MEMORANDUM

DATE: April 30, 2010
TO: Professor Gary D. Painter
FROM: La Mikia Castillo, Jeimee Estrada and Courtney Woods
SUBJECT: Cost Benefit Analysis of the Jordan Downs Redevelopment Project

EXECUTIVE SUMMARY

A cost-benefit analysis of the Jordan Downs Redevelopment Project resulted in a positive net present value and a cost-benefit ratio of 1.03, indicating that the project’s social and monetary benefits outweigh its costs. These results are contingent on the Human Capital Development Plan (HCP), an education and workforce development component that is aimed at addressing community members’ needs. Without the estimated benefits associated with the HCP, the costs of redevelopment significantly outweigh the benefits, indicating the project would be a poor investment.

Due to limitations in our data collection process, our analysis excludes several key benefits including the benefits of the proposed health clinic on the health of the community, as well as the environmental benefits that result from the Leadership in Energy and Environmental Design Neighborhood Development (LEED-ND) standards that the redevelopment is expected to meet. We estimate that benefits from these will increase the net present value of the project.

Despite these missing benefits, our analysis concludes that redevelopment of the Jordan Downs Housing Project is a worthwhile investment, subject to the comprehensive development of the Human Capital component of the project. The Human Capital Development Plan seeks to meet the needs of Jordan Downs’ 2,400 low-income residents, over 50% of whom are youth under the age of 18. This has significant implications for this redevelopment project, as a large portion of the focus of the project is on youth development and job training for residents who are able to work.

In determining our final recommendations, we considered the role of the housing authority and the goals that it has outlined for itself. By its name, it appears that the HACLA is an organization whose primary focus is on housing development, thus it is interesting to consider the important role that the Human Capital Development Plan plays in this redevelopment project. However, in reviewing the mission of the HACLA we found that the organization emphasizes its efforts to “collaborate with residents and public, non-profit and private entities to create viable, healthy communities and to empower able residents to achieve financial independence.”¹ Given this statement, we believe that the Human Capital Development Plan will assist the HACLA in moving towards reaching its goals, as outlined in its mission, through the Jordan Downs Redevelopment project. As a result, we recommend that the HACLA move forward with the redevelopment project, assuming that it is able to fully realize the goals that it has laid out in its Human Capital Development Plan.

¹ HACLA Strategic Mission, www.hacla.org
BACKGROUND & PROBLEM STATEMENT

Jordan Downs is a low-income public housing project in Watts, CA that is home to over 2,400 residents. Built during World War II to house war veterans, this facility was converted to public housing in 1955. Today it is outdated, dilapidated, and is widely recognized as a haven for drugs, gangs and violence. In order to understand the issue and magnitude of the problems that the proposed redevelopment project seeks to address, it is important to take a look at the demographics of Jordan Downs:

Demographics & Magnitude

• Jordan Downs is bounded by Grape Street to the west, 97th Street to the north, Alameda Street to the east, and 103rd Street to the south.
• There are currently 700 units in the Jordan Downs Project. These units vary in size from one bedroom to 5 bedrooms, and are occupied by 2,400 residents.
• The majority of these residents are Latino and Black (67% and 32%, respectively).
• Over 50% of those living in Jordan Downs are under the age of 18.
• The median income for Jordan Downs residents is $15,502.
• 9 out of 10 residents receive some form of government aid.
• Single-mothers constitute a majority (3/4) of the heads of households in the housing project.
• About 1/2 of the residents have graduated from high school.
• 62% of the residents are unemployed.
• Over 50% of the residents have resided in JD for over 5 years, and 30% have resided in JD for 10 years or more.
• Jordan Downs is believed to be the birthplace of the Grape Street Crips Gang, which is considered to be the resident gang in the Watts area.

STATUS QUO VS. PROPOSED ALTERNATIVE

The Housing Authority of Los Angeles (HACLA) has proposed a redevelopment plan for the Jordan Downs that they hope will address the issues that negatively impact the community. According to the HACLA Human Capital Plan for JD, the ultimate goal with the redevelopment project is to increase economic self-sufficiency of the families that currently reside in the complex. The HACLA’s plan is to achieve this goal through a comprehensive, multifaceted community redevelopment approach that tackles the challenges facing the community.

Unlike the existing facility, which consists solely of low-income, public housing units, the proposed project seeks to facilitate the integration of residents from various income brackets. The proposed changes to JD will increase the amount of units from 700 to anywhere between 1600 and 1800 units. Of these, 700 will be reserved for current residents, while the remaining units will be divided into workforce housing for low-wage earners and working class people, and

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2 Jordan Downs Redevelopment Community-Based Master Plan
3 Jordan Downs Existing Conditions Summary
4 Jordan Downs Human Capital Plan
5 Langdon Report
market rate housing. This mixed-income model seeks to promote racial and economic diversity among the residents, as well as foster the personal development of current residents who will no longer be isolated in a community specifically for very low-income persons.

Other proposed changes include building a school, health care facility, grocery store and other businesses onsite, as well as expanding green space and developing a family resource center that will offer extensive services to meet the needs of Jordan Downs residents. The addition of these facilities are projected to create jobs for residents, as well as foster community among individuals in JD and the surrounding community.

In addition to structural changes, the redevelopment plan also includes a comprehensive community development component that consists of case managers for each family, job training and placement opportunities, adult education/literacy, youth development programs and more. All of these new social programs are designed to meet the needs of the residents, who expressed a desire to have such programs to the HACLA through a comprehensive survey that was conducted in 2009. There is currently a resource center on site that offers a computer lab and after school programs for young residents, but the existing programs are not as comprehensive as the proposed programs that the HACLA plans to include in the newly developed project.

COSTS OF THE JORDAN DOWNS REDEVELOPMENT PROJECT & MASTER PLAN
The Housing Authority of the City of Los Angeles (HACLA) is the primary project lead in the Jordan Downs Redevelopment and has provided an estimated cost of $1 billion over the four phases of development. The four phases will last between 10 to 15 years, with each phase adding several hundred more housing units to Jordan Downs. We used the mean of this estimated time frame (13 years) for our baseline scenario. The costs included in the analysis are related to land acquisition, infrastructure, potential costs on furnishing housing units, costs of potential programming in family resource centers, and other unspecified costs to reach HACLA’s $1 billion estimate.

Infrastructure Costs
The redevelopment plans are ambitious in that the objective is to transform the community from a secluded, enclosed set of previous military barracks into a vibrant, open and well connected community. There are currently 700 total units available, few entrances and exits, no connecting avenues, and very little open space for recreation. Infrastructure plans include increasing the community density from 700 units to either 1600 or 1800 units; constructing various roads that open and connect Jordan Downs to the surrounding community, including a continuation of primary road through the center of Jordan Downs; increasing the open green space through various parks, fields, and community gardens; and a number of community facilities to house resources for community members (see Appendix C for visual of development plan). The

6 Jordan Downs Master Plan
7 Ibid.
8 Jordan Downs Human Capital Plan
9 Jordan Downs Existing Conditions Report
10 Jordan Downs Master Plan
following table displays all four phases\textsuperscript{11} and the constructions plans for each phase. Before initiating Phase 1 and breaking ground for construction, HACLA must decide whether to build 1600 units or 1800 units—our analysis includes 1600 units as a baseline scenario.

**TABLE 1A: Phases and Planned Infrastructure**

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>350 units</td>
<td>350 units</td>
<td>350 units</td>
<td>550 units</td>
</tr>
<tr>
<td>37% back-bone infrastructure</td>
<td>27% back-bone infrastructure</td>
<td>14% back-bone infrastructure</td>
<td>22% back-bone infrastructure</td>
</tr>
<tr>
<td>Most community facilities (clinic, library, daycare, family center, etc)</td>
<td></td>
<td></td>
<td>New gym</td>
</tr>
<tr>
<td>Existing school site improvements</td>
<td>Building of new on site elementary school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open space</td>
<td>Open space</td>
<td>Open space</td>
<td>Open space</td>
</tr>
</tbody>
</table>

**Phase I**

All 700 families currently occupying Jordan Downs residencies must be provided with completed units before leaving their homes. HACLA plans a one-for-one home replacement to avoid any displacement of residents. In order to do this and increase density from 700 to over 1000 units, the plans include incremental construction of units, with the first 350 being constructed on recently purchased empty land. Phase I also includes the large scale road infrastructure and much of the open green space construction to start opening the community, connecting the Watts and South Gate neighborhoods in South Los Angeles. Another large portion of Phase I is building most community facilities, including the family resource center, a library, computer lab, daycare, clinic, and improvements to on site schools. The impetus for completing community spaces first is to start providing Jordan Downs residents with new housing and a vast array of services simultaneously.

**Phases II & III**

Phases II and III are similar in that both include the same number of units in construction plans and continue general infrastructure and open space development. However, in Phase III, HACLA included the construction of an elementary school. The only details provided were the construction costs related to building the on-site elementary school.

**Phase IV**

\textsuperscript{11} Jordan Downs Redevelopment Progress & Timeline (HACLA)
This phase includes the largest number of units planned for construction (550), a fair portion of back-bone infrastructure, a new gym, and more open space.

**Human Capital Development Plan Costs**

The Human Capital Development Plan (HCP) is a comprehensive programming plan with the primary objective of helping residents become economically self-sufficient and assisting in successfully living in a mixed-income neighborhood. Although the specific programs and services that will be offered are still undecided, the core services included in the HCP are workforce development, education and literacy, youth development and safety, among other supportive services such as family case management and community engagement opportunities. The family center included in infrastructure costs is likely to house the range of services the community identifies as necessary. HACLA has estimated a $50 million budget for this center, with local non-profits and agencies providing their own funding for programming costs.

**Workforce Development**
A national study of the 1982 Job Training Partnership Act is used as a proxy to estimate potential costs for providing job-training services to residents. Costs and period of enrollment varied by gender, with the costs of services being $1,862.00 for men for an average of 2.8 months; and the costs for women being slightly higher, $2,291, for 3.8 months in the program (in 2009 dollars).  

**Education, Literacy and Youth Development**
A thoroughly examined program based on the desired model of service was needed to appropriately measure potential education costs. The proxy chosen is the Harlem Children Zone Beacon Family Center model, which provides a compendium of resources and services for students and their parents (further details on proxy will be included in the Benefits of Saving an At-Risk Youth section: p.11). The cost per participant, both parents and students, is $3,500 annually.

**Environmental Costs**
Constructing an environmentally sustainable community is an important objective incorporated into all aspects of the Jordan Downs Master Plan. Both public and housing/commercial infrastructure costs include architecture and design expenditures associated with high environmental standards such as the “Leadership in Energy and Environmental Design.” Furthermore, the HACLA plans on requiring the planting of 1289 trees. The cost of each tree is $862.50. The last environment related expense is the amount estimated to install energy efficient appliances such as Energy Star refrigerators, stoves, and microwaves in each of the units (each cost phased in at completion of units). To estimate the HACLA’s potential expenditure based on 1600 units, several prices for the same energy efficient appliance were

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12 Page 2, Human Capital Development Plan  
13 Page 4, HCP: HCP model included in Appendix  
14 U.S. General Controller, JTPA Study.  
15 Harlem Children Zone (2008).  
16 All costs data collected from Davis Langdon Associates Draft of Project Costs.
collected, descriptive statistics found and the 25th lower percentile of costs was used. The cost for all appliances is $709 per unit.

**Unspecified Costs**

Given that the project is still in the planning phase, there is a great deal of uncertainty for all costs included. Although most costs are accounted for, the HACLA’s general estimate of $1 billion leaves $200 million in unspecified costs. These costs might include non-infrastructure medical costs, land restoration costs, other unspecified costs and public safety infrastructure.17

**BENEFITS OF JORDAN DOWNS REDEVELOPMENT PROJECT & MASTER PLAN**

HACLA and other community stakeholders are addressing the problem of generational poverty in the Jordan Downs community with a multitude of approaches including redeveloped and improved mixed-income housing, increased public safety, environmentally sound living amenities and open space, educational and job training opportunities, health services and many others. Given the limitations in assigning monetary value to all benefits expected from the project, our analysis will focus on four key areas: (1) housing, (2) economic development, (3) saving an at risk youth, and (4) the environment. The following sections will discuss the methodology behind the monetizing of each benefit.

**Benefits of Mixed-Income Public Housing Projects**

In establishing the plans for the redevelopment of Jordan Downs, the HACLA chose to follow the HOPE VI model, which requires new and redeveloped public housing projects that seek funding through HOPE IV to incorporate low-income housing, workforce housing (housing working class people), and market rate units into their development.18 This mixed-income housing approach to redevelopment is complex in that there is widely held public perception that public housing drives down the value of homes in the areas where they are located.19 Contrary to public belief, Bair and Fitzgerald argue that HOPE VI funded public housing developments in fact increase property values in the areas where they are built.20 They highlight the mixed-income housing requirement as a primary benefit to the surrounding community.

Bair and Fitzgerald’s study on the impacts of HOPE VI funded public housing projects on the communities in which they are developed found that in general, the property values in such areas increase between 8.25% and 10.25%.21 These estimates are projected for all homes within a ¼ mile radius of the public housing project.22

Given this information, we used the lower end of the estimated increase (8.25%) to establish a hedonic pricing model to determine a conservative estimate of the projected increase in property

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17 HACLA, Belle Gomez.
18 HUD website: www.hud.gov
19 Bair and Fitzgerald, Hedonic Estimation and Policy Significance of the Impact of HOPE VI on Neighborhood Property Values
20 Ibid
21 Ibid.
22 Ibid.
values for homes within ¼ mile of the Jordan Downs site. We gathered current property values for homes within the designated distance using two online real estate databases: the Los Angeles County Office of the Assessor\textsuperscript{23} and Zillow.com\textsuperscript{24}. Upon reviewing the Assessor’s website we found that this agency only reports information for recently sold properties, which excludes a significant portion of the properties within the ¼ mile radius sample that we sought to capture. For this reason, we looked to Zillo.com to gather information on the other properties in the area that were not listed on the County Assessor’s website.

Through our research we collected data on 160 properties within a ¼ mile radius of Jordan Downs. We took the sum of these properties to determine their total current value. Through our simple calculations we estimate that these homes are currently valued at $27,232,223.

In order to determine the expected increase in property values of these homes, we multiplied 8.25\% by the estimated current value of $27,232,223 (total for all homes within the ¼ mile radius), and calculated an estimated increase of $2,246,658. Thus, the $2,246,658 is the expected benefit of the redevelopment of the Jordan Downs Housing Project on the surrounding community.

Another benefit of the redevelopment of Jordan Downs is the projected development of new market rate homes that will be integrated into the project. The HACLA has estimated that upon redevelopment, Jordan Downs will increase in density from 700 units to anywhere between 1600 and 1800 units. Of these, 700 will remain public housing units for current residents who elect to maintain their status as residents, as well as new residents who are eligible for the subsidized units. The remaining 900-1100 units will be split between workforce housing and market rate housing.

The HACLA has not yet determined how the workforce units and market rate units will be split. For this reason, we chose to divide the units evenly (450 units per housing type) using our baseline scenario of 1600 units. Next, we used sensitivity analysis to determine how variations in the split between workforce and market rate housing would impact the benefit-cost ratio.

We determined the market rate price for these new homes in Jordan Downs by taking the mean of the property values that we gathered for the homes within a ¼ mile radius of the development. With these numbers we estimated the average price of the new homes to be $204,754. Assuming that the value of these homes would be increased just as the homes in the surrounding area, we multiplied the estimated market price by 8.25\% to determine the value with the impacts of the hedonic pricing model. The results were an increase of $16,892.17. By adding this increase to the expected market rate for each home (for a total of $221,246), and multiplying the results by 450 (the number of market rate houses included in our baseline), we estimate a benefit of $99,740,576 for 450 new market rate units in Jordan Downs.

Adding this $99,740,576 benefit to the estimated benefit for the projected increase in property values in the area surrounding Jordan Downs ($2,246,658), we find that the benefits of

\textsuperscript{23} www.assessor.lacounty.gov
\textsuperscript{24} www.zillow.com
redeveloping Jordan Downs using HOPE VI standards to establish a mixed-income community result in a total of $101,987,235.

**Benefits of Construction Jobs**

With the number of units for our base scenario set at 1600, we consulted an expert in the construction field to determine how many construction workers would be needed to complete a job of this capacity over the duration of the four phases (roughly 13 years) laid out by the HACLA. Our source estimated that about 200 construction workers would be needed to effectively redevelop the Jordan Downs. He also emphasized that some phases of the project will require more workers than others. Taking his estimate, we conducted further research to determine the number of construction workers that have been used in other development projects of this magnitude. Although we were unable to find a study on a housing redevelopment project that included the number of construction workers hired to build the project, we did find a study on the redevelopment of Atlantic Station in Atlanta Georgia, which did include the exact number of construction workers (200) used for the project. Although this project is admittedly a different kind of development, we believe that it is comparable in magnitude to the redevelopment of Jordan Downs, thus confirmed the need for a minimum of 200 construction workers for the project.

We used several sources to determine the base salary for each construction worker on the project, which we estimate to be $60,000 per year. First, a HACLA staff person suggested this rate in an interview. Given her suggestion, we looked into the average salary for construction workers in the City of Los Angeles and found a study by the Los Angeles Alliance for a New Economy (LAANE), which provided a range for the average salary of a union construction worker to be between $35,000 and $70,000. Provided that the project is slated to be LEED certified, any construction workers hired for the position will be required to have special training and certification that meets the LEED-ND standards. Having this training and certification increases the potential wages earned. For this reason, we estimated that construction workers who are hired for the redevelopment of Jordan Downs would earn wages in the 75th percentile of the wage range proposed by LAANE. This estimation is right on target with the $60,000 projection made by HACLA staff.

Although unionized construction jobs typically pay more than non-unionized jobs, there were several reasons why this pay range provided a good estimate for workers who will be given jobs to redevelop the Jordan Downs. First, in 2008, the City of Los Angeles passed the Construction Careers Policy, which includes a project labor agreement and a local hire element. This new policy applies directly to all projects that receive a minimum of $1 million from the Community Redevelopment Agency (CRA). The HACLA is partnering with the CRA on the economic

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25 Interview with Paul Pe’a Pe’a (April 26, 2010), Las Vegas Construction Consultant and Contractor
26 Matera and LeRoy
27 Interview with Belle Gomez (March 31, 2010), HACLA Staff
28 LAANE Building Opportunity Report
29 http://www.usgbc.org
30 http://74.10.59.52/laane/projects/ConstructionCareers/index.html
31 Ibid
development component of the project, and is committed to creating living wage jobs for their construction workers, as is outlined by the Construction Careers Policy. Second, in 2009, President Obama issued an Executive Order stating that federally funded construction projects must include a project labor agreement. Assuming that the HACLA receives HOPE VI funding (which they plan to do) for this project, they will be required to abide by this order, as well.

According to LAANE, “the local hire element of the Construction Careers Policy ensures that 30% of the total workforce comes from the community most directly affected by the development.” In addition, ten percent of that workforce must be comprised of “disadvantaged workers,” including “individuals who face high barriers to employment, including extreme poverty, lack of a high school diploma, or a criminal conviction.” Taking these elements of the policy into consideration, along with the HACLA goals to have a majority of the construction jobs designated for current residents, we determined that 10% of the jobs created would be allocated to individuals in JD who are identified as disadvantaged. Although the policy requires an additional 20% to include local higher, we elected to use 40% as the base scenario for the additional jobs that will be reserved for JD residents who currently have low wage jobs. We chose this number to reflect the HACLA’s goal of allocating a majority of the positions to JD residents. The remaining 50% of the jobs created are assumed to be designated to residents throughout greater Los Angeles.

Using these percentages, we found that 20 jobs would be given to disadvantaged workers, 80 to currently employed JD residents, and 100 to individuals throughout the city. Next, we took the mean income of each group ($0 for disadvantaged workers, $15,502 for currently employed JD residents, and $48,690 for Los Angeles residents), and used these to determine the added benefit to each group by subtracting the mean earnings from the expected $60,000 annual salary provided by the construction jobs. We then took the sum of the expected benefit to each group to find a total benefit of $5,890,840 per year for 200 construction jobs created by this project. The total benefit over the 13 year expected time frame for the development is $68,539,660.28. Sensitivity analysis showed that increasing the units developed to 1800 over the same time frame would result in a total benefit of $71,966,643.29 (See Appendix D).

**Benefits of Job Training Program**

Another benefit that is captured in the Human Capital Plan in the project is the proposed job-training program. A wide array of research has found that job-training programs have a significant impact on the individuals who participate in them, particularly federally funded job-training programs for disadvantaged workers. The job-training program that will be offered in the family resource center at JD is unique because this kind of program is not typically affiliated with a housing development. We believe that having the program on-site for residents in JD and the surrounding community provides an even greater benefit than other programs of this sort because the target population does not have to travel to access the services. Nonetheless, we

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32 Executive Order 13502  
34 Ibid  
35 Field Notes (April 21, 2010): Jordan Downs Community Advisory Committee Meeting
were unable to find a model for this kind of onsite training, thus we used a national study that analyzed the impacts of the Job Training Partnership Act (JTPA) of 1982, which we determined to be a good proxy for measuring the potential impacts of the JD job-training program.\(^\text{36}\)

The study, which was conducted by Abt Associates, used a comprehensive program evaluation of 16 JTPA sites across the country and found that in general, the JTPA had positive impacts on the communities that it served.\(^\text{37}\) While the study compared various types of job-training program offerings and their impacts on various racial and ethnic groups, we chose to use their general estimations (vs. the specifics) because the HACLA has not yet determined what their training program will look like. Assuming that the program will incorporate various elements from the different programs included in the national study (i.e. on the job training, classroom training, and other services), we believe that the averages produced by are the best estimates for our analysis.

The study found that on average, men who completed the JTPA program earned 10% higher wages than what they would have earned had they not completed the program. They also found that women who completed the program earned 15% more on average than if they had not.\(^\text{38}\) Another study on JTPA programs conducted by the GAO found a 60% placement rate for program graduates.\(^\text{39}\) Using these estimates, the number of work-age residents in JD (1022 residents between 18 and 61 years of age), and the HACLA’s goal of having 100% work-age resident participation in the job-training program,\(^\text{40}\) we were able to calculate the benefits that this program will have.

Because people who do not go through the job-training program may potentially get jobs in the future, we assume the full benefits received for those in the job-training program to last for the first 5 years after completion of the program. This is assuming that their counterparts who did not go through the training program will not enter the job market until 5 years (on average) after program participants. The 10% and 15% wage increases for men and women, respectively is assumed to be the benefit that program participants will maintain over the course of their lifetime. Lifetime here is calculated using the mean age of the modal age range of the work age population in JD (22-40 years), which is 31 years of age, through age 65, the expected age of retirement.

We used two models to calculate these benefits; one for residents who are currently unemployed, and another for residents who are currently employed. Our models for estimating the total benefits for participants in the job-training program are:

**Benefits for Unemployed Participants:**

\[
\text{Total unemployed participants} \times 0.6 \times \text{expected enrollment rate} \times \text{Expected Income} \times 5 \text{ years} + \text{Total unemployed participants} \times (10\% \text{ (men)} \text{ or } 15\% \text{ (women)}) \times \text{JD Median Income Level} \times 29 \text{ years}
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\(^{36}\) Orr and Bloom, et al.

\(^{37}\) Ibid.

\(^{38}\) Orr and Bloom, et al. pg. 108

\(^{39}\) GAO Report

\(^{40}\) Field Notes (March 24, 2010): meeting with HACLA Staff
Benefits for Employed Participants:
[Total employed participants * (10% (men) or 15% (women) * JD Median Income Level) * 34 years]

Total Benefits: Benefits for Unemployed + Benefits for Employed

Where

\[ \text{Expected Income} = (10\% \text{ (men) or } 15\% \text{ (women) } \times \text{JD Median Income Level}) + \text{JD Median Income Level} \]

.6 = Expected enrollment rate based on GAO study
10\% = Wage earning increase for men post training
15\% = Wage earning increase for women post training
5 years = Estimate of time between participant employment and non-participant employment
29 years = Retirement age (65) – Expected age of employment (31) – 5 years of full income benefit
34 years = Retirement age (65) – Expected age of employment (31)

With full participation by all adults in Jordan Downs (age 18 – 60 years of age), the total benefit is $54,381,931.70. Although 100% enrollment in any program seems unrealistic, HACLA plans and has communicated its intention to require participation in the job-training program for affordable housing eligibility in the redevelopment. Nonetheless, full participation is not assumed in our model in the second stage, where the program would take effect. To provide a more accurate (discounted) estimate of the costs and benefits, participating goals are included at each phase with a total goal of 100% enrollment by Phase 4. For unemployed residents, the goals consist of 60% initial enrollment in Phase 2, 30% in Phase 3, and the last 10% in Phase 4. For employed individuals, the goals are 40% in Phase 2, 40% in Phase 3, and 20% in Phase 4. As one of the community’s primary needs, implementing full participation at each phase—or at least the total by the final phase—is essential for achieving the monetized value of approximately $54.4 million.

Benefits of Saving an At-Risk Youth

Two of the Human Capital Development Plan’s (HCP) core services—education and literacy and youth development and safety—are focused on impacting the at-risk Jordan Downs youth population. Over 50% of Jordan Downs are youth, with a total of 608 males and 607 females under the age of 18.\(^{41}\) To evaluate the impact of these planned programming on the at-risk youth population, a threefold framework is used to discuss the benefits of “saving” an at-risk youth. Michael Cohen combines the benefits of preventing an at-risk youth from: (1) dropping out of high school, (2) becoming a career criminal, and (3) becoming a heavy drug user—all of which impose costs to the individual as well as external costs to society.\(^{42}\) Cohen’s theoretical impetus for the combination of the three frameworks is the definition of “antisocial behavior”—such as

\(^{41}\) HACLA: Demographics.
\(^{42}\) Cohen, 1998.
loss of productivity, committing assault and robbery—“can be characterized as an ‘externality’—
an action taken by one person that negatively affects another person in society, where the person
does not voluntarily accept this negative consequence.”

According to Cohen, programming generally targeted at preventing at-risk youth deviant behavior are related to preventing high-school dropouts, crime, and drug abuse.

This “saving an at-risk” youth framework requires many assumptions, particularly that the target population is “at-risk.” Other assumptions include the monetary values associated with the statistical value of a life, intangibles such as loss and pain, length of criminal career, and severity of heavy drug use. However, given the demographics of the Jordan Downs population, the framework adequately applies to the population and sensitivity analysis surrounding how many individuals are prescribed will account for certain levels of uncertainty.

The following table includes the discounted benefits associated with preventing a high-school dropout, a career criminal, and heavy drug user. Values were changed from 1998 to 2009 dollars and discounted at the Social Rate of Time Preference (a discount rate of 3% used throughout the project).

<table>
<thead>
<tr>
<th>Lifetime Cost Category</th>
<th>Monetized Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Dropping Out of High School</td>
<td>$791,625.50</td>
</tr>
<tr>
<td>Career Criminal</td>
<td>$2,141,282.10</td>
</tr>
<tr>
<td>Heavy Drug User</td>
<td>$1,130,986.27</td>
</tr>
</tbody>
</table>

### Identifying Youth as At-Risk

Garbriano and Sherman’s (1980) study on high-risk neighborhoods and high-risk families states that in order to understand the factors that impede adequate development in childhood and adolescence one must look at the high-risk factors in the youth’s environment. Factors such as the home environment and family structure, socioeconomic status, safety of local neighborhood, and school and peer environment are extremely important in determining whether youth are “at-risk” for engaging in socially deviant behaviors in our threefold framework. Sullivan, Childs and O’Connell (2009) suggests that a combination of key factors, sex, race, children where parent know whereabouts, parents who know who their child it with, who have strong support social networks, who eat with family for dinner, among other factors provide general indicators for “risky” behavior.

The youth in Jordan Downs are a disproportionately disadvantaged population, many from single parent homes, living in households with income levels below extreme poverty, residing in one of the most dangerous neighborhoods in Los Angeles, and attending some of the lowest performing

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43 Cohen, 2008; p. 6.
44 Cohen, 2008; p. 1.
45 Sullivan, 2009; p. 555.
schools in the Los Angeles Unified School District. In the home environment, only 17% of households have both parents present and almost half of adults have not graduated from high school. In the JD resident survey, 86% perceive crime as a problem in their community and many feel unsafe in their own units or walking in their neighborhood. In the Southeast Los Angeles area, where Jordan Downs is located, 622 violent crimes and 1,127 property crimes were committed in 2009. The three feeder schools in the area are Florence Griffith Joyner Elementary School, Edwin Markham Middle School, and Jordan High School—are all severely underperforming, unsafe schools.

**Youth Population Eligible for Cost-Savings**

The likelihood of being a career criminal, heavy drug user and a high school dropout are highly correlated; Cohen therefore uses the monetary cost-savings associated with all three to provide a total estimate of saving an at-risk youth ($2,206,169.43 - $2,957,564.79). Although applying this sum to a career criminal is adequate—given that a career criminal and heavy drug user is not likely to graduate from high school—applying the sum to a high school drop out is not adequate since not all dropouts engage in criminal activity and heavy drug use. Consequently, our analysis uses the three individuals values and applies them to the JD youth differently.

According to Oliva and Nora, national and state data demonstrate education attrition rates for Latino and African American students are high, with 48-55% dropping out in the transition from middle school to high school and 50% dropping out sometime between their first and last year in high school. These high attrition rates are applied to the 1215 JD youth, who might suffer from higher attrition rates because of their exceptional disadvantages in their home and school environments. Empirical estimates for likely participation for criminal activity and heavy drug use are more limited. Mocan and Rees’ study analyzed added impact of key variables, such as race and socioeconomic status, in the likelihood of engaging in criminal activities such as burglary and assault. Hispanic and African American males were more likely to commit crimes than other races and their female counterparts. However, no estimates on how likely Hispanics and African Americans were to commit crimes was provided. A study of the benefits in crime prevention demonstrates uses a 6% juvenile population given youth arrests in 1994. Given that the Jordan Downs population is high-risk, this statistic is likely too low for determining career criminals. We estimate the rate for career criminals and drug users to be 10%.

**Programming in Jordan Downs: How many youths can the new policy save?**

The HCP is a specific model of comprehensive family services aimed at transforming the cycle of poverty in the Jordan Downs community. The model focuses on providing all the services the community might need, and should partner with results driven non-profits to contract effective programming for youth and parents. Finding an appropriate proxy for this program is challenging in that most comparable family services centers do not have evaluation mechanisms for the impact of their programming. Therefore the pool of program proxies to choose from is limited to best practices models that may or may not be feasible for the HCP.

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46 Jordan Downs Existing Conditions Report
47 Jordan Downs Existing Conditions Report
48 Cohen page 27
49 Greenwood
The most appropriate proxy given the data limitations is the Harlem Children Zone (HCZ), a nationally renowned best practice model of wrap-around services for at-risk youth and their families. The HCZ model focuses on “the social, health, and educational development of children…[and] on wrap-around programs that improve children’s family and neighborhood environment.” They do this by serving a community at scale—aiming to engage entire neighborhoods, creating a pipeline of educational support for children and their parents, building strong community among stakeholders, and evaluating program outcomes. The HCZ Family Beacon Centers provide wrap-around services and case management comparable to the HCP in Jordan Downs.

The community in Harlem, New York City is adequately comparable in factors such as race, socioeconomic status, educational attainment, and percent of people living in poverty. The Harlem community overall is slightly more advantaged than the Jordan Downs community, with 66% of their adults having finished college in comparison to JD’s 45%, and median income levels hovering at $18,000 to $20,000 annually while JD is at $15,500. Harlem is also predominantly African American and Latino, with a higher number of African American residents than Latino.

The results of the HCZ Beacon Family Center are outstanding. 90% of all children who enter the HCZ pipeline at any given time graduate from high school. This is achieved through a $3,500 per participant annual cost. The program has also shown other benefits, such as increased health and safety in the Harlem community.

**Methodology for At-Risk Youth Benefit Estimates**

Assumptions necessary for estimating the educational and youth development benefits of the Human Capital Development Plan are listed below:

- approximately 51.5% of youths between the ages of 0 and 13 will drop out
- approximately 50% of youths between the ages of 14-17 will drop out
- approximately 10% of JD youth engage in criminal activity
- # youth becoming career criminal is appropriate proxy for heavy drug users

We applied these assumptions to the JD population of 1215 youth and used the results from the Harlem Children Zone Family Beacon Center to monetize the potential benefits of the HCP education and youth development component.

<table>
<thead>
<tr>
<th>TABLE 2B: Benefits of Saving an At-Risk Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Savings of an At-Risk Youth</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
</tbody>
</table>

---

50 HCZ White Paper
53 Harlem Children Zone, 2009.
54 Oliva and Nora
55 Oliva and Nora
The total benefits of implementing a program like the Harlem Children Zone in Jordan Downs would likely yield $7,754,324,829.38 in individual and public benefits combined.

**Sensitivity Analysis**

Given the uncertainty of what model will be chosen for the HCP program and the actual policy impact on the JD youth population, the estimate of $754 million in benefits is only a “most-likely” scenario based on the assumptions in our analysis. Threshold analysis, gauging the impact of the total benefits amount on the project’s Net Present Value (NPV$_{JD}$), demonstrates the distinct possibilities in policy outcomes. The chart below indicates the current “most like” value of $754 million only slightly exceeds what is needed to meet the project’s break-even point. In this case, achieving a 90% prevention of high school dropouts, criminal careers, and heavy drug users is necessary for a NPV$_{JD}$ of zero.

<table>
<thead>
<tr>
<th>Preventing High School Drop Outs (#'s)</th>
<th>621</th>
<th>559</th>
<th>$396,502,283.18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing Career Criminals</td>
<td>122</td>
<td>109</td>
<td>$234,149,197.40</td>
</tr>
<tr>
<td>Preventing Heavy Drug Users</td>
<td>122</td>
<td>109</td>
<td>$123,673,348.81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$754,324,829.38</strong></td>
</tr>
</tbody>
</table>

Environmental Benefits
In addition to the aforementioned components of the Jordan Downs Master Plan, the HACLA has developed goals to significantly impact the environmental conditions of the neighborhood. Three elements of the proposed design that will have environmental considerations are 1) the 21-acre parcel of land acquired for development, 2) trees and materials for increasing green zones, and 3) buildings with LEED-ND certification, which includes both the manner in which they are constructed as well as the appliances within units. Due to both the high level of uncertainty regarding the total cost of restoring the acquired land as well as the fact that the Environmental Impact Report (EIR) on this former factory site will not be completed until June 2010, only the latter two were evaluated in this cost-benefit analysis.

Tree Valuation
The Jordan Downs community and the majority of South Los Angeles have significantly fewer trees compared to other areas across city districts (Fig. 1). In 2006 Mayor Antonio Villaraigosa committed to planting over one million trees throughout Los Angeles and stated that trees were solutions to many of the city’s most pressing environmental problems.56 The district in which Jordan Downs is located has tree coverage between 7.5 and 10.7 percent, well below the 25% average recommended by urban forest experts.57 To combat this issue and give the residents of Jordan Downs additional aesthetic value to their homes, the HACLA has developed a plan to place 1,289 30 ft. high trees in the community over the course of the four project phases. At an estimated cost of $862.50 for each tree (not including the cost of maintenance), an appropriate method of determining the benefit resulting from this investment is needed.

The environmental benefit of trees in Los Angeles has been thoroughly researched. In their comparative study of 55 American cities, Nowak, Crane and Stevens revealed that Los Angeles had the highest pollution removal values per unit tree cover due to its relatively long in-leaf season, relatively low precipitation, and relatively high pollutant concentrations and deposition velocities.58 A variety of methods exists to enable the valuation of nonmarketed environmental goods59; however, most of these approaches were not practical for establishing a quantifiable value of the trees due to the unique nature of the Jordan Downs analysis. For example, the practice of utilizing a hedonic pricing model to establish land value in relation to property, location, and environmental characteristics could not be applied to this case. A sufficient proxy was identified in the work of E. Gregory McPherson, who considered a variety of factors when establishing an accounting method to place a quantifiable value on trees, ranging from the amount of pollution reduced and storm water reserved to the life expectancy of various species of trees.6061 His analysis resulted in an estimated $2.80 in yielded benefits for every $1 invested in planting a tree, which is the standard formula utilized by the “Millions Trees in LA” initiative.

56 http://www.milliontreesla.org/mtabout6.htm
59 Benefit-Cost Analysis by Zerbe and Dively
and supported by the U.S. Forestry Service’s Center for Urban Forest Research.\(^6^2\) Using a 3% discount rate, the value of the trees were analyzed at each phase of the proposed plan, yielding a net present value of $2,625,884.35 (Table XX). Taking into account the absence of maintenance costs as well as additional societal benefits that future expected users will receive from the trees, the conservative estimate for the expected total benefit for the trees over their lifetime is $28,995,780.85, at a cost of $762,047.59.

<table>
<thead>
<tr>
<th>Phase of Project</th>
<th>Trees Planted</th>
<th>NPV Benefit</th>
<th>NPV Cost</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>539</td>
<td>$1,616,664.09</td>
<td>$425,437.92</td>
<td>$1,191,226.17</td>
</tr>
<tr>
<td>Phase 2</td>
<td>432</td>
<td>$1,185,777.21</td>
<td>$312,046.63</td>
<td>$873,730.58</td>
</tr>
<tr>
<td>Phase 3</td>
<td>184</td>
<td>$462,195.27</td>
<td>$121,630.34</td>
<td>$340,564.94</td>
</tr>
<tr>
<td>Phase 4</td>
<td>134</td>
<td>$299,063.61</td>
<td>$78,700.95</td>
<td>$220,362.66</td>
</tr>
<tr>
<td>Totals</td>
<td>1289</td>
<td>$3,563,700.19</td>
<td></td>
<td>$2,625,884.35</td>
</tr>
</tbody>
</table>

Along with these environmental benefits, further analysis could be performed on the impact that trees and other aspects of community design have on physical and mental health. Research has established connections between the view of trees and green space as a way to encourage outdoor activity, as well as reflection and thoughts that cultivate a positive mental state. Taylor, Kuo, and Sullivan’s study, conducted in a Chicago public housing development, showed that girls who lived in apartments with greener views scored better on self-discipline tests than those living in more barren but otherwise identical housing.\(^6^3\) Currently, Jordan Downs has limited safe and usable zones for physical activity, so the development of additional parks and green spaces within the community.

**Energy Savings from Appliances**

Another aspect of the Jordan Downs Master Plan focuses on “green” amenities within the residential units. Under the tenets of the LEED-ND standards, HACLA plans to install Energy Star refrigerators, stoves, and microwaves in each of the units. Estimating HACLA’s potential expenditure based on 1600 units, an expected cost of $709 per unit was derived after analyzing prices for the same energy efficient appliance and using the 25\(^{th}\) lower percentile of costs.

On Energy Star’s website\(^6^4\), Excel calculating tools provide clear inputs on the estimated lifetime energy savings to be expected over the life cycle of an Energy Star brand appliance. Though the majority of their modules are for commercial appliances, there was a useful tool for determining the expected life cycle benefits for each Energy Star refrigerator. By combining the value of two

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\(^6^2\) http://www.milliontreesla.org/mtabout6.htm  
\(^6^4\) Energy Star. www.energystar.com
different models (800 top mount refrigerators with freezer unit and 800 bottom mount refrigerators with freezer unit), the total benefit of placing an Energy Star refrigerator in each of the 1600 units was a decreased energy savings of $1,492,782.00.

INITIAL RESULTS

Based on our “most likely” scenario, the project yields a positive NPV$_{JD}$, totaling $31.5 million dollars with a benefit-cost ratio of 1.033. For a project of this scale, such a small margin of benefits outweighing the costs must be considered more carefully. The table below includes summary of all costs and benefit sections.

<table>
<thead>
<tr>
<th>Table : Project Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Totals</strong></td>
</tr>
<tr>
<td><strong>Costs</strong></td>
</tr>
<tr>
<td>Predevelopment</td>
</tr>
<tr>
<td>Infrastructure</td>
</tr>
<tr>
<td>Housing- Additional</td>
</tr>
<tr>
<td>Human Capital Development</td>
</tr>
<tr>
<td>Environment</td>
</tr>
<tr>
<td>Unspecified</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
</tr>
<tr>
<td>Cost Savings of an At Risk Youth</td>
</tr>
<tr>
<td>Housing Benefits</td>
</tr>
<tr>
<td>Economic Development</td>
</tr>
<tr>
<td>Environmental Benefits</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
<tr>
<td><strong>Net Present Value (NPV$_{JD}$)</strong></td>
</tr>
<tr>
<td><strong>Benefit-Cost Ratio (BCR)</strong></td>
</tr>
</tbody>
</table>

**Sensitivity Analysis: Human Capital Development Plan**

One of the project areas with most uncertainty is the HCP in that benefits rely on effective implementation of programs planned as well as positive policy outcomes. A threshold analysis was conducted with the largest benefit the project is likely to yield, the benefits of saving an at-risk youth. The analysis indicates that without success rates close to or at 90%, the benefit-cost ratio of the project will be lower than one. Furthermore, the benefits of potential job training are small and uncertain depending on whether or not participants will find employment, earn higher wages, and keep employment throughout their lifetime. In order to account or this uncertainty, finding the value of the project without the full benefits included is helpful in making informed decisions about the project’s benefits to society.

The two components of the HCP are education/ youth development and workforce development, they yield the benefits in saving an at-risk youth and the job training portion of economic development. The costs of the program will approximately be $41 million or more, the benefits associated with *successful* programming are approximately $809 million, resulting in a HCP
benefit-cost ratio of 19.92. Nonetheless, when considering the costs of the entire project, eliminating either benefit or cost yields a negative project NPV. When eliminating both costs and benefits, the benefit-cost ratio is .19 and the NPV is negative $747,000. Going forward with the project, despite having an initially positive NPV, requires understanding that the cost worthiness of the project is contingent on successful programming for the JD residents.

LIMITATIONS
As with any cost-benefit analysis, there are several uncertainties and challenges, which significantly impacted the findings and results of the Jordan Downs redevelopment study. These are some of the major challenges of the study:

• While there are some previous examples of cost-benefit analyses of public housing redevelopment projects, Jordan Downs is unique and particularly challenging due to its scale and location.

• All estimated figures are based on proposed numbers; due to the fact that the plan to develop Jordan Downs is currently an ongoing effort, there is lack of certainty regarding future outputs (i.e. the amount of housing units we chose to use for our base scenario).

• It was necessary to make assumptions in order to estimate the educational and youth development benefits of the Human Capital Development Plan. These postulations, which could be subject to scrutiny by some, stated that:
  o approximately 51.5% of youths between the ages of 0 and 13 will drop out[1]
  o approximately 50% of youths between the ages of 14-17 will drop out[2]
  o approximately 68% of high school drop outs will engage in criminal activity
  o half of the youth engaging in criminal activity will become career criminals
  o numbers of youth becoming career criminals is appropriate proxy for heavy drug users.

• With exception to the hedonic pricing model used for measuring the benefits of housing, all benefits measured only represent benefits to current Jordan Downs residents. However, every component of the Human Capital Development Plan is expected to not only benefit the 700 families there today, but also an additional 900-1100 families who will have opportunities to participate in the programs offered through the family resource center.

• The concept of a family resource center that is directly connected to a public housing project is so unique that it was virtually impossible to find a comparable proxy.

• A major goal of the plan is to improve the quality of health in the community, which is severely affected by some of the country’s highest rates of obesity, diabetes, and other chronic illnesses. However, insufficient data was given regarding the current and expected expenses for treating these illnesses in the community. While costs are listed regarding the infrastructure for the clinic, there was no information to be found on the costs of programs and medical care in order to perform calculations to determine the number of quality-adjusted life years (QALYs) that could be saved.
Since data for costs are not broken down into the various components discussed in the study, it was not possible to conduct a direct CBA for each component of the project.

In the effort to avoid double-counting, a true differentiation between costs and benefits was desired. Assigning dollar values to certain non-market benefits and determining social benefits and costs was an arduous task.

Changes in capital markets and recent economy shifts make it difficult to project housing values and make long-term calculations (i.e. net present value, etc.). Since the selection of the discount rate can alter how much the benefits outweigh the costs, some thought must go into what the appropriate percentage should be.

Differences in values, opinions, and access to information among various key stakeholders made it difficult to determine the true costs and benefits of both the status quo and the alternative. While supporters of the redevelopment have the means to generate several sources of information with benefits and costs of the project, those who want to maintain the status quo may lack the money, time, influence, or education to do the same. Providing an accurate assessment of current resident interests and input is crucial to the validity of this study.

Despite these limitations, a thorough and conservative analysis was conducted regarding the Jordan Downs Master Plan. Taking the limitations into considerations, further studies could look into expanding on this work once more information is made available.

FINDINGS

Considering all of the benefits that are generated by the various components of the Jordan Downs Redevelopment Project and Master Plan, we calculated a BCR of 1.03, indicating that the benefits of this project slightly outweigh the costs. The bulk of the benefits are found in the Human Capital Development Plan, thus any changes to this component of the project (i.e. removing the job-training program), would significantly alter the outcomes of the analysis, making the costs outweigh the benefits.

It is important to note that several potential benefits were not quantified, thus are not included in our analysis. The inclusion of benefits related to health and the additional environmental benefits generated by this LEED-ND project are likely to have a significant impact on the BCR, thereby making the project an even more worthwhile investment.

RECOMMENDATIONS

Given the results of our analysis using a baseline scenario of 1600 units to be built (450 market rate) over a 13 year time frame, we recommend that the Housing Authority of Los Angeles move forward with the redevelopment of Jordan Downs provided:

1. a more thorough analysis of the overall benefits, including health and environmental benefits is conducted, and results in a more substantial BCR
2. a wrap-around services program is included in the family center targeting at least 70% enrollment (ideally 90%) of youth and parents in the education and job training programs
3. an efficient evaluation system for measuring the impact on the quality of life for the 700 families is implemented.

Figure 1: Estimated Tree Coverage in the City of Los Angeles
Center for Urban Forest Research, USDA Forest Service
<table>
<thead>
<tr>
<th>Costs</th>
<th>Phase(s)</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land acquisition</td>
<td>Prior to 1</td>
<td>HACLA purchased 21 acres of land on Jordan Downs grounds. 11 acres will be sold, expected date of 2013.</td>
<td>$12,339,436.09</td>
</tr>
<tr>
<td><strong>Housing: Additional costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appliances</td>
<td>1,2,3,4</td>
<td>Energy Star appliances costs for 1600 units are included in this value. Having Energy Star appliances is consistent with HACLA’s plans to make this a environmentally sound development.</td>
<td>$664,709.69</td>
</tr>
<tr>
<td>Architecture and Design Fees</td>
<td>Prior to 1</td>
<td>Included in infrastructure costs.</td>
<td></td>
</tr>
<tr>
<td><strong>Infrastructure Costs - Public Space</strong></td>
<td>1,4</td>
<td>Construction of the family resource center, facilities for local families, improvements to on site school, clinic, library, and computer/technology center.</td>
<td>$193,590,236.08</td>
</tr>
<tr>
<td><strong>Infrastructure Costs - Housing/Commercial</strong></td>
<td>1,2,3,4</td>
<td>Construction of 1600 units and commercial/retail space in corridors.</td>
<td>$505,700,747.58</td>
</tr>
<tr>
<td><strong>Human Capital Development Plan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workforce/ Economic Development</td>
<td>2,3,4</td>
<td>Job training program, workforce development, job creation.</td>
<td></td>
</tr>
<tr>
<td>Program Costs</td>
<td>2,3,4</td>
<td>Includes costs associated with job training program.</td>
<td>$1,859,158.51</td>
</tr>
<tr>
<td>Construction</td>
<td>1</td>
<td>Included in infrastructure costs.</td>
<td></td>
</tr>
<tr>
<td><strong>Education and Literacy</strong></td>
<td>2,3,4</td>
<td>Costs for educational programming estimated through the proxy of the Harlem Children Zone Beacon centers. Estimated yearly cost per participant: $3,500</td>
<td>$38,736,702.57</td>
</tr>
<tr>
<td><strong>Youth Development &amp; Safety</strong></td>
<td>2,3,4</td>
<td>Gang Reduction and Youth Development program to be implemented on site. Costs not found, included in &quot;unspecified costs.&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinic and Health Costs (non-infrastructure)</td>
<td>2,3,4</td>
<td>Construction of on site clinic planned. Non-infrastructure costs, such as administration, personnel, or programming included here. Infrastructure included in Public Space costs.</td>
<td></td>
</tr>
<tr>
<td>Food Services Costs</td>
<td>2,3,4</td>
<td>New kitchen planned for local school. Food services costs included in unspecified costs.</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead NDEED Fees</td>
<td>1,2,3,4</td>
<td>Included in infrastructure costs</td>
<td></td>
</tr>
<tr>
<td>Land restoration costs</td>
<td>Prior to 1</td>
<td>Included in unspecified costs. HACLA in process of contracting for evaluation of land restoration costs.</td>
<td></td>
</tr>
<tr>
<td>Park development</td>
<td>1,2,3,4</td>
<td>Valuated through the cost of planting one tree multiplied by number of trees planned for entire redevelopment. Trees separated into phases.</td>
<td>$762,047.59</td>
</tr>
<tr>
<td><strong>Unspecified Costs</strong></td>
<td>1,2,3,4</td>
<td>HACLA estimated a total expenditure of $1 billion dollars. Unspecified costs include costs wherein no actual or proxy data could be used to estimate costs.</td>
<td>$199,131,850.95</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>$952,784,889.05</td>
</tr>
</tbody>
</table>
### Appendix B: Total Monetized Benefits

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Phase(s)</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost Savings of an At Risk Youth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School Drop Out</td>
<td>2,3,4/</td>
<td>Value of preventing high school drop out.</td>
<td>$396,502,283.18</td>
</tr>
<tr>
<td></td>
<td>lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Criminal</td>
<td>2,3,4/</td>
<td>Value of preventing career criminal.</td>
<td>$234,149,197.40</td>
</tr>
<tr>
<td></td>
<td>lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy Drug User</td>
<td>2,3,4/</td>
<td>Value of preventing career criminal.</td>
<td>$123,673,348.81</td>
</tr>
<tr>
<td></td>
<td>lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Housing Benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Benefits of Redevelopment on Housing Prices</td>
<td></td>
<td>Hedonic pricing model used to estimate impact of redevelopment on surrounding housing prices. Also included in this benefit is the expected sale of the 450 market rate units expected.</td>
<td>$101,987,234.55</td>
</tr>
<tr>
<td><strong>Economic Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Training Program for all residents</td>
<td>2,3,4/</td>
<td>Proxy used to estimate benefits of job training program for unemployed and employed JD residents.</td>
<td>$54,381,931.70</td>
</tr>
<tr>
<td></td>
<td>lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Jobs (200 positions)</td>
<td>1,2,3,4</td>
<td>200 construction jobs through building of 1600 units.</td>
<td>$68,539,660.28</td>
</tr>
<tr>
<td><strong>Environmental Benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased # of trees</td>
<td>2,3,4/</td>
<td>Infrastructure plans include planting of trees. Proxy study which valued each $1.00 invested as a $2.80 return on environmental public benefits.</td>
<td>$3,563,700.19</td>
</tr>
<tr>
<td></td>
<td>lifetime</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased Energy Expenditure</td>
<td>2,3,4</td>
<td>Energy Star appliances will be purchased for project. Benefit valuation includes the costs saved in having more energy efficient appliances (stove, refrigerator, microwave for 1600 units included in benefit valuation).</td>
<td>$1,492,782.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>$984,290,138.10</td>
</tr>
</tbody>
</table>
Appendix C: Existing Conditions and Development Plan

Existing Conditions

![Existing Conditions Map]

- Jordan Downs homes
- The “Factory” site
- Gym & Rec center
- Freedom Tree
- Community center
- Jordan High School
- WLCAC urban farm

Development Plan

![Development Plan Map]
Appendix D: Benefits of Construction Jobs, including sensitivity analysis for increasing housing unit productions from 1600 baseline scenario to 1800 units

<table>
<thead>
<tr>
<th></th>
<th>Jobs Created</th>
<th>Mean Income</th>
<th>Added Income</th>
<th>Total Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1600 Units (200 Construction Workers)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10% Unemployed</td>
<td>20</td>
<td>$0</td>
<td>$60,000</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>40% Jordan Downs Mean</td>
<td>80</td>
<td>$15,502</td>
<td>$44,498</td>
<td>$3,559,840</td>
</tr>
<tr>
<td>50% LA Mean</td>
<td>100</td>
<td>$48,690</td>
<td>$11,310</td>
<td>$1,131,000</td>
</tr>
<tr>
<td>Total in 1 year</td>
<td></td>
<td></td>
<td></td>
<td>$5,890,840</td>
</tr>
<tr>
<td>Total over 13 years</td>
<td></td>
<td></td>
<td></td>
<td>$68,539,660.28</td>
</tr>
</tbody>
</table>

| **1800 Units (210 Construction Workers)** |              |             |              |                |
| 10% Unemployed                 | 21           | $0          | $60,000      | $1,260,000     |
| 40% Jordan Downs Mean          | 84           | $15,502     | $44,498      | $3,737,832     |
| 50% LA Mean                    | 105          | $48,690     | $11,310      | $1,187,550     |
| (undiscounted) Total in 1 year |              |             |              | $6,185,382     |
| (discounted) Total over 13 years|              |             |              | $71,966,643.29 |
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Millions Trees LA., www.millionstreesla.com


