



# ALAMEDA CORRIDOR INDUSTRIAL AREA INDUSTRIAL REVITALIZATION STRATEGY

Client  
Mr. Robert Swayze  
Manager  
Regional Economic Development  
Community Development Commission  
County of Los Angeles

University of Southern California  
School of Policy, Planning, and Development  
Community Economic Development Lab

Professors  
Leonard Mitchehl, Esq.  
Deepak Bahl

Group Members  
Andres Klingberg  
Jonathan Lonner  
Ramon Salazar  
Paul Zamorano-Reagin  
Li Zhang

**TABLE OF CONTENTS**

*TABLE OF CONTENTS*..... 1

*EXECUTIVE SUMMARY*..... 3

*SECTION 1: ECO-INDUSTRIAL PARKS (Paul Zamorano-Reagin)*..... 4

    Background ..... 4

    Demand for Eco-Industrial Parks..... 5

    Characteristics of Eco-Industrial parks..... 6

    Model Types ..... 7

    Material Exchange Alternatives..... 9

    Benefits ..... 10

    Business ..... 10

    Government..... 10

    Community..... 11

    Arkenol..... 11

    Conclusion ..... 13

*SECTION 2: BROWNFIELDS (Paul Zamorano-Reagin)* ..... 14

    Demonstration Project Site ..... 14

    Interference With Economic Development..... 15

    Current Responses..... 16

    Environmental Insurance ..... 16

    Environmental Justice..... 18

    Conclusion ..... 18

*SECTION 3: DEMONSTRATION SITES (Jonathan Lonner)* ..... 19

    United States Analogs (Initial Demonstration Sites) ..... 19

    Additional United States Analogs (Emerging Sites) ..... 21

*SECTION 4: SUSTAINABLE DESIGN / ECO-TECTURE (Jonathan Lonner)*..... 23

    Herman Miller SQA Headquarters ..... 23

    Gap Headquarters..... 24

    Energy Resource Center of Southern California Gas Company..... 25

*SECTION 5: MARKETING ECO-INDUSTRIAL PARKS (Andres Klingberg)*..... 26

*SECTION 6: WORKFORCE ANALYSIS (Li Zhang)*..... 30

    Introduction..... 30

    Job Creation ..... 30

    Job Training ..... 32

    Job Retention..... 33

    Workforce Analysis for EIP Model..... 35

*SECTION 7: OUTREACH PROGRAM (Ramon Salazar)* ..... 37

    The Establishment of an Outreach Advisory Committee ..... 37

    The Mission of the Outreach Program..... 38

    Outreach Apprenticeship Training..... 39

    The Expansion of Existing Outreach Programs ..... 40

    Conclusion ..... 42

*SECTION 8: FUNDING OPPORTUNITIES (Jonathan Lonner)*..... 45

    Large Scale Development (Anchor Tenant) ..... 45

    Smaller Scale Development (Virtual Eip) ..... 47

*CONCLUSION*..... 50

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## **EXECUTIVE SUMMARY**

The Los Angeles County Community Development Corporation's industrial revitalization strategy for the Alameda Corridor Industrial Area seeks to promote new economic activity that provides benefits to the community.

In taking this goal one step further our proposal informs how to synthesize economic benefits with environmental stewardship to strive for sustainable development.

To achieve a new economic position for the communities located within the Corridor a comprehensive approach is required that utilizes current technology, demonstrates respect for the environment, and equitably distributes benefits.

The major objectives of our strategy recommendations are

- showcasing the economic and environmental benefits of Eco-Industrial Parks
- promoting the recycling of brownfields back into full productive use
- informing developers about the opportunities available in the Corridor
- illustrating how to connect employment training to redevelopment
- providing information on a range of funding opportunities

The development of Eco-Industrial Parks is offered as the catalyst to new economic relationships insuring community well being, environmental protection, and a foundation for sustainable development.

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## SECTION 1: ECO-INDUSTRIAL PARKS (Paul Zamorano-Reagin)

*The Los Angeles County Community Development Commission, in its effort to implement an industrial revitalization strategy for the Alameda Corridor Industrial Area, is presented with the exciting opportunity to initiate a process of significant economic recovery and advancement within the focus communities through the endorsement and development of Eco-Industrial Parks.*

Eco-Industrial development is the new economic paradigm for achieving excellence in business and environmental performance. It is an innovative process for managing private sector businesses and conducting public sector economic development projects. By creating linkages among local organizational resources, including businesses, nonprofit groups, governments, unions, and educational institutions, communities can creatively foster sustainable development.

*An Eco-Industrial Park is a community of manufacturing and service businesses seeking enhanced environmental and economic performance through collaboration in managing environmental and resource issues including energy, water, and materials. By working together, the community of businesses seeks a collective benefit that is greater than the sum of the individual benefits each company would realize if it optimized its individual performance only.<sup>1</sup>*

The goal of an Eco-Industrial Park (EIP) is to improve the economic performance of participating companies while minimizing their environmental impact. The outcomes of EIPs, economic profits, job creation, and environmental responsibility, correlate with the objectives of the Community Development Commission (CDC) for the industrial revitalization of the Alameda Corridor (Corridor)

### **Background**

Industrial activity is transitioning from an era of releasing wastes into local, regional, and eventually global ecosystems to an era marked by environmental responsibility and stewardship. This dramatic shift has been prompted by internal and external influences.

Since the 1970s, a myriad of laws and regulations have been implemented to limit emissions to air and water, and to regulate solid and hazardous waste disposal. Business and the environment have traditionally been perceived as natural enemies. The assumption has been that more environmental protection corresponds to higher costs for business, however, new developments in research and business operations are challenging this assumption. Many companies have long realized the economic benefits of applying environmental principles to business operations.

Many industries have a history of symbiotic relationships where wastes and materials are transformed internally or by other businesses into usable products. For example, metal industries have long used scrap materials in the production process and the advent of the electric arc furnace increased the ability of steel manufacturers to recycle materials back into production.

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<sup>1</sup> Lowe, Ernest and John L. Warren. 1996. *The Source of Value: An Executive Briefing and Sourcebook on Industrial Ecology*. Richland, Washington: Pacific Northwest National Laboratory.

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Petrochemical and chemical companies are adept at finding new production uses or markets for waste materials. The growth in rubber, plastics, paper, and glass recycling industries has generated new uses for previously discarded materials.<sup>2</sup>

There are many elements of EIP activity that have proven themselves. It is common for two companies, and even more, to develop mutually advantageous relationships where the waste products of one company form a valued input product for another. Networked manufacturing has proven a success in Europe, Australia, and in North America where a common connection increases market responsiveness and reduces overhead and cost.

In 1989, the concept of an 'industrial ecosystem' received wide attention when Scientific American published an article by two General Motors' researchers who suggested that the days of finding an "open space beyond the village gates" for the by-products of industrial activity were quickly fading. Since that time, the concept of industrial ecology has spawned an ever-increasing amount of research and activities. At the most basic level, industrial ecology describes a system where one industry's wastes (outputs) become another's raw materials (inputs).<sup>3</sup>

The President's Council on Sustainable Development (PCSD) recently formed an active task force on EIPs as a key element for building a sustainable economy. The PCSD has designated four EIP demonstration sites: Baltimore, Maryland; Cape Charles, Virginia; Chattanooga, Tennessee; and Brownsville, Texas. The Environmental Protection Agency and the Department of Energy have committed financial and intellectual resources towards exploring the gains which can be derived from EIPs. Communities across the country have begun to examine ways to create these new entities, especially as an environmentally responsible way to reclaim brownfields.

### **Demand for Eco-Industrial Parks**

During the last decade community-based environmental concerns have made significant alterations in the patterns of industrial activity and behavior. Communities, as groups of residents and groups of consumers, are increasingly demanding that industry reorganize itself to operate in new ways that reduce the frequency and extent of environmental degradation. Government at all levels have responded with policies and enforcement mechanisms designed to extensively limit industrial-based pollution.

Environmental justice, a new form of environmentalism, is now emerging as a social force to press further for environmental quality. It connects civil rights values with environmental concerns to argue that equitable community-level distribution of contaminants is as important as reducing aggregate amounts of pollution.

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<sup>2</sup> Richards, Deanna., Braden R. Allenby, and Robert A. Frosch. 1994. "The Greening of Industrial Ecosystems: Overview and Perspective." In Braden R. Allenby and Deanna J. Richards (eds.) *The Greening of Industrial Ecosystems*. Washington, D.C.: National Academy Press.

<sup>3</sup> Frosch, Robert A. and Nicholas E. Gallopoulos. 1989. "Strategies for Manufacturing." *Scientific American* September: 144-152.

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Landfills in all parts of the country are either filled or are quickly reaching capacity. Communities frequently mobilize to block the location of new landfills in their area. State government mandates for the diversion of solid waste away from disposal sites are falling far short of target goals. The California Integrated Waste Management Board estimates that only eight of the state's 58 counties have succeeded in diverting half of their unincorporated area waste from landfills. This performance rate is dramatically below the 2000 statutory deadline for 50 percent recycling diversion for all counties.<sup>4</sup>

The United States is the largest market for environmental goods and services; the industry generates almost \$150 billion in business annually and employs nearly one million people. The federal support of environmental technologies is over \$4 billion. Worldwide the market for environmental goods and services approaches \$300 billion and is expected to grow to between \$400 and \$500 billion within the next few years.<sup>5</sup>

The above factors have combined to create a circumstance of broad demand for a new organizational model for industrial activity. To meet the challenges of greater environmental expectations, individual businesses and entire sectors, encouraged by public entities, have to forge new economic relationships centered on symbiotic material exchange.

### **Characteristics of Eco-Industrial parks**

Eco-Industrial Parks, through specialized professional management and information technology, link manufacturers together into an industrial Eco-system with the purpose of achieving business and environmental excellence. Companies are recruited into the EIP based on the type and volume of their production inputs and outputs. A waste exchange system is carefully planned so that each company receives some by-product as production input and in turn creates a production input for the next company via their production by-products.

What qualifies an EIP as an innovative approach to improving the interaction of industrial activity with the local community and the overall environment is the process of capturing waste streams and turning them into value-added commodities. What is currently economic and environmental waste is turned into a production item and ultimately goods sold in the market.

Companies have always depended on a larger ecology of suppliers, customers, geography, and market to be successful, but a popular myth was that each company was an island. Abandoning this notion by consciously integrating into a larger industrial ecology is smart business that draws on the overall system of interactions to nourish corporate success. Benefits go beyond financial gain for the participants and reach into the community and the public sector.

Within an EIP, resources are used to the maximum extent possible. Raw material and other input resources are used frugally, wastes are minimized throughout the production/service process, by-

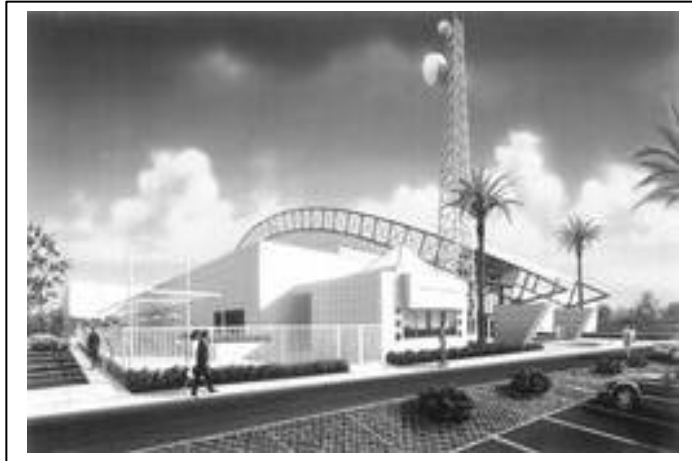
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<sup>4</sup> Martin, Kay. 1999. "Turning Garbage into Green Products." California County, Sept / Oct: 26-28.

<sup>5</sup> Interagency Environmental Technologies Office. 1995. Bridge to a Sustainable Future. Washington D.C.: Interagency Environmental Technologies Office.

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products are recycled through the company and to other companies in the area while any lingering residual wastes are disposed of responsibly. Resource stewardship is assumed by each user, passing on all products and byproducts to the next recipient in a safe and usable manner.

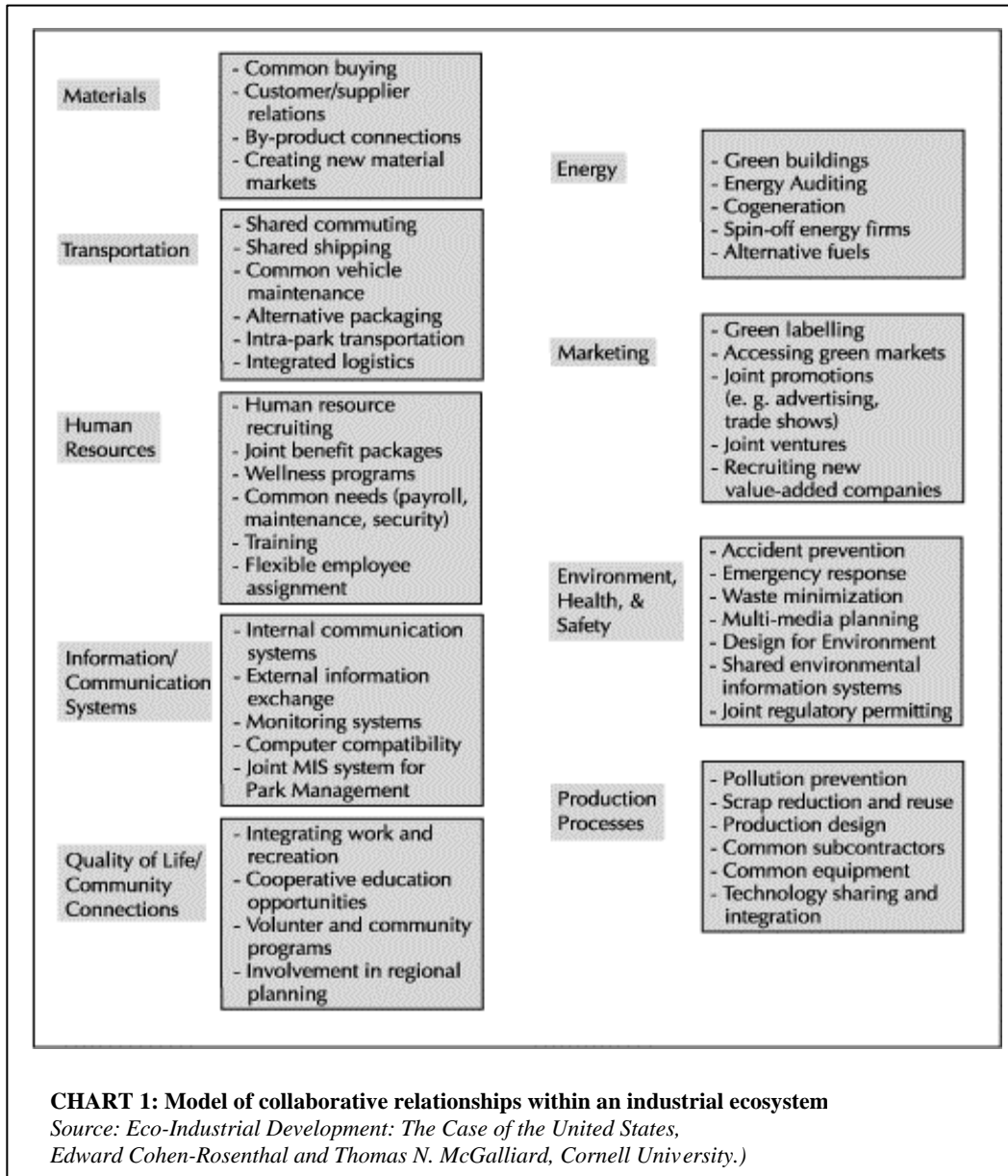


Municipal waste treatment becomes the instrument of last resort with industry taking maximum responsibility for the reduction, sale, or recovery of byproducts. Municipal waste authorities become primarily instruments of resource connection, not waste collection.

The adoption of the environmental and economic principles at the core of an Eco-industrial business arrangement by government, developers, and companies extends to the project site and facilities. The physical design of an EIP emphasizes waste minimization, conservation of energy, and maximum use of environmentally friendly materials in the construction and operation of the facilities. The choice of architecture for the industrial buildings is one that avoids traditional factory styles and instead incorporates modern design to produce an aesthetically pleasing building that blends with the natural environment. The footprint of the buildings is designed to provide workers with plenty of greenery and several have included small community parks on the periphery.

### **Model Types**

Eco-Industrial Park designs are flexible enough to take advantage of local circumstances in land availability, financial commitments, unique industrial sector concentrations, and regulatory policies. An EIP can be created to reside on a single parcel of land, one main site with a few satellite locations, or with each connected business located at different addresses altogether. Whichever appropriate physical arrangement is selected, the same economic and environmental benefits are distributed to the companies involved, local government, and the community. This design flexibility compliments the CDC's objective of creating an industrial revitalization demonstration project that can be reasonably replicated throughout the Corridor.



### Centralized

The centralized EIP model resides on a single large industrial parcel that is home to all of the exchange participants. This model commonly has a central firm that the exchange design is created around. The main company draws inputs from a variety of partners into several stages of its production process. In turn it provides commonly needed production outputs such as water or a form or energy.

The advantages of a centralized design are a sense of community among the participating businesses and employees, limited environmental exposure of by-products, and no transportation costs for moving the waste stream through the exchange process. This design works well where much of the exchange material is bulky, such as scrap metals, or involves strong chemicals. An additional advantage of the centralized model is its clear identity to investors, government, and the community as a nearly enclosed system of production.



A limitation on developing this EIP design is attracting the primary company and determining what types of business can become incorporated into its input needs and output opportunities. The selection of this single company naturally limits the parameters of the waste exchange process.

### *Decentralized*

A decentralized EIP model is one where there is a main site which contains the central most business partners in the exchange network and is supported by smaller sites located nearby. Nearly the same environmental and economic benefits can be gained as under the centralized model. Limited availability of contiguous industrial parcels for a large EIP make this model attractive for a variety of Corridor communities. A decentralized process of exchange works well when the materials can safely and cheaply be transported from one site to the next.

A key advantage is avoiding the high cost, both in terms of finances and time, of land assembly that would be required under the centralized model in areas of land scarcity. Existing local business that are a good fit for an EIP can be included in the exchange process without incurring the cost of relocation, which can be quite high for many types of manufacturing. Controlling start-up and operational costs through this physical design helps to maximize the new competitiveness derived from the companies entering an EIP arrangement.

The main limitation is that a discontinuous EIP does not have the same image impact for the community and prospective investors. Because parts of the symbiotic relationship are not seen in one view, the magnitude of the economic and environmental benefits may not be readily appreciated.

### *Virtual*

The design flexibility of the Eco-industrial waste stream exchange can be fully decentralized to the point of having each participating company individually located. This option should be considered under circumstances where appropriate land is highly scarce, business relocation is infeasible, or as a first step into the creation of a decentralized or centralized EIP.

Some companies may be hesitant to go through the effort of relocation and production redesign for what is a new concept to them. A virtual EIP offers a period for these companies to test-out their desire to fully participate in the exchange network without making a full commitment. This design is also useful for extending the valuable concepts and practices of environmentally friendly industrial activity throughout the Corridor. Small companies with limited or highly specialized inputs and outputs can still participate and improve their environmental and economic soundness.

## **Material Exchange Alternatives**

It is important to note the high variability of the product / waste stream mixture that can be created as the main cycle of connection and cooperation among the businesses involved in the EIP. Nearly any material exchange arrangement can be devised which correlates to the industrial profile of the local area and the specific businesses expressing interest. Exchange can range

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from a simple one-way, one-product pattern, to a complex two-way, multi-product pattern with many points of interaction. The physical mode of exchange offers additional flexibility. In an EIP where liquids are the primary exchange, piping can be linked directly from the output source to the next point of input, minimizing environmental exposure.

Material exchange flexibility enables economic development agencies to influence the type of activity occurring within the EIP in order to connect it to larger environmental and economic strategies. Instead of having to reconcile differences between existing development priorities and Eco-industrial outcomes, agencies can utilize the opportunity of an EIP to bolster and expedite the achievement of previously established goals. For example, an exchange cycle can be conceived that will attract businesses that require the job skills already possessed by the local population experiencing high rates of un- or underemployment.

### **Benefits**

A strong reason for the CDC to support the development of Eco-Industrial Parks in the Corridor through a demonstration project is the widespread benefits to be gained. EIPs provide improved financial performance for the businesses involved, contribute positively to governmental environment policies, and generate economic vitality for the community they are located within. Essentially, EIPs are a viable economic vehicle for achieving goals of sustainable development.

### **Business**

For the companies involved in an EIP, participation provides an opportunity to significantly improve operational performance and market presence. Estimates for return on assets are at least 30-50% above industry averages. A company connected to an EIP takes-on the mind-set of streamlining all parts of the organization through constant and detailed performance analysis. Through creating dramatically less waste, high performance work organizations, and closer supplier-customer relations, participation within an EIP has lucrative rewards. Since no projection of the future sees a diminished demand for environmental performance, positioning within a green manufacturing strategy enhances market access and acceptability.

At the market level, the environmental concern demonstrated in an EIP should translate into more business. In the United States, procurement by government and corporations of environmentally preferable products is a growing practice worth many billions of dollars. EIP businesses are poised to capture this growing market. In addition, environmental image enhancement should enhance sales. By emphasizing cost containment along with environmental excellence, producers in EIPs should be able to capitalize on the vast market of consumers who will make a choice for environmentally conscious products given price comparability. In other words, the EIP market aims at the mainstream, not just an ecologically devoted niche.

### **Government**

All levels of government are now charged with the daunting task of altering how the country produces and consumes goods, and disposes of the by-products in pursuit of environmental protection and recovery goals. EIPs have demonstrated to be the economic partnership needed for the private sector to markedly advance towards environmental mandates established by government.

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From the perspective of regional and local government, EIPs are an excellent tool for environment quality improvement and economic gain. The organizational complexity involved in establishing and maintaining an EIP provides government with the opportunity to participate and lead in decisions about the nature of the partnership, including the types of materials exchanged, the organizations involved, and the benefits dispersed to the community. Additionally, government accrues the benefits of landfill diversion, reduced negative externalities, and the potential for new sources of revenue associated with taxes on the value-added products created from the captured waste stream.

## **Community**

Employers within an EIP act in environmentally responsible ways that increase health and safety, and employment security while contributing to improving community environmental health and conditions. Working in these types of companies means high wage, high skill, high quality jobs built on labor-management cooperation. Valuing natural resources also means valuing human resources.

Competitiveness for EIP companies is achieved through actively providing high quality workplaces that reduce waste and increase performance in all of the company's operations. Cooperative labor relations are a hallmark of EIPs, especially in places where there is union representation and/or union equity financing. Companies and the community work together ahead of time to assure a high quality, high skill, and well-paid workforce with broad flexibility to meet organizational challenges.

Ongoing community involvement is integral to the process. One of the key factors is linking workplace practices to research and learning at local schools and colleges, and thereby educating the workforce and preparing students for the next generation of manufacturing practice.

Community support for Eco-industrial development is vital. Multi-stakeholder engagement in setting a vision for local development is essential to obtaining strong community buy-in. Companies, assisted by local government, model the best in community outreach. These strategies reduce project delays resulting from community opposition because communities and companies have been positive and proactive in anticipating and overcoming these concerns.

Through the development of EIPs, communities can now attract and grow the kinds of employers they want: responsible corporate citizens, seeking business and environmental improvement, providing good jobs at good wages, while enhancing property values.

## **Arkenol**

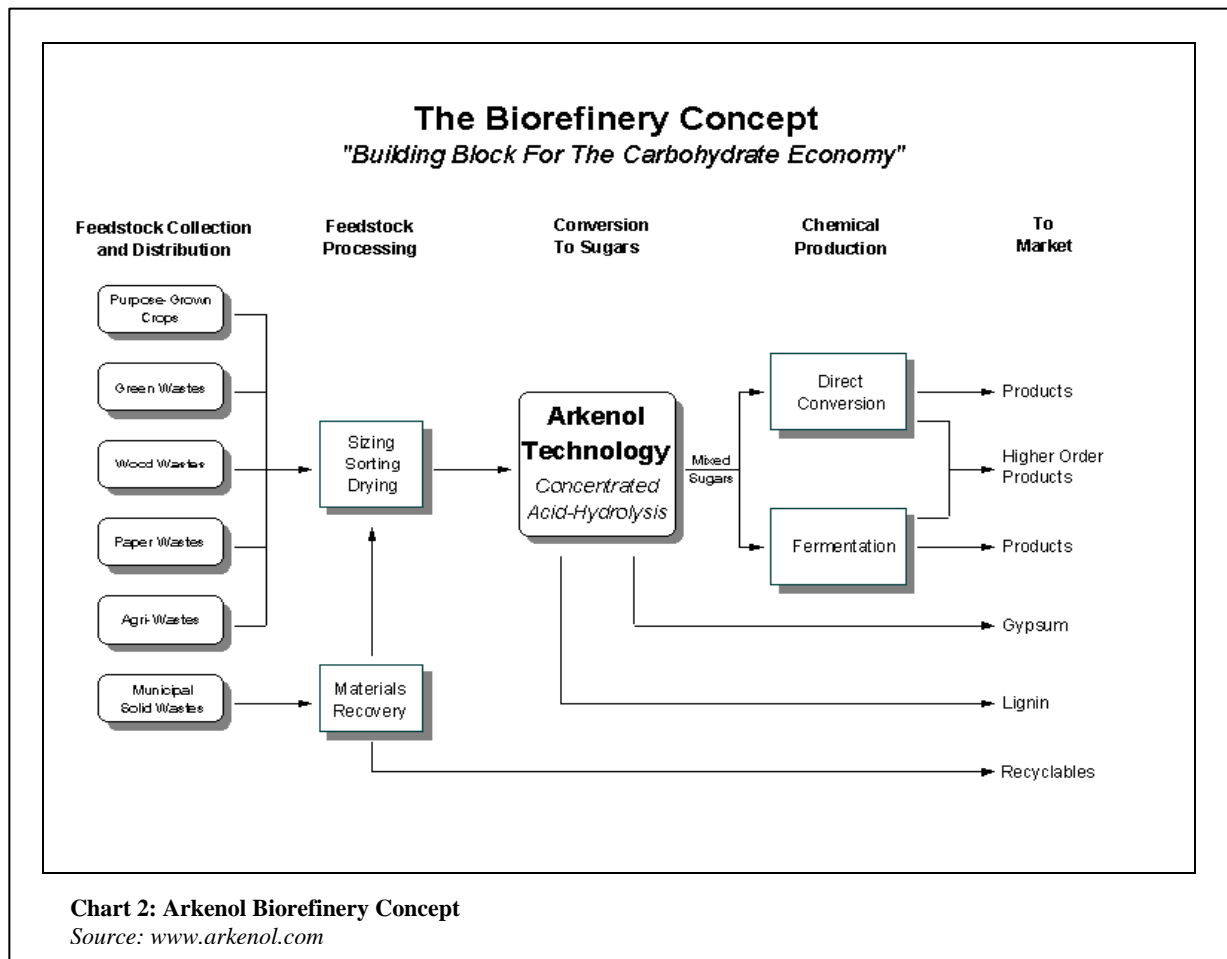
A central company has been identified that will fit into the CDC's strategy as well as the production characteristics of many Corridor locations, including the demonstration project site located in the City of Compton.

Arkenol is pioneering the construction and operation of biorefineries that convert renewable materials into environmentally friendly chemicals and transportation fuels. The company possesses the technology to produce more than 150 chemicals and fuels from capturing biomass

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in current waste streams. For example, the green waste generated in Compton from residences, businesses, and government can be diverted from Los Angeles County landfills and into Arkenol's production process. Essentially, the waste is broken down into its primary components, typically sugars, and reformulated into environmentally friendly products that have significant and expanding demand both regionally and globally.

Arkenol represents the opportunity to create a commodity out of a waste stream and create value-added products. Numerous benefits can be easily achieved through this process. Local government reduces the amount of material going into landfills and receives savings by avoiding tipping fees for this waste. Arkenol receives its primary input for free or at a low cost, which allows it to take a strong competitive stance. The EIP partners obtain valuable chemical inputs at below market cost, with both Arkenol and the recipients avoiding transportation costs. This allows these companies to also have an excellent competitive position. Through Arkenol's chemical expertise, many of their EIP partners' waste outputs can be captured and returned into the system, which is an environmental benefit. The neighboring community benefits from the Arkenol arrangement by job creation, job expansion, and learning skills in a new and highly valued style of production. The community receives an environmentally sound set of companies in place of old-style manufacturing or vacant land. Importantly, community residents gain an improved environment to live in. The generated benefits complete a cycle by offering increased sales tax revenue for the local government from the final business products sold by all of the companies involved.



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Arkenol is an excellent choice for developing the Corridor's first EIP. The company's economic, environmental, and social philosophies correspond to the principles of Eco-industry and it can generate the type of business activity that is needed as a catalyst for significant industrial revitalization within the Corridor. Importantly, combining a forward-thinking company with the progressive production and management style of an EIP will significantly contribute to the image of Compton and the Corridor as a place to conduct business and make development investments.

### **Conclusion**

EIPs present a new approach which allows industrial companies to break away from old patterns of business that caused environmental harm, and to embrace new economic partnerships that generate higher rates of profits, value environmental protection, and produce economic benefits for local governments and community members.

Creating an Eco-Industrial Park in the Alameda Corridor is an excellent opportunity for the Los Angeles County Community Development Commission to shape a sustainable economic and environmental future for the area. EIPs can be located in many areas throughout the Corridor and provide the job creation, wealth generation, and environmentally responsible behavior that are sought for in the CDC's industrial revitalization strategy.

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## SECTION 2: BROWNFIELDS (Paul Zamorano-Reagin)

The environmental and economic benefits derived from developing Eco-Industrial Parks within the Alameda Corridor are expandable through a connection to brownfield remediation activities. Creating EIPs on sites containing environmental hazards is a strong response to the mounting need for sustainable development in Southern California. Combining the recycling of land back into full productive use with the forging of new economic partnerships significantly contributes towards the improvement of the Corridor's social and economic position.

The United States Environmental Protection Agency (EPA) defines brownfields as “abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.” It is estimated that there are over 400,000 brownfields in the United States. Southern California has an extensive amount of these parcels, with a high concentration occurring in the Corridor.



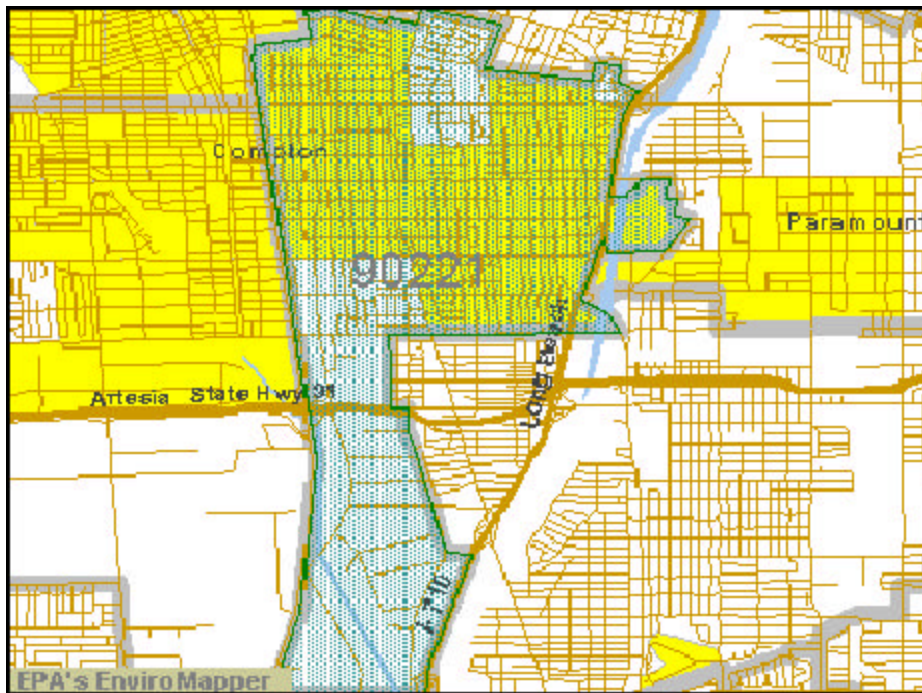
The brownfield issue is highly relevant to the Community Development Commission's development of a comprehensive industrial revitalization strategy for the Corridor. Private developers' negative perceptions of prohibitive environmental clean-up costs and liability risks have a significant dampening effect on new economic activity in the area. This is particularly the case for new projects that would be constructed on land already used in some industrial capacity, and which then requires remediation. Efforts to expand industrial production requires addressing this problem explicitly within the strategy content.

### **Demonstration Project Site**

The proposed site for the EIP is currently active with manufacturing and industrial uses. It is probable that the ground contains environmental hazards that must be contained or removed before new construction can begin. This situation should be viewed as an opportunity for the CDC to demonstrate the economic feasibility of industrial revitalization in the Corridor, even when faced with brownfield circumstances. Additionally, the project will model how strategic multi-sector partnerships and creative approaches can be utilized to foster economic expansion in communities and on parcels commonly dismissed as undesirable for investment.

During August 1997, President Clinton signed the Taxpayer Relief Act (HR 2014/PL 105-34), which included a new tax incentive to induce the cleanup and redevelopment of brownfields in distressed urban and rural areas. The Brownfields Tax Incentive builds on the momentum of the Administration's Brownfields National Partnership Action Agenda, which was announced in May 1997. The National Partnership outlines a comprehensive approach to the assessment, cleanup, and sustainable reuse of brownfields, including specific commitments from 15 Federal agencies.

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**CHART 3: EPA Brownfield Tax Incentive areas.**

*Source: Gateway Cities Partnership*

### **Interference With Economic Development**

A widely held perception is that many sites in the Alameda Corridor are vacant or substantially underutilized because they hold environmental contaminants that deter private sector (re)investment. Developers and lenders weigh a range of financial measurements when deciding where and to what extent to invest their funds. While the environmental profile of a site is obviously important, it has not been apparent to what degree contaminants influence investment decisions.

During 1997, HUD and EPA examined the effects of environmental hazards on urban redevelopment efforts. The analysis sought answers to three major questions: (1) how important of a development deterrent are environmental contamination and regulation compared to other non-environmental barriers to investment, (2) which among environmental barriers are most troublesome, and (3) what kinds of state and local economic and environmental policies offer the most promise to encourage redevelopment on contaminated or potentially contaminated sites?

The findings of the report provide promise to extensive redevelopment of industrial sites in the Alameda Corridor. Conclusions reached are: environmental issues were never the single critical obstacle on failed development deals; immediate environmental costs, rather than long-range liability, were developers' predominate concern, and; state and local actions to promote brownfield development appear to have the highest payoff where explicitly linked to efforts to create viable markets and build system capacity to respond to environmental issues.

Markets have begun to respond to environmental problems in ways that should increase investment in brownfield or potential brownfield sites. Many insurance companies are actively

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offering products that reduce risk to development investors. Lenders in some areas of the country are creating new forms of venture capital specifically aimed at generating returns from brownfield redevelopment. Additionally, there are now developers who specialize in the acquisition and redevelopment of contaminated lands, which allows them to find investment opportunities not apparent to the average development business.

The report contributes to clearing misperceptions about development and financing decisions regarding brownfield sites. It illustrates that dialog on reindustrializing the Corridor should not stop at the common notion that developers are unlikely to invest in potentially contaminated properties. This shifts the focus to discovering what are the main limitations which are preventing new or expanded industrial activity in the area.

## **Current Responses**

### *Southern California Activity*

The Los Angeles Brownfields Program created an interdepartmental team of City staff with federal support from EPA to identify sites and coordinate resources. Two case study sites have been identified, and \$8 million in state funding leveraged for cleanup.

A federal partnership selected Los Angeles as a National Brownfields Showcase Community. This brownfields redevelopment project complements citywide efforts to achieve inner-city revitalization by linking redevelopment with environmental protection and by capitalizing on existing partnerships. The Los Angeles Brownfields Program is part of a strategic plan to maximize opportunities created by the Alameda Corridor project.

The City's Brownfields Resource Team has targeted two areas for its showcase effort. The Prison Site is a 20-acre parcel of vacant contaminated property owned by the state. The South Central Renaissance Industrial Park (SCRIP) is a partially contaminated 208-acre industrial area surrounded by residences.

## **Environmental Insurance**

A significant restraint for redevelopment projects on brownfields is not the high cost or the significant legal liability involved. What is hindering new use of these sites is the uncertainty associated with costs and liability. There are a variety of efforts underway throughout the private and public sectors to alter the policy and legal frameworks surrounding brownfields. The primary goal is to reduce and control the uncertainty to an extent that it is no longer an investment deterrent for developers and lenders. The most promising effort is the formulation of insurance policies specifically designed to address brownfield remediation and subsequent development.

Environmental insurance (EI) has the potential to reduce the uncertainties associated with brownfield redevelopment projects. EI policies that limit cleanup cost exposures provide a strong basis for the quantification of risk that is often demanded by lending institutions as a condition for investment. The monetization of this form of risk also allows developers to make more appropriate site selection and project design decisions before approaching lenders.

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The contribution that EI products can make to urban redevelopment will vary with local economic conditions, most particularly the strength of the local real estate market. In weak markets even minor reductions in risk and uncertainty can enhance the competitive position of brownfield sites. This circumstance offers significant potential for economic advancement for older communities holding numerous brownfields.

There are at least five major types of Environmental Insurance, with each playing a somewhat different role in limiting uncertainty and quantifying risk at different stages of the redevelopment process. The broad types of coverage are:

- Professional Liability Coverage, mainly for errors and omissions by public and private parties dealing with or managing contaminated land issues;
- Owner/Operator Liability Coverage, for the firms or agencies actually working on the site, whether doing business or engaged in cleanup operations;
- Cleanup Cost-Cap or Stop-Loss Coverage, which places an upper limit on the costs of cleanup that site redevelopers may have to pay;
- Legal Defense Coverage, for lawsuits associated with liability claims made by enforcement agencies or third parties (injured private parties); and,
- Re-opener or Regulatory Action Coverage, for costs associated with any future government actions that require further site cleanup, including the costs associated with loss of use of the improvements on the site.

Together, these five styles of EI are a comprehensive response to removing the risk and uncertainty, financial and legal, associated with brownfield redevelopment. As these insurance products become more refined, brownfields are changing from being a redevelopment barrier to becoming a quantifiable and predictable component within a financial Performa.

Environmental insurance suffers from the perception of being cost prohibitive for most projects, particularly those on small sites. Insurance companies and brokers admit that this was the case when the products were first introduced in the early nineties. They also concede that the policies were inflexible, and that the insurance industry has failed to adequately address these misperceptions, as the products became better, less expensive, and more flexible. Policies are now tailored to meet the unique needs of specific redevelopment projects, often times drafted from scratch for the client. An associated problem is that public agencies charged with urban redevelopment have limited knowledge of the EI products and services available. This prevents the agencies from fully advising developers of the options available, as well as participating in the design of polices that will best trigger investment in their specific jurisdiction.

Local governments must actively seek information regarding EI, and build a tight connection between development actors and insurance companies. Knowledgeable insurance industry representatives are absent from most Brownfield Task Forces pursuing new redevelopment efforts as part of the EPA Brownfield Pilot Projects. Developers, bankers, planners, environmental engineers, public development officials, attorneys, and community representatives are routinely included among the stakeholders designing new approaches. So long as insurers are excluded from the decision-making apparatus, the misinformation about the potential contributions of EI will remain. Acting as a facilitator for Corridor revitalization, the CDC is positioned to gain concentrated EI knowledge and distribute information to the development actors in the area.

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## **Environmental Justice**

Environmental justice is the belief and practice that notions of civil rights are extended into the arena of environmental quality. The EPA defines this form of justice and public policy decision-making as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that populations of people-of-color, women, and/or low-income families bear a disproportionate amount of adverse health and environmental effects, led President Clinton to issue Executive Order 12898 in 1994, focusing federal agency attention on these issues. EPA responded by developing the Environmental Justice Strategy which focuses on the Agency's efforts in addressing these concerns.

While discussion of environmental justice is beyond the scope of this report, the concept is highly relevant to the CDC's promotion of industrial expansion in the Corridor. Plans and models for industrial revitalization, brownfield responses, and the development of an Eco-Industrial Park must all explicitly consider the merits of, and public attention on, environmental equity.

## **Conclusion**

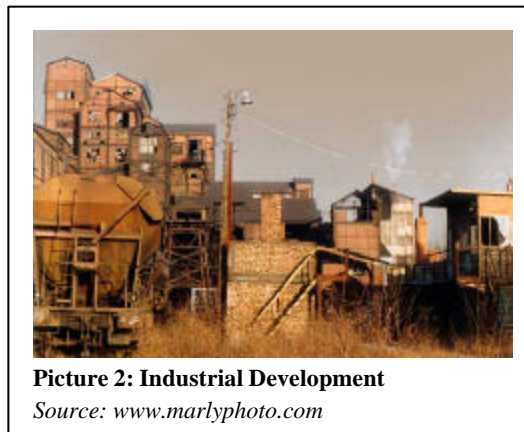
Industrial revitalization strategy for the Alameda Corridor must explicitly include provisions for attracting private capital to properties that have, or potentially have, environmental contaminants. Private sector markets, as well as multi-sector development partnerships, are responding to brownfields in new ways which are resulting in increased investment activities for industrial parcels.

By integrating the concepts of sustainable development (EIPs), environmental justice, brownfield recycling, and new collaborative economic development partnerships, the Community Development Commission can facilitate significant industrial revitalization within the Alameda Corridor.

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### SECTION 3: DEMONSTRATION SITES (Jonathan Lonner)

When introducing a strategy like the Eco-Industrial Park to a potential developer, one must begin by shedding the stigma of the ordinary Industrial Park. In many locations across the nation, industrial parks have become places where decaying steel water towers and dilapidated warehouse structures create eyesores for the surrounding community. These plants, whether still operating or dormant, are effecting the neighboring property values, as well as the surrounding environment and economy. To combat this, the idea of the Eco-Industrial Park must be introduced. After a comprehensive



explanation of EIPs is discussed, the next ideas expressed must be those of similar developments, either operating or in the development phase, which have chosen the Eco-Industrial Park model. After exploring these analogs, a process of identifying individual companies with environmental agendas must be identified, as well as, an analysis of financial implications.

#### **United States Analogs (Initial Demonstration Sites)**

One form of environmental development, is the Eco-Industrial Park (EIP). It strives to improve environmental quality as well as increase business performance through a series of ecological networks and connections. In the United States, the President's Council on Sustainable Development (PCSD) has publicized this concept by designating four developments as "demonstration sites." These demonstration sites include: Baltimore, Maryland; Cape Charles, Virginia; Chattanooga, Tennessee; and Brownsville, Texas.

##### *Baltimore, Maryland*

Located in the southeastern portion of Baltimore, the Fairfield EIP consists primarily of petroleum and organic chemicals producers. The site is divided between variety of large and smaller companies. The main functions of the larger companies include asphalt manufacturing and distribution, and oil and chemical manufacturers. While the larger companies concentrate on the production, the smaller companies focus on trucking, tire retreating, and box manufacturing.

The Fairfield EIP will retrofit the existing structures using industrial ecology principles. By implementing these principles, the existing companies hope to help the existing companies develop and expand, and recruit companies with excellent environmental records that fit into the carbon-based economy. The plan is to recruit enterprises that manufacture elements similar to those already on site, as well as environmental technology corporations, recyclers and waste exchange corporations. By recruiting these businesses, Fairfield will not create any new impacts on the environment despite creating substantial economic growth for Baltimore through high skill/quality employment.

### *Cape Charles, Virginia*

Situated in one of Virginia's poorest counties, plagued by poverty and unemployment, the 570-acre park is part of a comprehensive plan to revitalize the area. In choosing an Eco-industrial model, the community voiced their resolve to not accept the tradeoff of natural and cultural resources for short-term economic gains. This sustainable development strategy--balancing economy and environment--was developed with, and continues to depend on, this enormous community participation.

The area was custom-zoned to facilitate the Sustainable Industrial Park and will include a coastal dune habitat preserve and wetlands for wastewater treatment. The park's hope is to provide a development that promotes business and economy, while enhancing the natural and cultural resources available to the current population. In order to facilitate this conservation the development must use industrial ecology principles to enhance and support private businesses and industrial development in order to revitalize the local economy.

Northampton County hopes to maximize and sustain its assets, which include productive land, clean water, and natural and cultural resources, by targeting six key industries: agriculture; seafood and aquaculture; heritage tourism; arts, crafts, and local products; research and education; and new industry. Although its infrastructure is not yet in place the STIP has already attracted its first tenant--a manufacturer of photovoltaic energy equipment.

### *Brownsville, Texas*

Brownsville, the only location on the US/Mexico border with five different modes of transportation, suffers from high poverty and a lack of unemployment opportunities. It is home to the Brownsville Eco-Industrial Park, which expands across the border into Matamoros, Mexico. Planners at this Eco-Industrial Park are considering the virtual EIP model in which industries that are not necessarily located on the same site, but are, nonetheless linked through waste exchanges. The advantages of a virtual EIP are that businesses do not have to relocate to participate and that the concept may be easier to replicate than the actual centralized EIP.

New industries will be recruited to complement the existing businesses and enhance the waste exchanges. The Brownsville EIP is targeting a solvents recycler, manufacturer of recycled plastic products, and a distribution center for reusable shipping containers

### *Chattanooga, Tennessee*

Over the past decade, the residents of Chattanooga, Tennessee have been engaged in a series of collaborative planning projects designed to redevelop and revitalize the City through the possibility of developing an EIP. What distinguishes the Chattanooga effort is its connection to regional planning. This sustainable development offers a range of options including ones that mix industrial, service, tourist and residential use.

Chattanooga has studied the following sites and product mixes for possible EIP developments. The first is the Brownfield Reclamation Park (Anchor Glass Site). This former manufacturing site consists of 13 acres of industrial zoned property surrounded by a low-income residential

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neighborhood. The second is the mixed-use Lookout Valley Site. A “Greenfield” site outside of downtown Chattanooga consisting of 755 acres, with the possibility of adaptive reuse space. The third is an Army Ammunition Plant, the likely site for an EIP. This facility was owned and operated by the U.S. Army for the production of TNT. The largest of the four sites it is approximately 6,800 acres. The proposed use of this site has included suggestions of a combination of warehousing, distribution, industrial activity, business incubators, and a possible technical education center. The last site it in the South Central Business District. The original vision for this site includes a variety of zero-emissions industries, incubators, and housing.

### **Additional United States Analogs (Emerging Sites)**

Out of these initial sites have grown a wide variety of development groups trying to capitalize on the wealth of technology and resources at their disposal. In attempting to create an environmentally and economically feasible development, they are turning to the Eco-Industrial Park prototype. The current U.S. wave of Eco-Industrial Development can be found from Trenton, New Jersey in the east to San Francisco in the west. In the section to follow, please find a sampling of the ways in which current businesses are applying the concepts of the EIP to their individual situations.

#### *Trenton, New Jersey*

This project has proposed an ambitious sustainability strategy. It includes involving the broad business community as part of the revitalization process through an Eco-Industrial Business Association. It includes community groups such as Isles, Inc. forming partnerships with city officials and local businesses to create vibrant yet sustainable communities. Trenton's history suggests that the once prosperous industrial area can once again become a hub of industry. Based on these observations a number of broadly conceived sectors are to be targeted for recruitment. They include: environmental and energy technologies, remanufacturing firms, and advanced materials. Collectively, these broad sectors represent numerous opportunities for attracting new companies.

#### *Burlington, Vermont*

The Riverside Eco-Park has been designed as a partnership of public, private, and non-profit sectors in order to better Burlington's economy and quality of life through the use of bio-energy. The vision of the Eco-Park is to be a model of environmentally sound and equitable economic development. It will consist of a complex of greenhouses and buildings utilizing "waste" heat, a by-product from the McNeil Generating Plant. The Eco-Park is proposed to include a range of sustainable and restorative uses related to organic agriculture, biotechnology, aquaculture, and 'living machine' technology. The Riverside Eco-Park will also link to the community through the integration of cutting-edge technology, and business incubators, creating a commitment to the community as, not merely an employer, but a good neighbor as well,

#### *East San Francisco Bay, California*

In May 1998 the Economic Development Alliance for Business (EDAB) announced the successful completion of a feasibility study for a resource recovery based Eco-Industrial Park in the East San Francisco Bay. The focus for this project involves a group of businesses working

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together to cooperatively manage their key resources and by-products, including energy, water, and raw materials. The participants work towards the common goal of optimizing economic, employment and environmental objectives. A resource recovery based EIP of this type also maximizes the value of locally collected materials and reduces pollution and waste.

The main purpose of a site such as this is to increase the diversion of materials from the wastestream and eventually the landfills, to provide jobs to local residents, and to benefit the local economy. Ancillary benefits are the reduction of air pollution via reduced transportation, a place where contractors can dispose of their materials safely, as well as an attractive model for re-manufacturing opportunities both locally and worldwide.

### *Cabazon, California*

The Cabazon Band of Mission Indians' tie to the land and nature are reflected in the Cabazon Resource Recovery Park. Recognizing the need for well-conceived, environmentally sound industry which serves to preserve, recycle and transform waste streams, the Cabazons have set aside a 590-acre portion of their reservation for an Eco-industrial park. The planned mix of projects in the park allows for a synergy that will increase efficiency and improve the economics and environmental benefits of each business.

Under the tribe's plan for the Cabazon Resource Recovery Park, potential industries individually and collectively implement practical solutions to environmental and waste management problems of various types. Currently operating are Colmac Energy, Inc., and First Nation Recovery Incorporated. Proposed projects include metals reclamation, gasification, used oil refinery, reclaimed glass, paper de-inking and other industries that recycle, reuse or transform waste streams into useful commodities.

### *Dartmouth, Nova Scotia*

The Burnside Industrial Park located in Dartmouth, Nova Scotia houses over 1200 businesses and occupies almost 2000 acres of land. For the past several years, the Park has been the focus of an intense study led by Dalhousie University's School for Resource and Environmental Studies. Dalhousie activities have included a survey of Burnside businesses focusing on raw material needs, waste materials, pollution prevention opportunities, and individual perceptions; a series of articles in the Burnside News; and publication of a document, *Designing and Operating Industrial Parks as Ecosystems*.

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## SECTION 4: SUSTAINABLE DESIGN / ECO-TECTURE (Jonathan Lonner)

A resurgence of building ideologies known as sustainable design/Eco-texture is finding its way to large-scale projects around the United States. While somewhat new to current development companies, the concepts have been around since mankind began constructing habitats and shelters. However, when air-conditioning and mass-transit was invented and introduced into building design these ideals seemed to become less prominent. However, these practices can help to minimize the exorbitant costs associated with a large-scale manufacturing or industrial development through a simple set of design guidelines. Cutting-

edge as well as older technologies and materials are being used to lessen the impact a building can have on the environment, the surrounding infrastructure as well as day-to-day operations.



**Picture 3: Environmental Design**

Source: [www.obriendesign.com](http://www.obriendesign.com)

“Green buildings” are designed to operate more efficiently than conventional buildings. The benefits of this type of design/construction include lower operating costs, improved worker productivity, fewer worker sick days, increased marketing potential, reduced infrastructure requirements, as well as fewer environmental impacts. . Current resource-saving technologies can significantly reduce energy and water use, resulting in lower operating costs. These lower operating costs are linked to energy efficient lighting, climate-responsive design, natural ventilation and access to daylight. These same factors have been linked, in recent studies, to improved worker productivity as well as fewer sick days. With the decrease in sick days and the increased productivity of workers in environmentally friendly buildings comes increased marketing potential. All of these features contribute to a larger profit margin and a competitive advantage for employers.

While these internal amenities can help to affect the worker on a daily level, the external amenities of site consideration are also large factors in helping the building to be “green.” With more environmental site consideration, such as design, solar orientation as well as reclaiming water to use for site hydration, the infrastructure requirements for a site can be drastically reduced. Additionally, this will cause less environmental impacts, through the use of renewable and non-toxic building materials. These practices conserve resources, reduce waste and pollution, and minimize impacts on the surrounding environment. Savings such as these, in utility costs by building owners and tenants, mean that more of their dollars stay in the community to support local business.

### **Herman Miller SQA Headquarters**

In 1995, Herman Miller, a furniture manufacturer, partnered with the design firm William McDonough and Partners to design a new manufacturing facility for its subsidiary, Miller SQA. This new structure was created using sustainable design theories as a guideline. Additionally Herman Miller in recognizing the complex interrelationships among the land, water, and air, in the design of the facility, has also begun to reshape how his company is working concurrently in

a variety of areas, from the management of solid and hazardous wastes to participation in various governmental initiatives.

In designing this headquarters with the environment in mind Herman Miller hoped to follow the following guidelines: Eliminate the use of landfills, require an environmental life-cycle analysis for all new products; reduce material waste by 30 percent, reduce the volume of packaging materials for finished goods by one half, strive to surpass conformance to the law (compliance being the minimum standard by which we rate our performance), use company resources to promote environmental knowledge and awareness to those involved in his business, including employees, customers, regulators, suppliers, neighbors, and competitors, as well as additional attention to improving the environmental impact of materials used in our products and processes



**Picture 4: Herman Miller Headquarters**  
Source: [www.ecotecture.com](http://www.ecotecture.com)

### **Gap Headquarters**

The GAP Headquarters building is designed in much of the same way. Main goals of this design include the maximization of exposure to the elements, and delivering fresh air and constant exterior views to its employees. The roof is designed to undulate with the surrounding field of wild grasses to enhance views and encourage the return of wildlife.

In planning this site, commuter traffic and parking was a major concern. To combat this, GAP located a site which prevented the enormous amounts of pollution that would have been caused if the headquarters had located further from its target workforce. Additionally, it employed redevelopment techniques that caused less damage than bulldozing virgin property. The design team believed that the campus setting, where the buildings are no more than two stories and spread throughout the site, was more sensitive to the surrounding environments. High rise buildings disturb the surrounding neighborhoods, buildings, and trees by blocking sunlight and creating wind tunnels. They additionally located their buildings where ample sunlight was available in order to capitalize on natural lighting. The building must be located on the site in such a way that the removal of



**Picture 5: Gap Headquarters (climatic components)**  
Source: [www.ecotecture.com](http://www.ecotecture.com)



**Picture 6: Gap Headquarters (topography)**  
Source: [www.ecotecture.com](http://www.ecotecture.com)



trees and vegetation is minimized. Hiding buildings behind hills and trees in this way reduces the energy load on buildings. It also helps to protect the natural features and vegetation of the site during construction process through designating access routes, parking staging, storage, and work areas. Especially in urban areas, resource conservation should be promoted by recycling and/or reusing existing building materials whenever possible. Paving for vehicles should be limited to main access corridors, parking garages, etc. Pedestrian paths from cars to buildings should combine pavement with grass in order to reduce erosion and integrate nature. Paving materials and content should be made of recycled and natural paving materials, such as recycled glass and concrete, stone, wood, etc.

### **Energy Resource Center of Southern California Gas Company**

Downey, California is the home of the new Energy Resource Center of Southern California Gas Company. This renovated 1957 Southern California Gas Company building facility is a symbol of energy and resource conservation, it is designed to optimize energy while maintaining a high-quality, high-performance space. This is achieved through its careful integration of lighting, heating, cooling, insulation and energy management control systems. Design techniques and building technologies work together to minimize heating and cooling requirements, maximize the use of natural daylight and maintain healthful indoor air quality.



**Picture 7: Energy Resource Center**  
*Source: [www.ecotecture.com](http://www.ecotecture.com)*

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## SECTION 5: MARKETING ECO-INDUSTRIAL PARKS (Andres Klingberg)

Sustainable development, a concept which has gained increasing prominence in recent years, faces a number of challenges from various aspects of human activity and demographics.

Significant among them is the extract-and dump nature of the current industrial system, in which materials and energy are extracted, processed, used and “dumped”, in a linear flow into, through, and out of the economy. Simple consideration of the closed material system cannot be used indefinitely in such a fashion. The capacity of the earth to assimilate garbage and pollution is similarly limited, such that the traditional model of industry activity eventually (soon?) runs up against natural limits, with potentially catastrophic results. (Gertler, 1995).

Eco-Industrial Parks are proposing an alternative model for the organization and management of the technological structures that form the industrial economy. This alternative arises from the discipline of industrial economy, which has emerged over the past several years as a potential guide for that realignment. (Gertler, 1995). This new field promises to create opportunities to improve both environmental performance and business performance, while offering a new paradigm for restructuring the industrial system in a fashion that is compatible with notions of sustainability. The result is the formation of integrated industrial complexes in which the byproducts of one process are used as feed stocks of another, opening up innovative new avenues for managing business and conducting economic development.

While approaching the new millennium, the future seems to be unpredictable, yet there are some trends that can be predicted. In words of Ed Cohen-Rosenthal, concerns for the environment will grow; resources will become scarcer and less reliable; demands for quality and cost competitiveness will increase. These challenges can be overcome with a new paradigm of industrial organization (EIP's) that ask each community, each company, and each employee how they work together to use resources more wisely. Through the development of EIP's, good jobs, strong companies, sustainable communities, and improved regional environments can be created Mr. Cohen-Rosenthal concludes.

### *Marketing the Eco-Industrial Park Development to the community*

- a) The Corridor is populated largely of poorly educated working age residents that are principally of Hispanic and African-American origins. Minorities tend to have strong religious beliefs. Promoting Eco-Industrial Parks through the religious organizations in the different churches in the area giving speeches after or before the service would be an excellent opportunity to inform the community about the advantages of the EIP. Similarly, through some other organization such as Neighborhood associations, which are also crowded, will help to facilitate the information to a huge amount of people.
  - b) If an Eco-Industrial Park is to become a reality, educational strategies must reach people of all ages. Fostering such opportunities for lifelong learning means that the transition to an Eco-Industrial Park can begin today rather than with the next generation.
  - c) Because Americans and people living in the United States obtain most of their news and information from the print media, one of the key factors is to foster public awareness of what an Eco-Industrial Park can do for their community is using the free publications that the civic center of the city has. In addition, each city has several free periodicals located in stands at
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the sidewalks. All this print media has easy access, and are popular among the residents in the cities.

- d) Work-based learning is another avenue for equipping adults with the knowledge and skills they need. School-to-work opportunities and retraining programs for dislocated workers will become increasingly important as the economy shifts to more efficient enterprises and sustainable practices such as an Eco-Industrial Park Development.
- e) Another way information for the community is the Internet. This mass media system offers communication in appropriate an accessible formats that can be easily understood by the users. The Internet has an advantage that the print media lacks, that is the possibility of feedback with the source of information. Also, through online information network the community can monitor what kind of by-products the Eco-Industrial Park is using in order to help the implementation of a better recycling campaign.

### *Marketing the Eco-Industrial Park Development to the Developer*

- a) Once the community is convinced that the vision for local development will fill up their expectations, then their support for the project is by itself a clear advantage for the developer. It will reduce project delays resulting from community opposition.
- b) Hard and trained workers are also a huge advantage for the developer. It is an advantage because when a high performance approach is combined with qualified workforce, then companies know they are getting value, employees know they are receiving fair pay and real skills, therefore, shareholders and customers will receive higher values.
- c) The infrastructure that the Corridor and the site have is unique and offers a variety of possibilities that can make an Eco-Industrial Park a huge success for the area. Either new construction or rehabilitation of existing buildings follows best environmental practices in materials selection and building technology including recycling or reuse of materials. In addition, the construction of the Alameda Corridor Project will facilitate the transportation of the final products to international markets through the ports of Long Beach and Los Angeles, and the transportation of by-products from the sources to the Eco-Industrial Park complex. Both can save huge amounts of time and money.
- d) The ports of Los Angeles and Long Beach move one quarter of all waterborne trade in the United States. With this advantage, the Pacific Rim market, which has an explosive economic activity could become the principal receptor of the final products as well as a source for needed materials for the Eco-Industrial Park complex.
- e) The characteristics and location of Corridor give the opportunity to the Eco-Industrial Park to work as a ZERO emissions EIP or at least to minimize the environmental impact as much as possible like engaging the existing businesses and population in lowering Eco-System impacts. Because of the proximity of the infrastructure, the industries can be geographically close, this closeness, will give the opportunity to eliminate wasted processes, energy and material by reusing and recycling, along with actions to minimize packaging and transportation. It will all lead to cost savings. Additional savings will be realized through use of waste/product exchanges both with companies within the park and with regional waste exchange networks.

### *Marketing the Eco-Industrial Park development to the client.*

- a) Eco-Industrial Parks are flexible. It can be adapted at any characteristic the site might have. Under this principle, Eco-Industrial Parks can become one of the less difficult projects to bring in to practice and is one of the most successful in terms of benefit. Eco-Industrial Parks
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- have the fundamental ingredients to maximize every conceivable business opportunity and partnership.
- b) Eco-Industrial Parks have proved that they work if the condition for it to survive are given. Kalundbor, Arkenol and Kafus are living examples of the potential of the EIP's. Let's take a look at some numbers at Kalundborg. Inter-firm linkages have reduced the waster demand of the four big participants by between 20 – 25%. Oil consumption has been reduced by 19,000 tons/year. Coal consumption is reduced plants requirements, by substituting with refinery flue gas (Gertler, 1995)
  - c) Eco-Industrial Parks are a golden opportunity to have a potentially integrated area. Since they are open networks that can work as a multiplier of the ir own benefits through adding new members that could locate production facilities as well as multiplier of several benefits such as job creation, reducing environmental impacts, and improvement of the economic performance for tenant firms.
  - d) Eco-Industrial Parks can be a powerful tool to promote sustainable development. Understanding sustainable development as a new framework for thinking about the causes and symptoms of economic distress and approaches to alleviating such problems. Since more and more communities are engaging in visioning and planning projects for a variety of reasons, many related to the growing interest in finding collaborative and sustainable solution to economic, environmental, and community problems. Eco-Industrial Parks can lead to improvements in planning practices encouraging development, and promoting strategies that propose a balanced use of local resources.
  - e) Having the consent of the community and the developer, savings in time and resources will appear. If the community and the developer are agree with the project, just the remaining law paper work will be necessary for begin the project avoiding unnecessary meetings and bureaucracy that only will delay the project. Projects such as Eco-Industrial Park Development takes time to be build and a prompt answer to the community and the developer are important because that is exactly what they are looking for. It will give the LA.CDC the reputation for be one of the pioneers in such developments in Southern California.

The Corridor is composed by 7 principal cities and some other gateway cities that have been working individually in order to solve their own problems. In my opinion, the individualism or lack of collaboration is one of the mayor problems to solve for the Corridor in order to begin working to achieve goals as a whole that will result in faster benefits at low cost.

The concept of Inter-firm collaboration, which is usually applicable to Eco-Industrial Parks, can set for the area a new paradigm that can brake years of doing things wrong. It is time for the cities to open their eyes and look beyond, to understand that keep doing thing in the same way only will bring same results.

Inter-firm collaboration is an organizational phenomenon by which distinct firms interact in collaborative ways in order to solve problems or achieve results they could not do acting individually. (A short guide to inter-firm collaboration R.T.A Inc Gertler, 1995). Inter-Firm collaboration is a way for firms to develop joint solutions to common problems. It allows firms to combine resources to gain knowledge, achieve economies of scale, acquire technologies and resources, take advantages of their mutual capabilities and enter markets otherwise beyond their reach (Gertler, 1995).

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In our case, the cities will replace the firms and we could add the governmental intervention, let's say Los Angeles county or some other institution called for instance the institutional Corridor matrix, that can coordinate the trade association. They will be self-sufficient, founded by membership fees and other resources that will provide services such as accounting, financing, and training. It could provide competitiveness services and catalyze, in our case, inter-city collaboration.

The conditions that can generate or influence the idea of inter-city collaboration are given. The cities located throughout the corridor share a common crisis. The recognition of the series of conditions they face should tend to encourage a group response. The area is looking for benefits and because the crisis is in some way the same, the benefits can result in a region-wide revitalization.

Because of the geographic concentration of the area, it is easier for the cities to have personal contact. Personal relationships can facilitate problem solving and accelerate information flows that lead to higher levels of innovation.

The most immediate advantage of the inter-city collaboration will be to keep all the participant cities informed about the definition of the projects, whether it is a EIP or not, improve trust and communication among them, which in turn saves time and resources.

Economic and environmental benefits can be realized by applying the concepts of industrial ecology to current and planned commercial and industrial developments. Incentives must also be provided to the community for achieving environmental objectives.

The notion of industrial ecosystems offers a very powerful vision to guide the development of sustainable industrial structures. Similarly, sustainable industrial structures are a very powerful vision to guide the development of sustainable economic and environmental performance as well as the necessity of working together as a whole in order to confront the new year, the new century, or better say the new millennium with tons of optimism.

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## SECTION 6: WORKFORCE ANALYSIS (Li Zhang)

### Introduction

In order to be successful, the EIP requires a “buy-in” on the part of the public at large. The confidence of the community is important. There is a “let’s wait and see” kind of attitude that needs to be addressed. The key issue for this is all about jobs. Most industries will receive welcome as long as they can create job opportunities for the residents in the community, especially those people who have low-education and limited opportunities. On the other hand, skilled and committed employees are an industry’s most important resource, because they can determine the industry’s goals and performance. Building, maintaining, and marshaling the human capital needed to achieve goals is critical. Therefore recruiting, hiring, training, and retaining skilled people is essential to the effectiveness and success of the EIP. Based on this viewpoint, the analysis about the workforce is divided into three parts: job creation, job training, and job retention. It will cover both the employer and employee perspectives, and other entities that play very important roles in the workforce market.

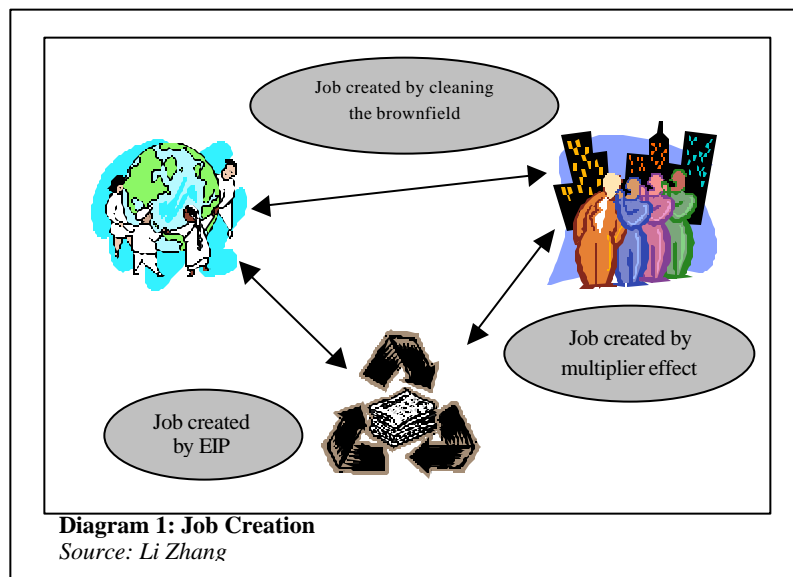
### Job Creation

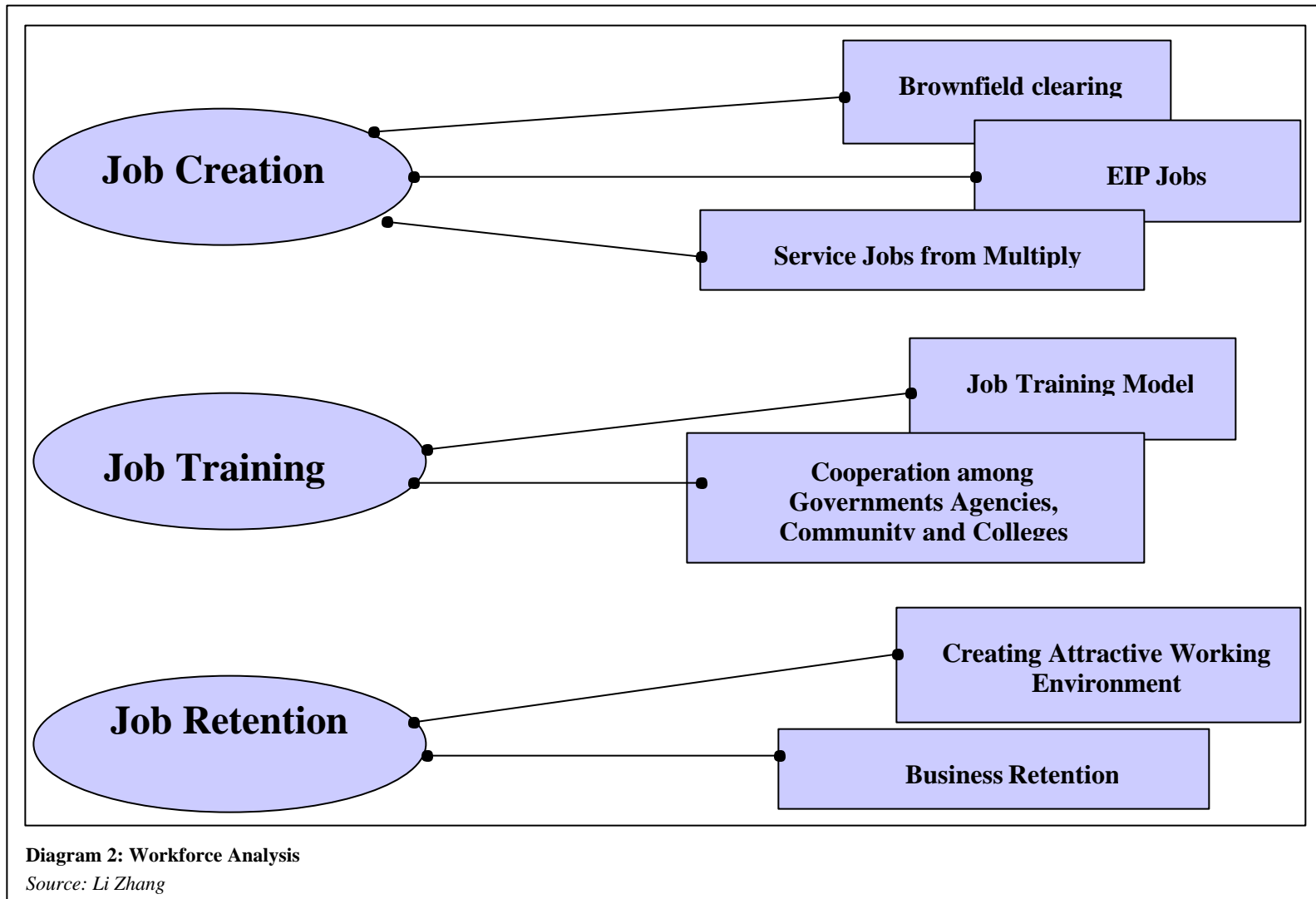
When we try to prevent, assess, safely cleanup, and reuse brownfields, surely we can create many new job opportunities. Cleaning contaminated parcels and dealing with hazardous substances is the first step of reusing brownfields. According to the size of the brownfield, we can apply certain amount of people with job opportunities.

The EIP suggested for Compton site is one that focuses on utilizing the waste streams and producing recycled material products. The factories and businesses attracted to this site surely will create many new jobs in this area.

The concept of multiplier effect or induced jobs arising from manufacture jobs to stimulate the economy and create additional job opportunities in virtually all sectors of the economy is well known. These results from the cycling of

money through the economy as the direct workers spend their incomes on goods and services. Then, in turn, these indirect workers





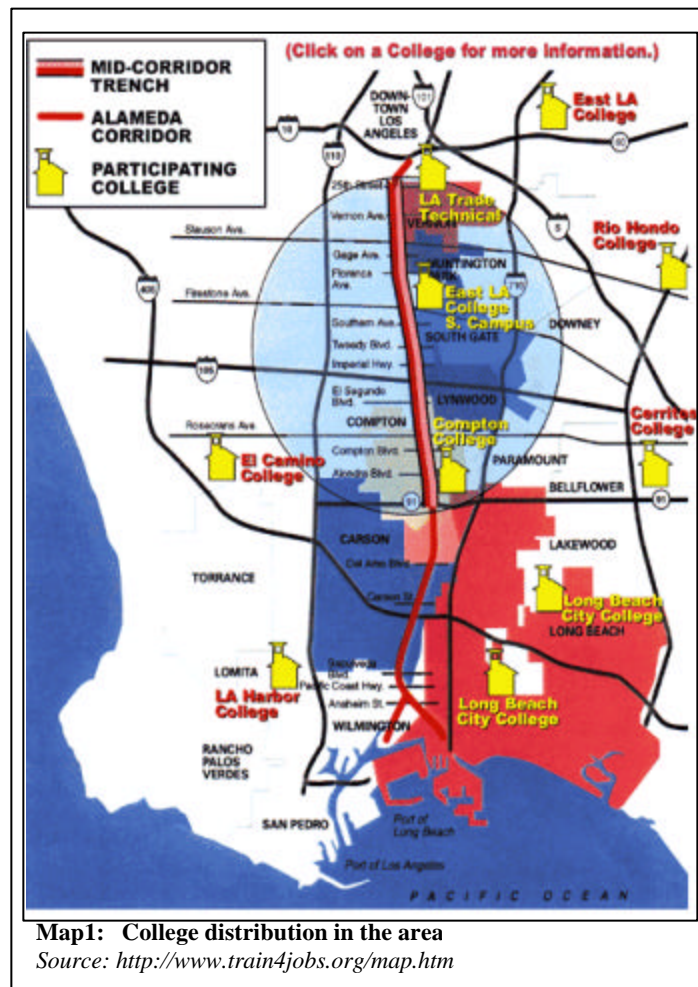
each spends their incomes on other goods and services resulting in the recycling of money several times through the economy. These multiplier effects have been shown to range from 2 to 1 to up 3 to 1, depending on local economic factors such as the availability of local goods and services. Therefore, as one of the consequences of this effect, additional service jobs will be created for the local residents.

## **Job Training**

The United States EPA operates brownfields environmental job training and development pilots. These pilots try to bring together community groups, job training organizations, educators, investors, lenders, developers, and other affected parties to address the issue of providing training for residents in communities impacted by brownfields. The goals of the pilots are to facilitate cleanup of brownfield sites contaminated with hazardous substances and prepare trainees in activities that can be usefully applied to a cleanup process employing an alternative or innovative technology. From those pilots, we can borrow some very helpful experience for our brownfield site clean and redevelopment project in Compton.

A critical part of the success of cleaning and redeveloping the brownfield is the participation of the affected residents. Letting residents, especially those disadvantaged, get the jobs created by the redevelopment is very important to the success of cleaning and redeveloping the brownfield.

The idea that employing the local residents to clean the local brownfield has been criticized for the dangerous of letting resident expose to hazardous substances. However, these sites are not being remedied at an appropriate pace, and the low-income neighbors can seldom afford to relocate to better area. Due to high unemployment and underemployment rates, there are many residents who would accept the opportunity to clean their communities and the same



**Map1: College distribution in the area**  
Source: <http://www.train4jobs.org/map.htm>

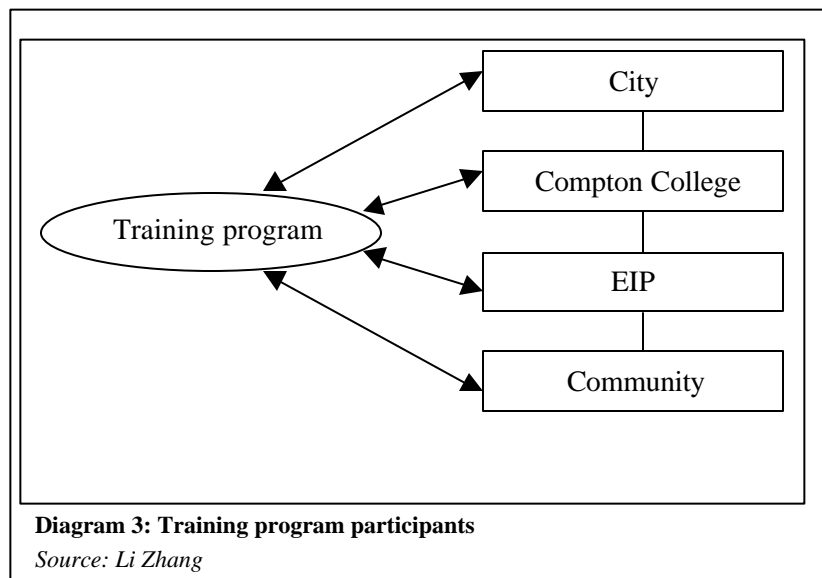


time get paid for the work. The clean and redevelopment training program will let them at least have the basic technical abilities and also provide them with new job opportunities.

Some people point out that those jobs are only temporary and cannot bring the brownfield and community long-term benefits. They are right, but we have a good solution for this problem. Giving those people further training after the cleaning of the brownfield and letting them have the abilities and skills required by the job opportunities in the EIP and prior access to the job opportunities too will be the best way to utilize the labor source in the area.

The tentative recommendation for the clean and redevelopment training program is put the city, community, EIP and the College together. The good cooperation among these organizations will guarantee the effective training programs.

Compton College is right next to the site, which can make it the perfect main training location for our program. Compton City should give the training program relevant support, which includes policy and financial help. The industries and businesses in the EIP as the main beneficiaries of the training program should provide financial and other necessary help. The community is the other direct beneficiary of this



program. The more residents can get training and jobs from it, the better the community will be. Therefore the community should be open to new ideas we have for cleaning and redeveloping this brownfield site and think about the benefits of the community from the long-term.

### **Job Retention**

The job retention problem really bothers many people, since none of the city, community, and the industries and businesses in the EIP can afford to lose the employers that they spend a lot to get. In my opinion, the flux of human resource in a free labor market is unavoidable. Everybody is always looking for better opportunities. Yet, this doesn't mean we can do nothing about the job retention. Efforts from two sides are critical to the job retention. First is the effort from the city. It should focus on the business retention; secondly is that the employers should keep creating better opportunities for the

employees. What the employers offer should be not only jobs, but also careers for the employees.

The reason that Compton should focus on business retention is because businesses are the sources of the jobs. No business in the city also means no jobs too. Compton can use the political power it has to try to attract and keep industries and business in the area, therefore create and keep jobs for the residents in the city. Improving the infrastructure, lowering the cost of doing business, reducing tax, changing zoning, and providing large, well-educated labor pool is the most attractive advantages.

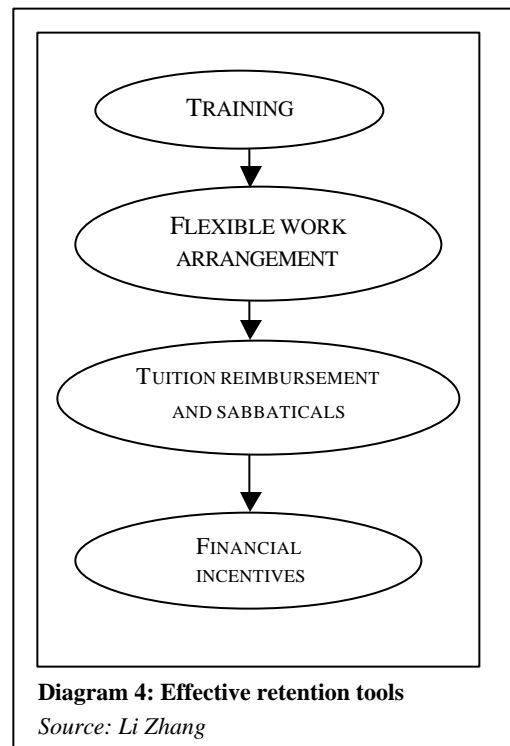
Also, advanced management and Internet tools should be utilized to realize the business retention goals. About this, we can borrow some helpful experience from the Business Retention Program in Northwest Pennsylvania. Here are some methods used by this successful program:

- Team building among regional economic development organizations
- A targeted, client outreach/CEO visitation program of select industries
- The use of a common client database by participating organizations
- Technology transfer featuring accelerated information retrieval and exchange via the Internet and E-mail

This Business Retention program provides industries with a single point of contact for all local, regional and state business assistance programs. Therefore they can get the resources needed to become or stay competitive. Of course, all the businesses would like to stay in the city that can create the best business environment for them.

The fast pace of business and technology change, and corporate and downsizing and outsourcing have broke the old concept of a stable employer-employee relationship. Many highly skilled employees see themselves as free agents. Job retention become a very serious issue in many companies, and skilled worked have become scarce. Yet, there are still lots of things that employers can improve to keep the good workers.

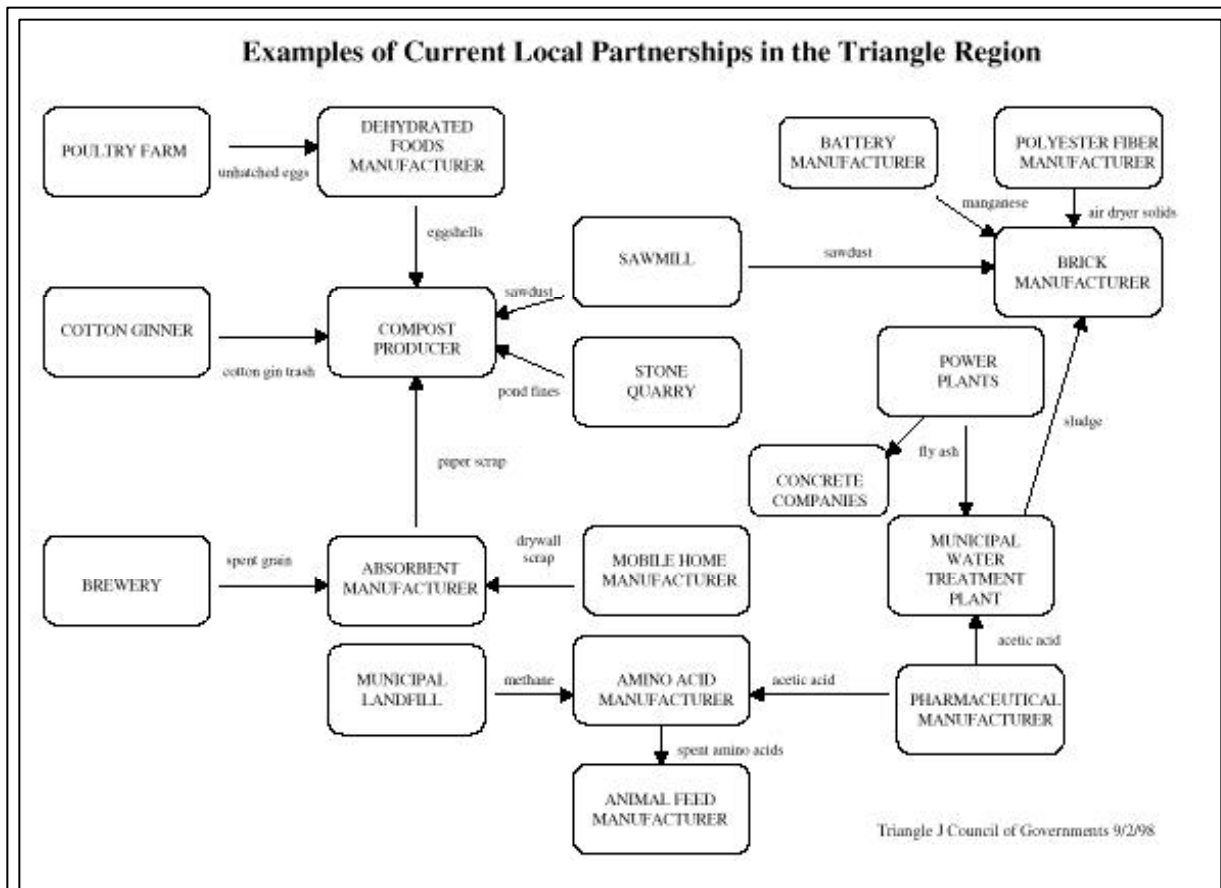
A recent study by the American Management Institute identified the most effective retention tools for the employers. The most effective toll is training, followed by flexible work arrangement, tuition reimbursement and sabbaticals. Financial incentives ranked eighth. It's cheaper to keep employees than to replace



them, this study give the employers very helpful advice about what they should improve to keep their good employees.

### **Workforce Analysis for Triangle EIP Model**

The EIP model recommended to the Compton site focuses on the reusing of waste materials, water and energy. What kind of industry and business should be attracted to the site will decide the jobs that can be created for the community, and also the training programs that should have for the residents. The Triangle EIP Project in Northern Carolina is a very help case for the redevelopment of Compton site. The project was designed to help two group of people. The first group is the business people who are looking for ways to cut cost and reduce the use and disposal of natural resources by their business. The second group is people who are working to create more sustainable communities by identifying ways to turn wastes into useful products and reduce the generation of greenhouse gases in the air, pollution in the water, and trash in the landfill, and also to create job opportunities for the residents in the communities.



**Diagram 5: Current Local Partnerships in the Triangle Region**

Source: [www.tjcog.dst.nc.us/TJCOG/indeco.htm](http://www.tjcog.dst.nc.us/TJCOG/indeco.htm)

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The diagram of the Examples of Current Local Partnership in the Triangle Region shows the idea about what kind of industry mix Compton site can have. According to the diagram, we can tell what kind of waste can be reused in the EIP and how can it be reused. The saving resources and protecting environment advantages of the EIP are very obvious.

Also, from the diagram, the city and the communities can see the various kinds of job opportunities created by the EIP. The mix of industries in the EIP will create all kinds of manufacture jobs, such as brick maker, electrician, machinist and pharmacist. The variety of the job let all kinds of people can have equal opportunities in the EIP labor market. At the same time, because of the multiply effect of manufacture job, additional service jobs will be created too. Hundreds or thousands of jobs will be created directly or indirectly by the EIP, depending on the site of the brownfield.

Variety of the employee demand requires different training programs that can cater the requirement of the employers. Having the training programs that can provide the residents with skills and knowledge the need for the work, and provide the employers qualified and effective employees is one of the strategies used for business retention. According to the industry mix of the EIP, suitable training programs should be designed by the effort of Compton City, communities around the site, Compton College and the employers. Based one the Triangle project, here are some training programs that can create an attractive labor pool for the employers.

- Construction training program
- Electrician training program
- Machinist training program
- Chemical manufacturer training program

All those programs will be more effective if they can use the On-Job-Training way as well as all the other methods, which needs the corporation among all the training programs designers, supporter, trainees, and the employers.

This Triangle job creation and training model not only can be the vision of the Compton City site, but also can be the future labor market vision of the whole Alameda Corridor. Based on this model, according to the different situation and resources of different brownfields sites along Alameda Corridor, suitable models can be designed for all of them.

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## SECTION 7: OUTREACH PROGRAM (Ramon Salazar)



**Picture 8: Outreach Programs**

Source: <http://focushope.edu>

One of the most critical elements and responsibilities in creating an Eco-Industrial Park (EIP) in the Alameda Corridor is providing and supporting the existing and future educational and employment facilities that will re-educate and retrain the citizens of the community. Compton is one of the many Gateway Cities that remains relatively poorly served by personal services and social institutions. Thus, the EIP constructed within the Compton site (located along Alondra Boulevard to the North, Greenleaf Avenue to the South, Alameda Street to the East, and Santa Fe Avenue to the West) will facilitate and provide an outreach program, located on site. This outreach program will collaborate and expand the services provided by existing institutions, such as the Urban Land Institute, Los Angeles Metropolitan Churches, and American English Academy, as well as create new computer and apprenticeship training programs. The outreach program will seek to solve issues regarding immigration, unemployment, and educational opportunities. This outreach program will seek to capitalize on the density of the area in order to encourage various local and outside entrepreneurs and business establishments to reinvest within the Alameda Corridor.

### **The Establishment of an Outreach Advisory Committee**

The outreach program will cater to the needs and desires of the community. Thus, the facility will be operated and maintained by the citizens as a special entity, a non-profit, non-partisan community organization. The outreach program will work as a liaison that links community members to employment, educational, social, political, and religious services and opportunities throughout the community. The programs provided will primarily serve the citizens of Corridor, but will also establish a collaboration or joint venture with adjacent and surrounding cities to build a more cohesive and collective resource center. The location of the outreach program will provide a formal meeting place, forum, or venue. A place where the local community would actively participate in the local planning process of not only the EIP, but more importantly throughout their community. This program would create a community planning board or advisory committee, which will



**Picture 9: Community Involvement**

Source: <http://Lametro.org>

collectively represent the Gateway Cities in the planning process. These committees will be used as a forum of community informational exchange, allowing citizens to participate in the redevelopment of their community.

Another important type of committee that the outreach program will emphasize is the establishment of Community Based Organizations (CBO). These CBO's will be instrumental in



**Picture 10: Community Activism**  
Source: <http://Lametro.org>

engaging local citizens of the Alameda Corridor into a formal political structure, CBO's provide "Needed services, stabilizing neighborhoods, and re-creating local market demand. . .CBO's can and must reach out to private-sector institutions and entities that will be essential; to the ongoing growth and development of local communities" (Porter 44-45). The use of Community Based Organization's in the Alameda Corridor can attract and facilitate private-sector involvement in the development of the community as well as link local residents to employment and educational opportunities outside the area. Therefore, one of the many recommendations of the redevelopment strategies of the Alameda Corridor is to establish an outreach program with Community Based Organization's and Advisory Committee's that provides a forum were local citizens can partake in the local planning process and assure public sector participation in the democratic process.

### **The Mission of the Outreach Program**

The mission of the outreach program seeks to improve the quality of life throughout the Alameda Corridor by providing a formal link to the planning process, political representation, educational, and employment opportunities for its citizens. The underlying premise is to provide a link to stable employment opportunities, "Employment opportunities are a linchpin for success of virtually all other programs designed to improve human capabilities, values, and attitudes in distressed communities" (Porter 32). The outreach program will provide the citizens of the Corridor the opportunity to socially, economically, and political improve their quality of life by focusing on the skills needed to succeed in the new global economy. These skills will be geared towards the improvement of the 'soft or life skills' (Nomie guest-speaker 11/17/99). This training will involve character-building education and employment training skills such as interview preparedness, appropriate job behavior, job networking, communications, public speaking, team dynamics, creativity, decision-making and community values. These services will re-educate and retrain the citizens of Compton and other Gateway Cities to maintain, perform, and succeed within the workplace. An important distinction of the outreach program will be the attention given to providing citizens with real skills and experiences, rather than providing temporary labor or employment opportunities. Thus, the second recommendation of the development of the Corridor is to create an outreach program that focuses on teaching individuals the necessary 'soft or life skills' need to acquire long-term employment.

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## **Outreach Apprenticeship Training**



**Picture 12: Apprenticeship Training**  
*Source: <http://www.focushope.edu>*

A key component to the development of the individual's undergoing these training programs is the availability to acquire real world skills and industrial training. Thus, the outreach program will use an extensive and well-developed manufacturing, industrial, and computer operational apprenticeship-training program to educate the citizens of the local Corridor community. A unique feature of this program is the recommended collaboration with local high schools to establish an apprenticeship-training program in high school. This program would allow high school students to prepare for a career within the local industry, while students complete their high school education. This educational outreach program would give high school students hands-on experience of the local industrial training practices. This program would also expose students to the types of professions and careers made available through industrial training.

The central facility of the outreach program will be located within the Compton EIP site. The location of the outreach program will provide employers a large skilled and experienced labor pool. This provides a great benefit to employers because they have access to a skilled labor pool that can start work right away without the need of any added or special training programs provided by the employer. The individuals undergoing the training will also have access to large employment and business clusters that will provide the necessary apprenticeship training. Thus, a critical recommendation for the revitalization of the Alameda Corridor is the development or creation of an interactive apprenticeship facility that will work as a collaborative institution that seeks to link business clusters, labor organizations, and key stakeholders with individuals who have completed the training programs.

The outreach program within Compton's EIP will be the model for future satellite computer apprenticeship training facilities that will be established in other Gateway Cities. The creation of these technological clusters within the EIP is a critical necessity because "Clusters include not only firms and suppliers but also educational institutions, specialized financial providers, and specialized research center" (Porter 34). The outreach program will also provide a new state of the art multimedia computer facility to train individuals in the new technological economy. This facility will feature a formal classroom setting as well as conference rooms, telecommunications capabilities, and 'long distance learning,' facilities. This outreach facility would provide advanced technology training, integrating a technological apprenticeship-training program. This apprenticeship-training program will provide instruction in computer literacy,

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introduction to computers, the Internet, and office automation tools. Another important factor of this technical training will be to expose members of the community to careers in computer repairs, network administration, systems administration, database and application administration, and telecommunications. The following recommendation for this project is that the Alameda Corridor development, EIP, and outreach program advocate and support the construction of a new technological facility and apprenticeship-training program.

Compton is a dense city with the majority of its citizen beginning of African American and Hispanic decent. Thus, the focused or targeted individuals of the outreach program will be to assist the historically

underrepresented minority groups in the Alameda Corridor. This technological facility and apprenticeship-training program will provide individuals with the access to high paying and stable careers of the future. The technological interactive computer facility located within the outreach facility will provide bilingual educational computer laborites. These computer facilities will be geared towards attracting the immigrant population of the community by providing bilingual computer classes on computer repairs, network administration, systems administration, database and application administration, and telecommunications, web design, and computer career opportunities. Therefore, the creation of these bilingual computer labs is another critical recommendation for the redevelopment of the Corridor.



**Picture 13: Technical training**  
Source: <http://aea-usa.com>

## **The Expansion of Existing Outreach Programs**

### *Urban Land Institute*

The Urban Land Institute presents an ideal example or model that can be incorporated into Compton's outreach program. The mission of the Urban Land Institute is geared towards solving urban land use issues,



**Picture 14: Urban Land Institute**  
Source: <http://www.uli-la.org>

The District Council is working to identify and facilitate an exchange of ideas and opportunities between land use industry players active in the Los Angeles area inner city/urban core and non inner city markets. At the same time, these efforts are designed to expose inner city and urban core players to best practices and lessons learned from suburban markets that can be adapted and/or applied to inner city and urban core markets (<http://www.uli-la.org>).



The Urban Land Institute and the outreach program established in Compton can work collaboratively to identify issues regarding smart growth, affordable housing, industrial redevelopment, infrastructure finance, brownfields development, business improvement districts, shifting population and employment, while trying to reflect and incorporate the needs and desires of the Alameda Corridor and other surrounding communities.

### *Los Angeles Metropolitan Churches*

The coalition between the outreach program's advisory committee and the Los Angeles Metropolitan Churches (LAM) provides a forum to optimize and implement the traditional and non-traditional educational factors within the community to address the Corridor's problems and issues, "All LAM activities result in a series of traditional and nontraditional education opportunities for youth and adults. LAM operates under an assumption that education is a key ingredient in revitalizing the communities in which it works. LAM believes that small to mid-size churches are replete with untapped "human capital" (<http://www.lametro.org>). Thus, the Los Angeles Metropolitan Church's overall emphasis on educational activities and 'human capital' in correspondence with the outreach program will dramatically help revitalize and re-conceptualize the development of the Gateway Cities.



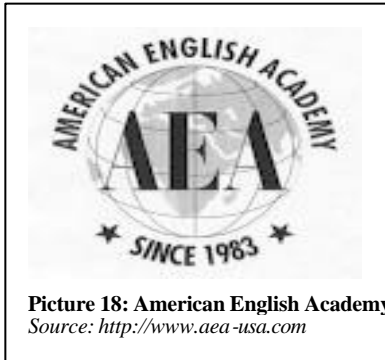
### *Watts/Willowbrook Boys and Girls Club*

The Watts/Willowbrook Boys and Girls Club is an essential service that the outreach program will collaborate with in order to secure a safe haven for young adults and children within the community. The Boys and Girls Club provides a stable and positive force in the lives of young children and adults, "The Club provides services and programs that promote good health, social, educational, vocational, character and leadership development. Most important, we encourage achievement, positive self-esteem, personal responsibility and service to others" (<http://www.watts-willowbrookbgc.org>). The expansion of this program is a critical necessity for the community because these programs secure and enrich the lives of thousands of young people within the Alameda Corridor. The outreach program will initiate the expansion of this club to include educational courses and social benefits for young children to ensure that these kids will receive the support needed to pursue careers either through college



or through some type of vocational or apprenticeship training programs. These types of programs will create and develop better educated and cultural enriched children, who will eventual, be the leaders of the community.

### *American English Academy*



Picture 18: American English Academy  
Source: <http://www.aea-usa.com>

The issues surrounding the social, political and educational impact of immigration can be addressed through the outreach program extension and provision of additional social services in various languages. These services will work to integrate the large numbers of immigrants into the new global economy. One of the primary features provided by the outreach program will be the establishment of bilingual computer education, as well as a traditional education, which will be modeled after the American English Academy. The mission of

American English Academy is to teach “English to people who speak other languages and to help outsiders understand and experience American culture. [There] students to .

.improve their language skills for academic, business, and personal success”

(<http://www.aea-usa.com>). These programs will help alleviate some of the low educational and poverty level of immigrants residing in and throughout the Gateway Cities by providing the skills needed to succeed in the work place. The outreach program will provide added services and opportunities to immigrants through the creation of a bilingual computer training facility located within the EIP site of Compton. This training facility will promote and improve the quality of life for immigrant children, youth, and families by focusing on increasing the level of computer literacy and availability in the Corridor. Through an integrity-bilingual education, the outreach program would help immigrant children, youth, and family’s breakaway from constant poverty by using cutting-edge technology in a computer-learning center that would provide the skills they need to succeed in the new economy.

### **Conclusion**

The outreach program is a comprehensive mosaic of ideas and programs with the primary goal of improving the quality of life by initiating various programs that are practical, reasonable, and feasible solutions to the problems of economic disparity, inadequate education, and racial divisiveness in the Alameda Corridor. The fundamental premise is to alleviate the social dilemmas found within the Gateway Cities and Compton, such as immigration, land use planning, employment, and education through a list of services and recommendations that include the following;

1. The outreach program will seek to improve the quality of life in the Corridor by providing a formal link to the planning process, political representation, educational, and employment opportunities for the citizens of the community.
2. The collaboration and expansion of the existing institutions and services.

3. The creation of new computer and apprenticeship training programs in the EIP.
4. The creation of a joint venture with adjacent and surrounding cities.
5. The outreach program will create an advisory committee to provide a forum of local community participate in the local planning process of the EIP and the Gateway community.
6. Reemphasize the importance of Community Based Organizations (CBO).
7. The outreach program will teach individuals 'soft skills;' character-building education and employment training skills interview preparedness, appropriate job behavior, job networking, team dynamics, and community values.
8. The outreach program will use an extensive and well-developed manufacturing, industrial, and computer operational apprenticeship-training program (Instruction in computer literacy, covering introduction to computers, the Internet, and office automation tools).
9. The program will capitalize and provide bilingual educational computer laborites.
10. The Urban Land Institute and the outreach program will work collaboratively to identify issues regarding smart growth, affordable housing, industrial redevelopment, infrastructure finance, brownfields development, business improvement districts, shifting population and employment, while trying to reflect and incorporate the needs and desires of the community.
11. The outreach program's advisory committee and the Los Angeles Metropolitan Churches (LAM) will provide a forum to optimize and implement the traditional and non-traditional educational factors, to help revitalize and re-conceptualize the development of the Alameda Corridor.
12. The outreach program will collaborate with the Boys and Girls Club in order to secure and enrich the lives of thousands of young people within the community.
13. The outreach program will work with the American English Academy to provide additional social services in various languages. These services will work to integrate the mass numbers of immigrants into the new global economy as exemplified in the bilingual computer training facility located within the EIP.

The outreach program will create a sense of hope, support, and encouragement as a means to solve the economic disparity within the Gateway Cities. Even though the program is

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driven by stable and well paying employment goals opportunities, the initial and primary step in acquiring these jobs is obtaining the training, experiences, and skills. This experience and training can be acquired through the educational opportunities set forth by the outreach programs. Therefore, the outreach program is constructed, dependent, and dedicated to the “continuous re-education” (Nomie 11/17/99), of all the individuals who strive for a higher and better quality of life. The outreach program is the foundation of the re-educational process, which will improve not only the Gateway communities, but all of society by producing better-educated well-informed citizens who will be active members of the democratic process.

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## **SECTION 8: FUNDING OPPORTUNITIES (Jonathan Lonner)**

The advantage of an Eco-industrial park is not merely limited to the minimal effect it has on the environment. Additional advantages include reduced overall operating costs, higher return for participating companies as well as superior performance in the workplace. Through high performance work systems, market linkages, waste exchange programs, and resource sharing, operating an Eco-Industrial Park can be potentially more profitable than the current industry model.

In order to encourage this, developers must be made aware of the potential incentives available, the construction and design phases. In helping to shift the current pattern of development in America, the following sections will illustrate several major funding mechanisms, which can aid in the development of larger anchor tenants for Eco-Industrial Park Development. Additional resources are listed for the revitalization of ancillary business either to add to waste streams for EIPs or in beginning the process of creating business linkages to encourage mutually beneficial industry. Both sections revolve around the initial funding sources for development of projects such as those listed above. In addition, in the Appendix of this volume is a more detailed list of sources, which can aid smaller business to continue to be productive regardless of their connection to an EIP.

### **Large Scale Development (Anchor Tenant)**

#### *Conventional Loan Programs*

In the current market, the average lending rate for an industrial park is between 7.55-8.5%, with a max loan to value ratio of 75% for a variety of terms up to 25 years. Specific lenders will enter into partnership with the developer in order to better manage the equity and cost of a project. An example of one of those institutions is General Electric (The Joint Venture Program.) GE will generally invest 50-90% of the equity capital needed at 70-80% loan-to-value. They prefer to receive between 9-12% return on their equity investment. While this is a higher than average return for joint-ventures, General Electric allows the developer to handle day-to-day operations, only requiring input for major capital decisions.

#### *Federal Funding*

##### Department of Housing and Urban Development

The Department of Housing and Urban Development offers a number of incentives that could aid in the development of a large anchor tenant for an Eco-industrial park, or provide funding for ancillary product manufacturers or even virtual EIPs.

##### Brownfields redevelopment initiative

This fund provides capital and loan guarantees to clean up and redevelop environmentally contaminated industrial and commercial sites, commonly known as "brownfields." Successful redevelopment requires rehabilitating these sites for industrial, commercial, retail and residential uses, but cleaning up the contamination at these sites can send

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development costs skyrocketing. Due to financial and legal risks, obtaining financing for cleanup costs is difficult since lenders are often unwilling to provide financing for brownfields redevelopment. BRI provides important “start-up” funds. Eligible grantees for Brownfield redevelopment funds are state and local governments. Under HUDs guidelines for the program, grantees must use at least 70 percent of funds for activities in which the majority of beneficiaries are low- or moderate income. Eligible activities include acquiring the brownfield site, demolishing existing buildings, installing needed infrastructure, rehabilitating or constructing housing, conducting job training, providing business loans, creating public facilities, and or attracting or starting small businesses in the area.

#### Section 108 loan guarantee program

Section 108 enables States and local governments participating in the Community Development Block Grant program to obtain federally guaranteed loans that can help fuel large economic development projects and other revitalization activities. This program allows a small portion of CDBG money to be transformed into federally guaranteed loans large enough to pursue physical and economic revitalization projects helping to renew entire neighborhoods. Grantees must use 70 percent of loan funds for activities which benefit low or moderate incomes persons. In recent years, Section 108 loans have been most often used to encourage economic development either through physical improvement projects or through loans to private firms and individuals.

#### Community Development Block Grant

CDBG provides eligible metropolitan cities and urban counties with annual direct grants that they can use to revitalize neighborhoods, expand affordable housing and economic opportunities, and/or improve community facilities and services, principally to benefit low- and moderate-income persons. Low and moderate-income persons (generally defined as members of a family earning no more than 80 percent of the area median income) benefit most directly and most often from CDBG-funded activities. Grantees must use at least 70 percent of CDBG funds for activities that principally benefit low and moderate-income persons.

#### Empowerment Zone

##### Business Expense Deduction

A \$20,000 business expense deduction is available to businesses who purchase manufacturing equipment and furnishings

##### Hiring Tax Credit

From year 2000-2004, companies receive a 20% tax credit for the first \$15,000 of wages paid to employees who live in the Zone. Companies will receive 15% in 2005, 10% in 2006 and 5% in 2007.

#### *State of California*

##### Revitalization Zone Tax Credits (Enterprise Zone)

##### Revitalization Zone Sales and Use Tax Credits

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100% credit for the purchase of qualifying machinery and equipment. Businesses may reduce the amount of sales and use tax paid on qualified property used exclusively in the zone. This includes all machinery or equipment, exclusive or inventory, and building materials used in an expansion or remodeling of a development project.

#### Revitalization Zone Construction Credits

100% credit of sales tax for the purchase of all building materials to replace and repair the business's building and fixtures and for the purchase and repair of all machinery and equipment.

#### Revitalization Zone Employee Hiring Tax Credit

Up to 50% (declines by 10% each year) of wages paid to each qualified employee up to 150% of the minimum wage (\$5.75) or \$8.62 an hour, as of March 1, 1998. To receive this credit employees must reside within the specified boundaries of the Revitalization Zone.

#### Revitalization Zone Business Expense Deduction

Tangible personal property purchased after September 1, 1992 may be deducted as a business expense in the first year it is placed in service. (\$20,000 limit)

#### Revitalization Zone Net Interest Deduction for Lenders

Deduction from income is allowed on the amount of "net interest" earned on loans made to a trade or business in a revitalization zone area.

#### Revitalization Zone Net Operating Loss Carryover

Net operating losses (NDL) of individuals or corporations doing business in an enterprise zone may be carried over to future years to reduce the amount of taxable income for a specified year/s. The NDL carryover is determined by computing the business loss, which results strictly from business activity in the revitalization zone.

### *Los Angeles County Recycling Market Development Zone*

LA County is the largest manufacturing center in the nation, to ensure this statistic the County has initiated the LARZ program. This program enables businesses in the zone to receive a continuous source of input (feedstock), including waste paper, plastics, glass, metals, yard waste, and organic matter such as rubber and tires and wood waste. This incentive further aids the developer by offering different incentives to attract business development, including permit assistance and a one-stop permit process, business and technical assistance, and reductions in local fees. Some areas also participate in the business incentives offered by LARZ.

### **Smaller Scale Development (Virtual Eip)**

#### *County Technology Loan Program*

The County Technology Loan Program funded by the US Department of Commerce, Economic Development Administration, is administered by the County of Los Angeles. The purpose of the program is to address the severe economic dislocation resulting from

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aerospace/defense downsizing. CTLP will provide financing for existing and start-up business that create/retain jobs for aerospace/defense workers. Loan proceeds may be used for business expenses, such as working capital (for research, engineering and design services, prototype development and testing, market research and marketing), fixed assets or equipment purchase. Proceeds are not currently available to refinance existing debt. This particular loan program provides loans from \$10,000 to \$100,000, with a minimum-matching requirement of one dollar of private financing for every dollar of CTLP financing. The rate for this loan is near prime, with a nominal fee of one point. It is generally issued for a term of 7-10 years. Interest and principal may be deferred by allowing CTLP to take an interest in the future revenues or equity through royalties and/or warrants. These loans are available to firms located in business development incubators that are members of the LA County Innovation Network.

### *County Business Loan Program*

The County Business Loan Program funded by the U.S. Department of Commerce, Economic Development Administration, is a component of the County Defense Conversion Program. The purpose of this loan is similar in nature to the County Technology Loan Program. Loan proceeds may be used for equipment/machinery; property acquisition, construction or renovation, tenant improvements, and working capital in some cases. The CBLP loan ranges from \$25,000 to \$1,000,000, with a rate generally 1% below prime and a fee of 2 points. The length of this loan depends on the useful life of the assets, or machinery, being purchased. A General guideline is 7 years for working capital, 10 years for equipment and 25 years for property. For this particular program the matching requirement is two dollars of private funding for every dollar of CBLP financing. Private financing can include any source that is non-Economic Development Administration funds.

Additional criteria for this loan program revolves around the project location. If the project is located within an incorporated city, that city will be requested to participate in the project. Loan assistance is available to existing and start-up small and medium sized firms within Los Angeles County impacted by aerospace/defense downsizing. Qualifying criteria includes firms in the aerospace/defense industry, businesses hiring former aerospace/defense industry employees and businesses located within areas of the county hard-hit by defense downsizing.

### *Economic Development Loan Program*

Los Angeles County's Economic Development Loan Program is aimed at private developers and public agencies for land acquisition and construction, machinery equipment and/or working capital. These funds are loaned to businesses at a below market rate interest, repayable as negotiated by the individual developer/agency. This particular loan features a short-term repayment schedule, usually between 12 and 18 months. Other terms are possible, depending on the project, however each loan is investment grade, and requires an irrevocable letter of credit, callable on demand as security.

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Each project considered for the EDL program must meet slum and blight requirements or create/retain jobs for low and moderate-income persons. If the project requires construction, federal labor standards must be met. Development sites may be in redevelopment areas, but are not required. The final condition is that one job per \$35,000 of loan amount must be created/retained.

#### *Minority Pre-Qualification Loan Program*

The Minority Pre-Qualification Loan Program helps eligible small businesses access capital through the coordinated efforts of both the public and private sectors. The program uses local, private sector organizations as intermediaries to assist in the loan process. Generally the program is for loan requests of \$250,000 or less. Eligible businesses are ones, which are 51% owned and managed, by a racial or ethnic minority, and must meet SBA 7(a) size standards and are not engaged in speculation or investment real estate. Loan funds can be used for normal business purposes such as working capital, debt payment, equipment, inventory purchase, construction and purchasing real estate. Interest rates for these loan programs are tied to the prime rate and may be fixed or variable. However, currently a loan cannot exceed 2.25% above prime for funding schemes of less than seven years, and 2.75% for over seven years. Generally loans are used for between 5-10 years for working capital, 10 years for machinery and equipment, and up to 25 years for real estate or construction.

#### *SBA 7(a) Loan Program*

The SBA 7(a) loan programs are fully amortized loans, with no prepayment penalties and can be issued at up to 90% of the loan-to-value ratio for qualified applicants. These funds can be used to purchase, construct or renovate real estate for owner-users, purchase equipment, working capital and inventory, business buy-outs and start-ups, as well as financing for franchises and debt refinancing. Unlike other smaller specific loans, the SBA loan can lend up to \$750,000 to qualified applicants for 25 years. The interest rate for such a loan is as low as prime plus 2%, with no cap, or prime plus 2.5% with a 5% cap on qualified real estate purchases. The small business loan has a fee of approximately 2%, with additional fees for services, title insurance, appraisals and environmental reports.

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## **CONCLUSION**

The redevelopment and re-industrialization of the Alameda Corridor, as facilitated by the Los Angeles County CDC, is dependent upon the implementation of a feasible and practical long-term regional strategic plan. One crucial component to the local strategic plan, as it applies to the City of Compton, revolves around the development of a functional and operational Eco-Industrial Park. The development phases of the EIP will generate an extremely beneficial economic, social, political, educational, and environmental impact for the local and regional community.

The constructional phasing of the EIP will inherently induce a long-term sustainable development strategy for the City of Compton as well as the LA County CDC. This strategy will generate and provide thousands of employment and educational opportunities over a 15-20 year period. The construction of the EIP in Compton will have immediate and direct impacts on changing and improving the overall quality of life throughout the Alameda Corridor by providing economic stability through the technical innovation of the EIP. The EIP will seek to initiate programs that are community orientated in hopes of solving high poverty and unemployment rates and low educational levels within brownfield recycling, marketing, employment, educational, and outreach programs in order to reutilize and redevelop the community.

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