulevard.



Map 3 - Current Zoning in WTA Ferry Plan Study Area

Source: Richmond Waterfront Transit-Oriented Development Plan, Administrative Draft, The San Francisco Bay Area Water Transit Authority, August 31, 2007

Although not as extreme as some of the possibilities in the General Plan update, the ferry plan adheres to a similar logic in seeking to rezone a significant portion of industrial land, endangering one of the city's core assets for attracting green economic growth.

This potential rezoning also raises the question as to whether or not these large-scale changes are being analyzed for their impacts on Richmond's economy, in particular on jobs. Are the current plans calculating the impact on existing jobs? Do the plans use detailed jobs data, or are they relying on projections and assumptions?

Table 4: Richmond Employed Residents Working in Richmond Industrial Land

Richmond Employed Residents c	Number
Working in Richmond	8,900
Working in Richmond Industrial Land b	3,683
Working on the Southern Waterfront a	905

Notes:
a) Census Tract 3800.
b) Census Tracts 3650.01, 3650.02, 3780, 3800.
c) Census Tracts used for the City of Richmond include: 3650.01, 3650.02, 3671, 3700-3830.
Source: US Census, CTPP 3, 2000.

Are We Really Protecting Jobs?

Citizens, city staff, GPAC members, the planning consultant and elected officials have all prioritized maintaining and growing Richmond's job base in the current General Plan overhaul.[14] An August 2006 report by the East Bay Alliance for a Sustainable Economy (EBASE) documents how industrial and manufacturing jobs still have significant a significant impact in Richmond, and consistently pay higher wages than do service sector jobs overall.[15] Looking directly at industrial land, 18% of workers in Richmond's industrial lands, and 17% on the Southern Waterfront, live in the city. This translates to approximately 3,683 jobs *for Richmond residents alone* in the city's industrial areas – 905 on the southern waterfront.

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[14] See "Draft Issues and Opportunities Papers," "Second Draft Public Input Summary," "GPAC Assets Issues Opportunities and Visions," and "TAC Summary 1," http://www.cityofrichmondgeneralplan.org/docs.php?view=topics

[15] *Growing with Purpose: Residents, Jobs and Equity in Richmond*, CA, East Bay Alliance for a Sustainable Economy, 2007

Table 5 - INDUSTRY AND JOBS IN THE SOUTHERN WATERFRONT

Planning Area	Total Jobs (2005)	Sales (2005)	Businesses	Different Industries
Harbour Way to Marina Way	2,448	228,084,923	68	41
Harbour Way to Marina Bay Parkway	3,368	299,585,496	101	57
Entire Southern Waterfront (South 580)	4,914	493,604,661	167	81

Source: Dun & Bradstreet, 2005. Calculations and geocoding by author using ArcMap 9.2.

Does the current General Plan process analyze the impact of these rezonings on these industrial jobs, the very type of jobs that the green economy is supposed to generate? Does it examine to what extent rezonings may displace current jobs, and to what extent this will impact Richmond families and workers? What happens to the livelihoods of more than 3500 Richmond families if those jobs are displaced by large-scale rezoning?

In the case of the General Plan, the economic analysis that has been made publicly available relies almost exclusively on projections. The General Plan consultants project that under Option 1, the city will gain 17,377 jobs from 2005 to 2030, 20,170 jobs under option 2, and 22,488 jobs under Option 3.[16] Yet these estimates do not take proposed land use changes into account. Rather, they are simple calculations based on ABAG's projected Jobs to Population Ratio of 47.8%. They simply multiplied the number of new residents (also a projection based on historic trends and ABAG numbers and not based on proposed land use changes) by this ratio to come up with a number of projected jobs; moreover, ABAG's projections themselves do not incorporate these proposed land use changes.[17] Yet what happens to the 3500 jobs held by Richmond residents, or to the more than 20,000 jobs overall in Richmond's industrial areas, if the city is proposing to cut between an 1/8 and a ¼ of its industrial land?[18] How does Option 3 cut more than 1600 acres of industrial land and still add more than 20,000 jobs?

[16] "Projected Job, Population and Household Growth, 10/24/07" http://www.cityofrichmondgeneralplan.org/docs.php?view=topics
[17] Similarly, the fiscal impact analysis presented to the city council uses projections based on historic growth trends rather than possible land use changes.
[18] Source: US Census, CTPP 3, 2000. Calculations by the author.

The ferry plan similarly relies on projections and assumptions, despite a stated commitment to the "protection of existing industrial uses."[19] For the draft land use plan (map 4), the consultants estimated there were 1,124 existing jobs in the study area.[20] They project that the new land use plan will create 1,760 new jobs, for a total of 2,884 in the area. Yet similar to the General Plan, these numbers were not based on proposed land use changes but on ABAG projections (existing jobs) and jobs/square foot ratios provided by the City of Richmond (new jobs).[21]

By geocoding Dun & Bradstreet employment data, we can map existing businesses and jobs in the affected areas to examine potential impacts in more detail. Table 5 paints a different picture than the projected numbers put forth by the WTA. In the area south of 580 from Harbour Way to Marina Way, Dun & Bradstreet show 2,448 total jobs in 2005, more than twice the number given by WTA in an area half the size. If one looks at the area from Harbour Way to Marina Bay Parkway, which approximates the study area for the Ferry plan (map 3), one finds 3,368 jobs in 101 different businesses representing 57 different industrial classifications (SIC3 level). Eighty-two percent of these are in blue-collar industries –construction, manufacturing, transportation and public utilities and wholesale trade (Table 6). The southern waterfront as a whole, an area poised to lose up to 45% of its industrial land, is home to almost 5,000 jobs in 81 industries across 167 different companies.

The city should conduct a more detailed analysis, mapping business data to better understand the potential impact that rezoning industrial land will have on the businesses already there, let alone the new business the city hopes to grow as part of a renewed green economy.

Table 6 - INDUSTRIAL JOBS FROM HARBOUR WAY TO MARINA BAY PARKWAY

Industry (SIC2 Code)	**Jobs**
Construction (15-17)	215
Manufacturing (20-39)	1,077
Transportation & pub. utilities (40-49)	86
Wholesale trade (50-51)	1,378
TOTAL	**2,756**

Source: Dun & Bradstreet, 2005. Calculations and geocoding by author using ArcMap 9.2.

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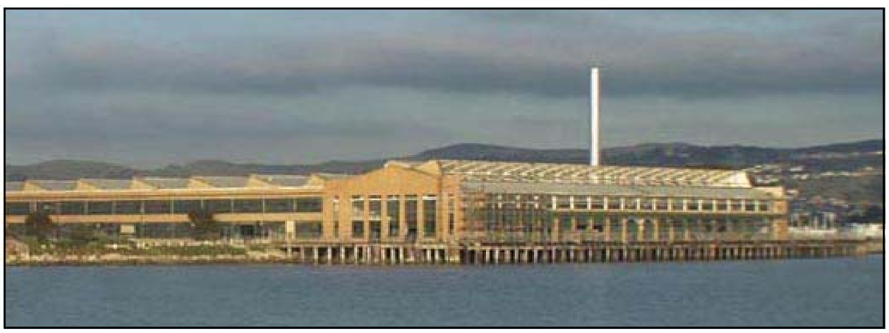
[19] *Richmond Waterfront Transit-Oriented Development Plan, Administrative Draft,* The San Francisco Bay Area Water Transit Authority, August 31, 2007, p.4-5.

[20] This for Terminal Site 5, the site ultimately recommended as the preferred terminal site and used for the land use development concept.

[21] *Richmond Waterfront Transit-Oriented Development Plan, Administrative Draft,* The San Francisco Bay Area Water Transit Authority, August 31, 2007, Figure ES-1

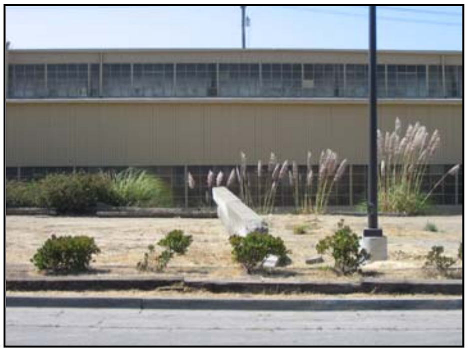
The ferry plan does show some sensitivity to the location of industrial jobs, suggesting new housing only on specific parcels with few active jobs. Though the General Plan consultant neglected to use possible land use changes to calculate overall impact for the entire city, this perhaps occurred because of the scale of the change. For instance, a full build out under all changes possible in Option 3 (residential, commercial, mized-use, etc) would quadruple the population of the city. As this is highly unlikely, the consultant elected to use a series of projections with more reasonable growth scenarios. But for critical industrial areas, areas that are vital to the city's hopes of becoming "the first Green Industrial City in the US," [22] the city must conduct detailed analyses of job gains and losses based on real numbers, not projections. Rezoning industrial land can immediately impact existing jobs, and certainly will not bode well for the future growth of the green economy.



SunPower's current home almost become condos.
Photo Credit: Ellen Gailing, www.rosietheriveter.org/fordbldg.htm

Building a green economy requires ample land, suitable industrial buildings, and solid transportation infrastructure, assets Richmond already possesses. The Ford Building, now home to SunPower and a critical symbolic and actual resource for Richmond's green economy, nearly became condominiums during the height of the 1990's dotcom boom. The city cannot rely on an economic downturn to save its industrial buildings from conversion. If it truly wants to become the nation's first green industrial city, it must recognize the value of its industrial lands and existing job base. This means thoroughly analyzing data on Richmond's current economy, and incorporating the need for industrial land into all key planning processes.

[22] http://www.ci.richmond.ca.us/index.asp?nid=1353



Toward a More Strategic Approach to Industrial Land

There are multiple ways the City of Richmond can incorporate more strategic thinking about industrial lands into the current planning framework. With the General Plan overhaul process currently underway, and the momentum for green industrial development building, this is also an ideal opportunity to do so. What follows are two key steps the city can take in the next year to preserve its primary asset for building the green economy, while simultaneously providing land for other stated policy priorities like affordable housing, open space and ferry-related development. Some of these steps should be taken as part of the General Plan process, and others should be marked as placeholders in the General Plan and implemented subsequently or in parallel.

Step 1: Develop a **long-term strategic plan for Richmond's industrial land** that provides a framework for future industrial land use and economic development decisions. This can be incorporated into **a strategic planning process around green industry**. The city should also postpone General Plan land use decisions in the three core industrial areas (CA-10, CA-11 and CA-12) until this plan is developed. The plan would have two components:

a. An initial industrial land use plan that determines which industrial lands must be preserved and determines the land use pattern for the General Plan.
b. A framework and set of conversion criteria for future land use decisions around industrial land.

Step 2: Require specific plans and Community Impact Reports (CIRs) for any significant proposed changes to industrial area. The first such plan should be for the entire Southern Waterfront, updating the out-of-date Knox-Cutting Specific Plan. A placeholder can be inserted into the General Plan to make this possible.

A Strategic Land Use Plan for a Green Economy

Richmond is not alone in struggling over decisions with regards to industrial land. Cities and counties throughout the United States have begun to recognize the critical importance of industrial land, and many have initiated planning processes and studies designed to improve decision-making and ensure an adequate stock of jobs-producing land. Many cities begin this process with an industrial land inventory or broader industrial land strategic plan.[23]

Some cities, including San Jose, Vancouver and San Diego, have developed concrete frameworks and conversion criteria to both preserve and protect industrial land and to ensure maximum community benefits for land that does warrant conversion. Not all industrial land can and should be preserved. For instance, some land is wedged into residential neighborhoods, posing an environmental hazard.

Richmond should:

1. Conduct a comprehensive survey and analysis of Richmond's industrial land, including, but not limited, to current uses, new net job growth, job density, job quality, including wages and benefits, vacancy rates, fiscal impact, land values, emissions and environmental impact, access to transportation infrastructure (rail, highway, and bus and transit centers), proximity to residential neighborhoods, and regional concentration and contribution to regional economy. This study can be guided by some of the exemplary studies that have been conducted over the past few years, including those by Washington D.C, Minneapolis, San Francisco and San Jose. However, it should pay more attention to environmental issues than any study yet conducted - in order to become a truly green industrial city, Richmond must recognize that brownfields, air pollution, diesel truck traffic, wetlands preservation and wildlife habitat are still significantly impacted by industry's past and (italicize) present, and that innovative measures to green industry must go along with the industrialization of green.

It also should incorporate model industrial land strategies and retention policies from across the country, including creation of employment zones and other specific planning areas that strategically retain industrial land and mitigate haphazard conversions (i.e. spot zoning), and assess the applicability of these model policies to the City of Richmond.

- The study should use buffers to develop an initial industrial land use plan, including health buffers (forbidding industrial land conversion near the highway or Chevron), and economic buffers (for the health of the port, preserving adjacent land).

[23] The Center for Community Innovation has identified 45 different studies from around the country. These plans, as well as a summary matrix, are available at communityinnovation.berkeley.edu

- It should consider an overall floor for industrial land (i.e. the minimum total land the city needs to remain industrial)

- It should lead to an industrial land framework similar to what San Jose and San Diego have developed, with a greater emphasis on environmental issues. Bottom lines, or criteria, should be developed across a range of areas - economy (land occupied by uses that are competitive in the regional economy, related to the port, or offering well-paid low-skill jobs for which Richmond residents are or could be trained), environment (expense of cleanup, or toxicity of cleanup, or toxicity of not cleaning up), waterfront access, neighborhood health, fiscal health, etc.

- Identify a clear community benefits standard for all industrial land conversions. This may include industrial conversion fees, a policy being considered in New York, in order to mitigate the impact of converted land.

SAN DIEGO PRIME
INDUSTRIAL LAND CRITERIA

- **Designated Industrial**
- **Restrictive Industrial Zoning**
- **Market Feasibility**
- **Predominantly Developed or Developable with Industrial Uses**
- **Free from Non-Industrial Encroachment**
- **Proximity to Resources of Extraordinary Value**

Source: San Diego General Plan DRAFT Economic Development Element, EP-1, September 2007

2. **Approve and begin an inclusive planning process** to turn the initial research into useful policy tools, private initiatives, public/private partnerships, and most critically, a land use plan.

Key stakeholders include:

- Organized labor,
- Industry associations, including small businesses,
- Neighborhood groups, including those in the central neighborhoods adjacent to the industrial belt,
- Environmental justice advocates,
- Property owners,

- Open space, wetlands, and other environmental groups, and
- Affordable housing developers.

This process should also include input and expertise from critical regional and national sources, including regional planning agencies like Association of Bay Area Governments (ABAG), Metropolitan Transit Commission (MTC), Water Transit Authority, Bay Conservation and Development Commission (BCDC); researchers and planners with knowledge of real estate and labor economics, land use, transportation, jobs/housing balance, environmental health, urban design, workforce development, and participatory planning; advocates, policymakers, and officials from similar jurisdictions with experience in industrial land strategy, retention, and conversion.

This strategic plan, especially when incorporated into the General Plan and reflected in the general plan land use map and zoning code, will ensure that the city maximizes its core asset in retaining and building a green economy. It also recognizes that the current General Plan overhaul is a critical moment for the city and its dreams of becoming the first truly green industrial city in the United States. Once land is converted from industrial use, it is unlikely to convert back.

Richmond Mayor Gail McLaughlin with local mayors and UC leaders initiating the East Bay Green Corridor Partnership. *Source: ci.richmond.ca.us*

A Southern Waterfront Specific Plan

Richmond should require specific plans for any and all significant industrial land conversions that emerge from the industrial land strategic planning process delineated above. An excellent place to begin is with the Southern Waterfront, a core industrial area that has already seen a number of conversions and which represents a watershed moment for planning in Richmond.

Although the ferry plan has shortcomings in terms of industrial land and job preservation, the plan does an admirable job of examining key issues like transportation and circulation. Additionally, the plan does accomplish its primary purpose –finding space for new residential units required by MTC regulations. Only a specific plan can build on the work done by MTC in order for the city to meet two clear policy goals –the development of a green industrial economy and the establishment of ferry service at Marina Bay.

- The specific plan boundaries should include the entire area south of Interstate 680 and east of Harbour Way. This will incorporate the UC Field Station and the Campus Bay area. These are important areas with similar issues and assets as the Ford Peninsula and Marina Bay Areas.
- The Plan must include Richmond residents and local organizations both within and outside the immediate the plan area. The area has significant environmental, historic, and symbolic value to the entire city, and is of economic importance to all residents. Richmond's Downtown Area Plan is one example of a specific plan that involved the participation of a wide variety of Richmond residents throughout the city.
- Particular attention must be paid to the issue of social and economic integration. Housing, retail and commercial facilities and public spaces must be designed, financed and built in such a way as to facilitate access and use by all Richmond residents. The city should reevaluate its current logic of developing the waterfront for affluent households and using the revenue to benefit poorer urban core neighborhoods. This "separate but equal" approach neither sufficiently benefits low-income areas nor conforms to the values and ideals of Richmond residents as stated in the General Plan Draft Public Vision Statement, leading instead to separate enclaves and gated communities.

This two pronged approach to industrial land use planning is critical to achieving both the dream of a green industrial economy and many of the goals of the General Plan Vision Statements. By working strategically on the citywide level, the city can maintain its most precious asset for green industry – its industrial land. By developing incisive and inclusive specific plans, in can ensure that these larger goals are both implementable and compatible with surrounding neighborhoods and the needs for affordable housing, open space and ferry TOD. With the growing excitement about the possibilities for green industry and the opportunity provided by the General Plan update, now is the time for Richmond to act boldly and plan wisely for a green industrial future.

Bibliography

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Appendix A : Potential Land Use Changes on the Southern Waterfront

Change Area	Existing Zoning			Option 1			Option 2			Option 3		
-	Type	% of Area	Acres	Type	% of Area	Acres	Type	% of Area	Acres	Type	% of Area	Acres
11A. Campus Bay	Heavy Industrial	28	68.4	Business Mix	69	200.3	Business Mix	55	158.8	Live-Work	5	14.65
	Light Industrial	11	26				Live-Work	5	14.37			
	Industrial/Office Flex	46	112.3									
	Total Industrial	85	207	Total Industrial	69	200	Total Industrial	60	173	Total Industrial	5	15
	Non-Industrial	15	37.3	Non-Industrial	31	89	Non Industrial	40	116.1	Non Industrial	95	274.57
				% Change	*-18.82%*		*% Change*	*-29.41%*		*% Change*	*-94.12%*	
11B. Regatta/Marina Bay	Industrial/Office Flex	77	162.9	Business Mix	75	153.9						
	Non-Industrial	23	49.6	Non-Industrial	25	50.8	Non Industrial	100	204.6	Non Industrial	100	204.6
				% Change	*-2.60%*		*% Change*	*-100.00%*		*% Change*	*-100.00%*	
11C. Ford Peninsula	Light Industrial	63	92.7	Business Mix	49	73.4	Business Mix	30	43.5	Live-Work	28	41.3
	Marine Industrial	7	11									
	Total Industrial	70	103.7	Total Industrial	49	73.4	Total Industrial	30	43.5	Total Industrial	28	41.3
	Non-Industrial	31	46.2	Non-Industrial	51	75.5	Non Industrial	70	105.4	Non Industrial	72	107.6
				% Change	*-30.00%*		*% Change*	*-57.14%*		*% Change*	*-60.00%*	
11D. Port Priority Use Area	Marine Industrial	87	412.6	Port	99	468.9	Port	93	440.9	Port	97	456
	Heavy Industrial	6	27.7				Business Mix	5	22			
	Light Industrial	5	22									
	Total Industrial	98	462.3	Total Industrial	99	468.9	Total Industrial	98	462.9	Total Industrial	97	456
	Non-Industrial	2	6.6	Non-Industrial	1	4.8	Non Industrial	2	10.8	Non Industrial	3	17.8
				% Change	*1.02%*		*% Change*	*0.00%*		*% Change*	*-1.02%*	
TOTAL for all Southern Waterfront	Industrial		936	% Change	- 0.04179136	897	% Change	- 0.273653271	680	% Change	-0.452811	512

Source: "Potential Land Use Options for General Plan Change Areas, Version 10, 10/26/2007" Calculations by author. http://www.cityofrichmondgeneralplan.org/docs.php

Appendix B : Prime Industrial Land Criteria from San Diego General Plan DRAFT Economic Development Element, EP-1, September 2007

Appendix C, EP-1
Prime Industrial Land Criteria*

Designated Industrial

Is the land designated for industrial uses in the applicable community plan?

Restrictive Industrial Zoning

Is the land in an area where zones have been applied to restrict residential and commercial uses that were previously permitted in many older industrial areas? Since these areas are less likely to contain a significant amount of non-industrial uses, the feasibility of attracting new industrial development is increased.

Market Feasibility

In communities where at least 30 acres of fully entitled vacant land is available for sale, are land prices low enough so that new industrial development is still feasible?

Predominantly Developed or Developable with Industrial Uses

Has the majority of the developed portion of the industrial area been developed with heavy industrial, light industrial, research and development and other base sector uses? Does the area have the physical characteristics suitable for modern industrial development?

Free from Non-Industrial Encroachment

Is the industrial area generally free from residential uses and does it contain few institutional or "public assembly" uses or sensitive receptor land uses? Are less than 50 percent of existing uses commercial, or other non-industrial uses? Commercial uses are defined as institutional uses, retail sales, commercial services, offices, and vehicle and vehicular equipment sales and services.

Proximity to Resources of Extraordinary Value

Is the area in proximity to certain human resources and infrastructure investments to which access is fundamental to the type of use it would support? San Diego's existing and probable future industrial companies basically fall into two groups:

1. High-technology businesses (bio-technology, business equipment and defense manufacturing) where site selection is driven by the need to have access to universities and science and engineering workers.
2. International trade, logistics, and ship building businesses where site selection is driven by access to physical resources such as harbor facilities and other ports-of-entry, such as the border truck crossing and U.S. Customs facilities in Otay Mesa.

Appendix C, EP-2
Collocation/Conversion Suitability Factors

Area Characteristics	The amount of office and commercial development in the area. The significance of encroachment of the non-industrial uses which has already occurred in the area. The area's attractiveness to manufacturing, research and development, wholesale distribution, and warehousing uses, based on a variety of factors including: physical site characteristics, parcel size, parcel configuration, surrounding development patterns, transportation access, and long-term market trends.
Transit Availability	The area is located within one-third mile of existing or planned public transit. The project proponent's ~~is the~~ ability to provide or subsidize transit services to the project, if public transit service is not planned or is inadequate.
Impact on Prime Industrial Lands	The location of the proposed project adjacent to prime industrial lands and the impact of the proposed project utilization of the prime industrial lands for industrial purposes.
Significance of Residential/ Employment Component	The significance of the proposed residential density to justify a change in land use. If residential is proposed on the same site, the amount of employment space on the site is to be retained. ~~The affordability of the units to households whose income is supported by the wages of nearby industrial uses.~~
Residential Support Facilities	The presence of public and commercial facilities generally associated with residential neighborhoods in close proximity to the area, such as recreational facilities, grocery stores, and schools.
Airport Land Use Compatibility	The location of the site in the airport influence area where incompatibilities may result due to adopted Airport Land Use Compatibility Plan policies, Air Installation Compatibility Use Zone Study recommendations, and restrictive use easements.
Public Health	The location of the site in an employment area where significant incompatibilities may result regarding truck traffic, odors, noise, safety, and other external environmental effects.
Public Facilities	The availability of facilities to serve the residential units. Provide public facilities on-site wherever feasible.
Separation of Uses	The adequacy of the separation between industrial and residential properties with regard to hazardous or toxic air contaminants or hazardous or toxic substances. Determine if there are any sources of toxic or hazardous air contaminants, or toxic or hazardous substances, within a quarter mile of the property between proposed residential or other sensitive receptor land uses and proposed properties where such contaminants or substances are located. If so, an adequate distance separation shall be determined on a case-by-case basis based on an approved study submitted by the applicant to the City and appropriate regulatory agencies. If no study is completed, provide a 1000-ft. minimum distance separation between property lines. Uses which are not sensitive receptor land uses, such as most commercial and business offices, retail uses, parking, open space, and public rights-of way can locate between the properties within the separation area.