

Community-Based Prioritization of a Brownfield Site Inventory for Redevelopment

Margaret Renas, P.E., LEED, AP, O&M¹; and Ben Shorofsky, E.I.T, LEED, AP, O&M²

¹Senior Manager, Delta Institute, 35 E. Wacker Dr., Chicago, IL. E-mail: mrenas@delta-institute.org

²Technical Associate, Delta Institute, 35 E. Wacker Dr., Chicago, IL. E-mail: bshorofsky@delta-institute.org

Abstract: This paper describes the process Delta Institute's project team used to obtain and directly integrate a community's goals and needs into an engineering-based, brownfields prioritization rubric. A two-phased approach was used to prioritize sites. Phase I reduced the initial brownfields inventory from 62 to 20, relying upon a quantitative rubric to score the community's inventoried brownfields by assessing both site-related data and community site redevelopment goals. This initial approach was only partially successful and as such was supplemented with an alternate qualitative, community-based comparison process. Phase II reduced the interim list of 20 sites to ten. This approach began with a re-scoring of sites to produce refined, site marketability scores and summaries that were then used to inform a more time intensive, flexible, and individualized community and stakeholder engagement process. Phase II resulted in significant community input on desired reuse of the sites to reduce the number of sites to ten. Delta Institute found that while the original engineering-based approach (scoring rubric) brought significant value to the project, the more qualitative, individualized community engagement approach in Phase II resulted in a site prioritization that more truly reflected the goals of the community in an impactful way.

INTRODUCTION

The environmental assessment and remediation of brownfield sites typically requires an extensive allocation of time and both human and financial resources. Beyond environmental remediation, however, Delta Institute's experience has shown that the subsequent redevelopment or reuse of sites is often further complicated by marketing and community complexities, such as lack of community buy-in. These complexities can lead to delays in a property's redevelopment, limiting the site's ability to contribute to the community's socio-economic goals. Therefore, once a community's brownfield inventory is created, the brownfield team should conduct an analysis of the sites in the inventory prior to executing site access agreements or beginning environmental assessments. This analysis can be used to identify those sites that are: 1) more marketable/have a higher redevelopment potential from the perspective of the private sector, and 2) best positioned to achieve a community's economic, environmental, and overall redevelopment goals. The process is explored through the lens of a brownfields prioritization conducted by two organizations in Chicago, Illinois in 2014 and 2015.

Delta Institute (Delta), an environmental non-profit organization, and the Little Village Environmental Justice Organization (LVEJO), a community organization located in the Little Village neighborhood (also known as South Lawndale), embarked on a partnership to inventory and prioritize the brownfields in the Little Village community. The project team consisted primarily of environmental engineers, an economic development professional, and an experienced community activist possessing both an extensive knowledge of the community and strong relationships within the community. The team identified 62 brownfield sites in the community using the definition of a brownfield from the Small Business Liability Relief and Brownfields Revitalization Act passed in 2002: “a real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant” (United States 107th Congress). Please note that the highly detailed process that the project team used to develop the Little Village inventory is outside the scope of this paper and as such will not be discussed here.

To prioritize the Little Village sites to a “top ten”, Delta created a quantitative site scoring rubric and used input from the community regarding its desired reuse of the sites. To obtain and assess this information, Delta engaged in two discrete phases of work. In Phase I, Delta analyzed recent financial activity on sites as well as both basic site related data (using the scoring rubric) and community preferences to reduce the site list to 20. In Phase II, Delta analyzed additional detailed information on the remaining smaller subset of sites to re-score sites and refine site summaries. To further reduce sites to 14, the team revisited local financial and redevelopment activity. The remaining 14 site summaries were then used to inform six months of individualized and extensive community engagement around site reuse using both stakeholder visits and informal community conversations.

Table 1. Prioritization Methodology and Timeline

Activity	2014			2015		
	June to Sept	Oct to Nov	Dec	Jan to Feb	Mar to May	June to Aug
Phase I Reduction to 20 Sites						
Financial Activity Review						
Development of Scoring Tool						
Site Data Collection						
Community Data Collection						
Pre-Score/ Site Summaries						
Qualitative Discussion						
Phase II Reduction to 10 Sites						
Add'l Site Data Collection						
Re-score/Site Summaries						
Dvpt. Activity Review						
Stakeholder Engagement						
Garden Meetings						
Matching Reuse to 10 Sites						

PHASE I REDUCTION TO 20 SITES

Review of Financial Activity on Subject Sites

For each of the 62 sites, publicly available county data was collected to identify if recent financial activity (such as execution of a mortgage on the property) had occurred in the last 12 to 18 months. Financial activity was identified for twelve of the properties. Based on the assumption that financial activity was indicative of possible imminent development of a property, 12 sites were declassified as brownfields and removed from the Little Village inventory, leaving a total of 50 properties for assessment.

Development of Quantitative Scoring Tool

Early in Phase I, Delta also developed a scoring rubric to analyze and score each of the remaining 50 brownfield sites in the inventory. The initial goal of the scoring was to rank the sites for redevelopment, reduce the sites to the 20 with the highest scores, further assess and rescore the 20 sites in Phase II, and then, with extensive community input, identify the ten sites with the highest likelihood of successful redevelopment.

The inventory scoring tool developed by Delta scores each brownfield property based on attributes and weighted scores in the following nine influence areas:

Table 2. Scoring Rubric Influence Areas

Scoring Influence Area		
Site Ownership	Community Characteristics	Infrastructure Amenities
Site Use	Community Capacity	Environmental Conditions
Land Characteristics	Redevelopment Incentives	Building Characteristics

Each influence area contains between three and seven questions, each with a discrete set of answers. Most questions, such as “Is there a building on the site,” are answered with simple “yes” or “no” responses, while other questions offer a range of options. For example, a question asking about likelihood of contamination could be answered in one of four ways (unlikely, likely lightly contaminated, likely moderately contaminated, and likely highly contaminated) with points scaled to reflect the responses. Each question assesses a specific site characteristic, and the answer to the question is programmed to generate a weighted number of points. Delta based the weightings on a number of factors, including: our experience with and institutional knowledge of community priorities for redevelopment, property features that provide either an incentive or disincentive to the private real estate and development market, and Delta’s knowledge of environmental assessment and remediation and how this can encourage or discourage further redevelopment of a site. More points were assigned to answers that were determined to be more beneficial to redevelopment.

The maximum score that a property can achieve is 210. (Due to space constraints, the scoring rubric is not included, but it is available from Delta upon request.)

Site Data Collection

Over a four-month period, the project team collected an extensive amount of data on the brownfield sites to answer the questions within the scoring tool that were dependent upon more basic site information. The project team collected data to answer some but not all questions primarily in the six influence areas of: Site Ownership, Land Characteristics, Community Characteristics, Redevelopment Incentives, Environmental Conditions, and Building Characteristics. Questions that were not answered at this time were those that required community input and/or were too intensive to be collected on the larger list of 50 sites.

Community Data Collection

To answer the two questions in the Site Use influence area: “Do you have a clear idea of the type of desired end use” and “Is the desired end use consistent with the community’s plans and goals”, the project team explored the community’s redevelopment goals and reuse strategies for the sites. The team first reviewed several recently published economic development strategies pertaining to the Little Village community, such as the 2012 “Little Village SSA #25 Market Analysis and Economic Development Plan” (Teska & Axia), and the 2013 “Little Village Quality of Life Plan” (Enlace Chicago). From these reviews it was concluded that clear and distinct redevelopment goals and reuse strategies did not exist for property redevelopment in Little Village. However, LVEJO, through its previous community work and in discussion with Delta, identified that three general reuse categories were relevant for the Little Village community: industrial, commercial, and recreational. LVEJO defined the recreational category as using property for either green space or community use.

The project team next held two community meetings in public libraries located in Little Village, the first in October 2015 and the second in November 2015, to ground truth the community’s interest in the three reuse categories, as they pertained to the brownfields, and also to determine community preferences for specific sites. At each meeting, the project team displayed on large poster boards the addresses of the 50 sites and a map and photographs of the sites. Attendees were asked to provide input in three ways: 1) rank the importance of the three reuse categories by indicating how many of ten sites they would like to see redeveloped according to each category; 2) identify the site(s) that the community member was most interested in redeveloping; and 3) identify for as many sites as possible the desired reuse category of industrial, commercial, or green (recreational) for that site.

The project team obtained insufficient data from the community meetings to be able to answer the two Site Use rubric questions. While at least 50 people were expected

to attend each of the two community meetings, only approximately 12 to 14 people attended each meeting. One reason for the low attendance could have been that the broad subject matter of the meetings (asking for community input on 50 sites) may have been too nonspecific to motivate attendance. Regarding the first area of input (ranking the importance of the three reuse categories), the project team received input from only 12 attendees on the desirability of the three reuse categories. Results are displayed below.

Table 3: Number of Ten Sites to Redevelop According to Reuse Category

Reuse Categories	Mean	Median	Mode
Recreational	4.67	4.50	4.00
Commercial	3.00	3.00	2.00
Industrial	2.33	2.50	3.00

Even though the results suggest that the group preferred the recreational category, the sample size of 12 was too small to be a statistically significant representation of the Little Village community. Regarding the second area of input (identifying priority sites for redevelopment), all of the approximately 24 residents who attended the meetings did identify a preference for some sites to be redeveloped over others. (The project team used this input in the qualitative community based discussion which is subsequently discussed.) Regarding the third area of input (identifying the desired reuse category for each site), while attendees did assign one or more of the reuse categories to many of the 50 sites, they actually assigned many of the sites two or three reuse categories, which failed to adequately distinguish site-specific reuse preferences. Consequently, based on the results of community engagement thus far, it was determined that there was insufficient information to answer the two basic but key community-based rubric questions.

Pre-Score/Site Summaries

To obtain the community information needed to sufficiently prioritize the 50 sites and reduce the site count to 20, the project team turned to a more qualitative approach for obtaining community input over the quantitative approach discussed above.

The team believed that it would be informative to community groups and stakeholders to run the scoring model on the sites. The team uploaded the existing data that had previously been obtained for each site, ran the scoring model, and ranked the 50 properties *without answering* the two community-based questions. Because the property scores generated did not include an assessment of whether or not each property's anticipated reuse met community goals and needs, the team took great care not to overvalue the information that the scores conveyed. The scores now represented more of a marketability or "ease of redevelopment" score for each site, because the questions that the rubric answered were those that primarily reflect the

views of the private development and real estate market. A higher score was interpreted to represent that a site possessed a combination of attributes that made the property either more attractive to the private sector and/or easier to redevelop by the private sector. With this reframing of the scores in place, the scores were now viewed as more of an assistance tool for site prioritization rather than solely as a quantitative means to rank the sites. Consequently, a brief narrative summary of each site was created based upon the primary attributes within each area of the scoring rubric that most influenced the site’s overall score. A site summary example is displayed in Table 4 below.

Table 4: Site Summary Example

(Address Removed) Vacant industrial lot ➤ 3.2 Acres ➤ For sale, Privately owned ➤ 2-story, 87,000 (est.) sq. ft. building, FAR=1.22 ➤ Contamination still suggested ➤ Enrolled in Illinois Site Remediation Program ➤ “No Further Remediation” (NFR) Letter (2006) ➤ In Tax Increment Financing District (TIF) ➤ Below average crime	Marketability Score: <p style="text-align: center;">56.5</p> “Easiest to Market”
	Prelim. Suggested Reuse: Industrial or Commercial

Qualitative Discussion

The scores, site summaries, and site locations enabled the project team to discuss and compare the sites in an informed way. Through this qualitative comparison process, it was clear that four key observations strongly affected prioritization of the 50 sites. Some of these observations were not adequately addressed by the scoring rubric, so the qualitative process also served as an informal beta test of the rubric.

Observation 1

Ten of the sites possessed an undesirable pairing of two attributes – 1) that a site was privately owned and 2) very small (generally less than one-tenth of an acre in size). The scoring rubric assigned scores to eight of these sites that ranked them in the bottom half of the 50 sites. However, two of the sites were ranked 13th and 17th out of 50. The project team agreed that a very small property size would not be conducive to reusing a site for any of the three broad community reuse categories of industrial, commercial, and recreational. In addition, private ownership of a site suggested that gaining control of one of these small sites could be more problematic than if the site were publicly owned. Consequently, the project team agreed that the pairing of these two attributes created significant negative implications for site reuse. If this pairing of attributes had been built into the scoring rubric, it should have resulted in a

significantly lower total point assignment than summing the points assigned for the two individual attributes. Therefore, regardless of the score assigned by the scoring rubric, these ten sites were deprioritized to the bottom of the list. Additionally, an eleventh site, which was publicly owned but extremely small and unlikely to be reused, was deprioritized.

Observation 2

Five of the sites possessed another undesirable pairing of two attributes – 1) that a site was privately owned and 2) located in the northern portion of Little Village, defined as north of 23rd Street and/or the east to west running rail line. The scoring rubric ranked four of the sites in the bottom half of the 50 sites. However, one of the sites was ranked 10th. While geography of sites was not an attribute scored by the rubric, during the qualitative discussion, LVEJO expressed that geography of sites is indeed significant. Because of tensions between the communities of Little Village and North Lawndale (located adjacent and north of Little Village) and the fact that the commercial and industrial corridors of Little Village are located in the central and southern regions of the neighborhood, Little Village residents tend to gravitate away from the northern portion of the community for activities related to industry, commerce, or recreation. Consequently, the project team agreed that the pairing of the two site attributes of a northern geography and private ownership were as equally undesirable as the pairing of private ownership with very small property size. Regardless of the score assigned by the scoring rubric, these five sites were deprioritized to the bottom of the list.

Observation 3

Seven of the sites possessed a third undesirable combination of four attributes: 1) that a site was very small (generally less than one-tenth acre in size), 2) that it did not have a building located on it, 3) that it was at the end of a residential block in a strictly residential subsection of Little Village, and 4) that it was located in the northern portion of Little Village as previously defined. The seven sites were ranked 11th and 20th through 25th respectively. Again, regardless of the score assigned by the scoring rubric, the project team deprioritized these sites to the bottom of the list of 50 sites. However, because these seven properties were all located within very close proximity (approximately two blocks) to each other, it was determined that a common use for these seven sites as small “pocket parks” might be apparent. Because the use of these very small sites as “pocket parks” did not suggest *a strong* impact to the community, it was agreed that these seven sites would be considered as a group that is not included in the top ten but instead should be considered by future planning processes for green space in Little Village.

Observation 4

Seven additional sites each possessed an attribute that the project team determined no longer made the site eligible as a brownfield. Between the start of the project and the qualitative discussion, LVEJO was informed through communication with the community on other projects that seven sites were either: part of a sales contract, scheduled for demolition, under development, recently occupied, or targeted for acquisition by a large hospital development. The project team delisted these seven properties as brownfields and removed them from the list of 50.

Site Reduction from 50 Sites to 20 Sites

Based on our qualitative comparison of the 50 properties, the team was able to reduce the number of sites from 50 to 20, while staying consistent with the three community reuse categories (industrial, commercial, and recreational) and incorporating a new preference to avoid redeveloping sites in the northern portion of the neighborhood. However, the team also beta tested the validity of the scores assigned by the scoring rubric. Of the sites originally ranked in the top 20 by the scoring rubric, 11 sites (or 55% of the sites) remained in the top 20 at the conclusion of the discussion. The team reviewed the other nine sites that now were in the top 20 to identify why the rubric did not score them more highly. After identifying several positive attributes of these sites that were not being adequately scored by the rubric, the team adjusted the rubric accordingly.

PHASE II REDUCTION TO 10 SITES

Additional Site Data Collection and Site Rescoring

Using the more manageable list of 20 brownfield properties, the project team embarked on additional site data collection to gather information that was either too detailed, time-consuming, or difficult to collect for the original large list of 50 sites. For example, Delta conducted a preliminary environmental review on each of the 20 properties by reviewing information typically analyzed during a Phase I Environmental Site Assessment to classify each brownfield as “Unlikely Contaminated” or “Likely Contaminated”, with a sub-classification of “Lightly”, “Moderately”, or “Substantially Contaminated”. The project team uploaded all newly-acquired site data and re-ran the scoring rubric to obtain revised scores and refined property summaries.

Development Activity Review

Finally, seven additional sites were removed, because it was determined that other entities, i.e., a city department, a quasi-governmental agency, or a large hospital development, had over the last three months begun to focus considerable attention and resources on redevelopment of the properties, rendering the project team’s efforts

on these sites unnecessary. Also, a previous brownfield site that was incorrectly identified as under development was added back in.

Community Stakeholder Engagement and Garden Meetings

With 14 brownfield sites remaining, the project team assessed that it now had a more manageable number of sites to use as a point of discussion for intensive community engagement. In addition, by having slightly more than the ten-site goal (for which reuse strategies would be created), the community would have the flexibility to move sites in and out of the top ten. Consequently, the team moved past the reduction and quantitative scoring of sites to a more focused and site-specific version of community engagement to determine how the community would like to reuse the sites. For this engagement the project team decided to convene discussions with *individual* stakeholders instead of asking the community to come together for scheduled group meetings. To execute this revised strategy, the project team used two tactics.

First, over a six-month period, individual meetings were scheduled with over 25 community stakeholders. Stakeholders were defined as an organization or individual that either is responsible for planning in Little Village, has a strong presence in Little Village, has a vested interest in the community, and/or was recommended to us by another stakeholder. Stakeholders included community groups focused on economic development and the health of children, local elected political officials, the Little Village Chamber of Commerce, the county sheriff's department, a regional planning authority, a local job corporation, city departments, a private developer, two environmental organizations, a local business owner, owners of several of the 14 sites, a university, and local entrepreneurs focused on sustainable business activities, such as composting and biodiesel production. At each stakeholder meeting, representatives from both Delta and LVEJO conversed with the stakeholder for approximately one to two hours. Each of the 14 sites were discussed individually (using site summaries and site photographs to facilitate the conversation), and stakeholders were asked how they thought the sites could or should be reused, what needs the community had that could be addressed by redevelopment of the sites, and, in general, what types of businesses or operations would be useful to the community.

Second, the team attended six of LVEJO's weekly community garden potluck events to meet with local residents and discuss the reuse ideas identified through the individual stakeholder meetings. At the garden meetings, LVEJO staff members informally discussed proposed stakeholder-generated reuse ideas with the approximately 15 to 25 residents who attended each gathering to seek input on: whether residents thought the idea was needed in the community, if it would be useful to the community, and who would like to be involved in implementing the idea if it became one of the site reuse strategies. During the discussions, LVEJO recorded resident responses including new ideas suggested by residents that were not previously identified during the stakeholder meetings. During this time period, Delta also conducted high-level research on the reuse ideas that the residents were discussing to assess basic feasibility of the ideas based on the level of environmental remediation needed, the uses allowed by existing property zoning, funding and

business requirements, the physical space needed, and alignment with local ordinances and regulations.

Matching Reuse Ideas to 10 Sites

At the culmination of community engagement in mid-August 2015, the project team had identified eight reuse strategies for the 14 remaining sites. These strategies (summarized in Table 5) were directly obtained from and supported by the Little Village community, and they were determined to likely be viable based on Delta's high-level feasibility considerations.

Table 5: Community-Generated Site Reuse Ideas

Community Based Biodiesel	Public Green Space and Multi Modal Center
Community Composting Facility	Shared Commercial Kitchen
Multipurpose ADA Field	Urban Indoor Farms
Private Market Redevelopment	Vendor Cart Sanitizing & Storage Space

The project team then created a matrix to match reuse ideas to the 14 properties to determine which sites were amenable to which reuse ideas and which sites offered the most flexibility for implementation of more than one reuse idea. In fall 2015, the project team, using the matrix as a guide, conducted more detailed research on how reuse ideas related to the various sites and to ultimately select ten sites, each paired with at least one potential community-generated reuse strategy. Delta subsequently worked with LVEJO to create strategies for: obtaining site access; securing funding for environmental site assessment, remediation (if applicable), and redevelopment; and for overcoming key challenges for site reuse in accordance with the community's goals, wants and needs.

CONCLUSIONS

The project team identified several important findings from the Little Village prioritization process:

It would have been more beneficial to understand the historical fabric of the community earlier on in the process. For example, once the project team learned from LVEJO that the Little Village community would be less interested in developing sites in the northern section of the community for either recreational, commercial, or industrial use, these sites were removed. This information could possibly have been obtained from LVEJO earlier in Phase I by reframing initial discussions with LVEJO around the history of Little Village's development instead of focusing the conversation specifically on community's goals.

Initial "marketability" scores, rankings, and site summaries generated using the scoring rubric proved to be highly valuable as an *assistance tool*. However, the numeric scores *alone* were also valuable for determining the top 20 sites. Of the sites

originally ranked in the top 20 by the scoring rubric, 11, or 55% of the sites, remained in the top 20 at the conclusion of the project team's qualitative discussion. However, beta testing of the scoring rubric on other community site inventories is needed to confirm or refute the quantitative value of marketability scores when engaging in *community-based* site redevelopment.

The reuse ideas that the community members generated for the sites were strongly focused on community-based entrepreneurship and on green or sustainable businesses, whereas the project team's experience with private sector redevelopment interests in Chicago revealed a strong focus on big box retail and high-end residential development. Because the site reuse strategies that the project team completed in fall 2015 focused on the *community's own* site reuse ideas, it is anticipated that during site redevelopment, the required buy-in from the community may be either already achieved or at least easier to obtain. Testing of this hypothesis is beyond the scope of this paper.

The community-based engagement which included individual stakeholder engagement and community garden meetings, was time intensive, but it produced robust and specific reuse ideas that received some initial community buy-in. In comparison, the less time-intensive and more traditional community meeting model originally employed to collect community information, produced inconclusive results. This suggests that a more qualitative and individualized approach to community engagement may be needed to achieve desired results, at least with some communities.

ACKNOWLEDGEMENTS

Delta Institute acknowledges the residents of Little Village, the staff and student interns of LVEJO, the leaders of Little Village-based organizations, and our project funder (who has asked that its name be withheld).

REFERENCES

- Enlace Chicago (2013) "Little Village Quality of Life Plan".
- Teska Associates, Inc. and Axia Development (2012) "Little Village SSA #25 Market Analysis and Economic Development Plan".
- United States 107th Congress Public Law 107-118 (H.R. 2869) - "Small Business Liability Relief and Brownfields Revitalization Act" signed into law January 11, 2002.