

COMMUNITY PERCEPTION OF REDEVELOPMENT CHANGES AND ITS IMPACT ON BROWNFIELDS REDEVELOPMENT SUCCESS

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Abstract: Citizens can be resistant to environmental changes which may be disruptive to their ideology, affections, and rootedness to place. Changes may be even more disruptive if citizens perceive them to occur too rapidly. How communities assess these changes in their neighborhoods is linked to their satisfaction or dissatisfaction with initiatives executed. Satisfaction is one mechanism by which individuals respond to environmental and social changes because it embodies judgmental and cognitive processes in how they assess policies that affect their well being. This research purports that citizens' acceptance of brownfields redevelopment is related to their perception of community improvements. This research therefore uses public satisfaction as a measure in assessing the perception of success of three brownfield redevelopment projects in Passaic County New Jersey. Their perception of satisfaction results after they have objectively assessed attributes of their social and physical environment. This research uses a variety of quantitative tools with supporting qualitative documentation to explain the effects that the community changes have on the neighborhoods' perceived success of the redevelopment projects. A survey of 129 respondents residing near three brownfields redevelopment projects in three municipalities in Passaic County New Jersey was conducted. The purpose was to discover the relationship between changes in the built

environment and social neighborhood and the level of acceptance or satisfaction with the redevelopment project. Affected citizens' sentiment of what is valued in a prospective and actual redevelopment exercise was sought. To complement the respondents' 'observed changes' public officials, were questioned and Council Minutes were reviewed in each municipality. Minutes dated from before to after the redevelopments and also newspaper reports were perused for mention of any changes that could be attributed to the redevelopments. The results of this survey indicate that citizens regard improvements in the built environment as well as the social environment as highly significant criteria in evaluating brownfields redevelopment beneficial use. Citizens have high expectations from these brownfield redevelopment projects and tend to be more responsive and supportive when more than one observed positive and less negative changes in the built environment were observed. Brownsfield redevelopment projects received ratings that are more positive when the end use is consistent with citizens' values and lifestyles and not detract from it. Therefore, this research gives insight to policy makers of how this policy is impacting neighborhoods and to provide guidance to assess how they are progressing towards achieving a major brownfields sustainable goal which is improvement in citizens' quality of life.

Keywords: *brownfields; perception; policy; satisfaction; sustainable*

INTRODUCTION

Brownfields are somewhat of a paradoxical urban redevelopment policy issue creating differential ideological views and hot political and national debates. Brownfields redevelopments are compact developments that enable sustainable growth and minimize development of virgin lands [1]. To some, brownfields is used as an advantage to address issues of urban revitalization and social welfare, whilst on the other hand; they are viewed as vital economic solutions to urban problems. Brownfields redevelopment is a formalized program within the United States Environmental Protection Agency (USEPA) governed by the Small Business Liability Relief Act and Brown fields Revitalization Act (2002) also known as the Brownfield Act. Brown fields are defined by the USEPA and other Federal agencies as “*abandoned idled or underutilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination*” [2, p143]. Some brownfields in some neighborhoods are so impacted by the degree of contamination of buildings and land that that they affect the neighborhood quality, encourage illegal dumping and other illegal activities. They therefore present a barrier to investment and a disincentive to live and work in such neighborhoods [3]. Brownfields redevelopment goals incorporate the principle of significant reduction of public and environmental health risks and protection and promotion of the public and environment health as a key criterion of site remediation.

These redevelopments promote economic revitalization and stability but it is not certain if these municipals’ priorities are in tandem with the values important to the residents and so serve to complement and preserve these values. Therefore knowing the communities’ perceptions of the built environment in terms of community improvement/impact after redevelopment is essential to answer this question. The level of satisfaction or dissatisfaction towards the outcome may be based on preferences as to the best use of the land regarding the type of redevelopment initiatives and the degree of community impacts. To date, a gap exists in the body of literature as to these raised issues pertaining to the grassroots perspectives of the brownfields’ initiatives. Currently, dissensions exist and information is sketchy as to the overall success of brownfields redevelopment. Successful remediations of brownfields have mainly been highlighted from an economic perspective in reports [4, 5, 6, 7]. Other successes are lauded such as brownfields conversion to open space, site reuse and varying descriptions of community participation

among others [8]. Reports reveal economic revitalization with the majority of feedback originating from public officials [9] and public and private developers.

This research purports that citizens’ acceptance of brownfields redevelopment is related to their perception of community improvement. This is so especially in view of the quantity/ies of observed positive or negative changes which varies by communities. This research sought to discover the relationship between changes in the built environment and social neighborhood and the level of acceptance or satisfaction with the redevelopment project. It also seeks to discover the sentiments of affected citizens regarding what is valued in a prospective and actual redevelopment exercise. The results will give valuable insight as to their social, political, and cultural worldviews in the determination of acceptance or non-acceptance of the outcome, which subsequent steps further test and clarify. Whilst acceptance does not necessarily mean individual satisfaction, for the purposes of this exercise, they are taken as given and used synonymously. A community’s favorable response to a redevelopment activity or technology used in the process can lead to it being perceived as high beneficial and low risk and vice versa. These affective values will also drive people’s attitude and the stance one takes on issues pertaining to brownfields redevelopment, such as their sense of well being, and health and project satisfaction. Therefore, this research will provide some insight to policy makers of how this policy is impacting neighborhoods and to enable them to assess how they are progressing towards achieving a major brownfields sustainable goal which is improvement in citizens’ quality of life. It will give local officials “*a fresh look at government performances from the citizens’ perspective*” [10, p17].

I draw on the field of Environmental and Community Psychology to better understand and interpret the dynamics of the interplay between citizens’ response and their acceptance of the brownfields redevelopment project in their neighborhood.

Certain development categories such as a mixed use are reported to promote better environmental quality of the built environment and overall wellbeing of people [1, 5]. Based on smart growth principles, brownfields redevelopment can be expected to address social capital, public and ecological health. The literature reveals the importance of the design of neighborhoods to encourage social cohesion and community connections. Furthermore, empirical studies have observed the connection between social capital, effective democracy, crime prevention, and promotion of economic development [11].

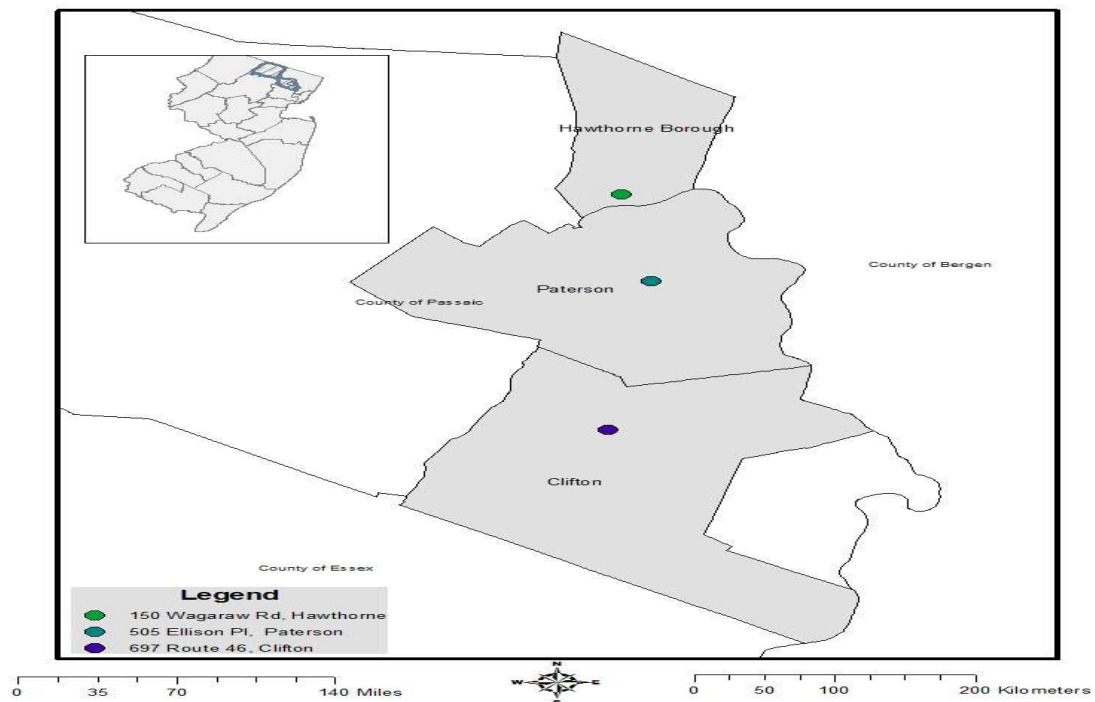


Figure 1: Map of New Jersey Highlighting the Study Municipalities and Sites

The definite advantage of creating and patterning the built environment geared towards the sustainable development of the cultural, socio-economic, health status of people whilst maintaining environmental integrity should therefore be a desired and maintained end of brownfield revitalization projects.

Brownfields redevelopment smart growth philosophy also encourages the creation of open spaces. Open spaces such as greenways, and parks have been touted as positively impacting environmental quality, biodiversity, public health and wellbeing. To this end, brownfields in Canada and the United States (U.S.), [12, 13] and internationally, are being increasingly converted to green spaces, greenways and playgrounds. This has implications for land use policies.

Brownfields redevelopment as a critical component of urban revitalization is being pursued aggressively by each municipality as hope for both present and future, to recover from the economic losses from these defunct industries and to erase the blighted appearances they cause on the landscape. Paterson has been the most severely impacted by brownfields followed by Clifton, then Hawthorne. Paterson, formerly known as “Silk City”, was the birthplace of the American industrial revolution housing many former manufacturing industries including textiles

since the 18th Century. Paterson accounts for approximately 48% of the 300 recorded brownfields in Passaic County; Clifton accounts for approximately 18% and Hawthorne 2%. The cessation of these manufacturing activities left Paterson with this rich legacy. In Clifton, there was a fair amount of industries also, hence its significant number of brownfields. Of the three municipalities, Paterson covering 8.44.29 sq. miles [14] has the highest percent of persons below the poverty level (27.1%) with a median household income of \$34,302.00 [15]. Clifton covers 11.20.10 sq.miles, [14] with a poverty status of 8.6% and median household income of \$63,106.00 [15]. Hawthorne is the smallest municipality (3.40.02 sq. miles) [14] with the lowest poverty status (6.3%) and highest median household income (\$78,478.00). Passaic County’s 2006 - 2010 poverty status is 15.3% as compared to the state’s 9.4% [15]. Passaic County lies in northern New Jersey. The three municipalities are located to the south east of the county.

Regarding the three redeveloped sites, each site housed former factories and which were all formerly contaminated with chlorinated volatile organics (VOCs) semi VOCs, hydrocarbons, among others. The site in Paterson has been redeveloped into Walgreens pharmacy and an auto parts retail store.

Clifton's site was redeveloped into a mega residential gated complex and Hawthorne's site into a beer distributing wholesaler named Kohler Distributing Company. Figure 1 shows the map of the state highlighting the municipalities and the location of the sites. The literature claims there is a psychological attachment between individuals and place that produces an affective bond with the community. Manzo and Perkins (2006) assert, fundamentally, people interpret and interact with their community cognitively, affectively, and behaviorally. These desirable dimensions will "breed" an individual that is more emotionally attached to the place and his community, which will foster socially responsive cohesive behaviors conducive to community engagement activities like community planning and preservation including development projects. This is so because an individual's self-identity is closely connected to how he identifies with his community including neighbors. These are critical components to community building in environmental and community psychology and should be considered in community participatory planning for positive outcomes. Bearing in mind the foregoing, to this end, Manzo and Perkins [16] advocate the implementation of social impact studies to examine the possible social and cultural impacts of policies and projects upon humans. Social impact affects work, living, recreational spaces and social interactions whereas cultural impacts affect norms and values, self-identity, and the way people understand and interpret society. The authors [16] recognize the underutilization of this valuable tool in assessing projects and policies impacts, its usefulness as a decision-making tool and ultimately project acceptance and success. [17 pp 313-314 in citing Habe 1989] responded by saying that the concept of sense of place and conformity with town character is being progressively established as a key criteria by planners in the United States during decision making and other processes in determining developmental impacts. Habe (1999) said 98% of 70 planners rated this criterion as key. However, he raised the troubling issue, of the use of mainly expert knowledge in these assessment methodologies to determine these intangible benefits. Often, public perceptual and cognitive responses to the environment have been neglected by these town planners. Negative changes can result in citizens feeling a sense of disconnect from what is familiar and dear in their neighborhoods, increasing a sense of dissatisfaction with developmental projects. Planners and other relevant authorities should be cognizant of these valued factors in anticipating and reacting to citizens' responses to environmental changes. Citizens can also be resistant to environmental changes because it

disrupts the idea-logy, affections and rootedness with which they respond to their place. This is even more disruptive if they perceive the change to be fast paced. The importance of a sense of place has been present in ancient cultures and is pervasive today in both eastern and western cultures and the social sciences. It connotes the attachment that people have to place, to the extent that their identification is bound up with the place and its associated features. From the individual's association with the landscape, environmental values are derived which serves to feed this place attachment [18]. A positive attachment to place is also facilitated when people feel they can still exert control over their lives despite being confronted with changes, and, that does retard their daily activities [19]. This increases livability of and satisfaction with the neighborhood.

In the light of the theories of citizens' attachment to their place, there is a role for them in the evaluation of brownfields redevelopment in their neighborhoods. The importance of citizens' responsiveness to proposed policies and projects implementation in their localities has received significant attention in the literature. These authors

[10, 20, 21, 22] firmly believe there is a place for citizen involvement in program evaluation of government policies and initiatives. This is warranted, because, at various stages of a program or project cycle, the effects of different socio-economic or cultural effects may be realized [23]. This is widely believed to be an incentive to increase public sentiments about public officials' responsiveness to their concerns. In citing Bowler and Donovan Ho [10, p10], said "only 33% of Americans in 2003 believed that public officials cared about what the public thought, a significant decline from 73% in 1960." Marans [24] recommended that sustainability indicators in world cities include residents' perception among others in order to develop a more comprehensive understanding the changes that are occurring within these urban environments.

A survey of 200 residents in a predominant Hispanic community revealed preferences for development that provide open space, recreational, health and educational facilities and new affordable housing. Factories, warehouses, large commercial entities that may pose pollution and aesthetics problems are unwanted. Respondents also favored a consultative process before redevelopment [25]. This supports [26] stance who stated the importance of realizing the valuable input residents can make about community needs since they are the ones best suited to define their needs. Greenberg & Lewis [25] therefore provide insight that the land use to which the property is redeveloped may give rise to varying levels of satisfaction or dissatisfaction.

Table 1: Demographic Characteristics of Survey Respondents

Municipality	Age Group with Highest Frequency	Years of Residency Category with Highest Frequency	Main Ethnicity	Educational Category with Highest Frequency
Paterson	30-39	10 - 20 years	African American (64%)	High school
Clifton	50-59	10 – 20 years	White American (90%)	College
Hawthorne	60 and over	Over 31 years	White American (91%)	College

Brownfields projects, in addition to providing jobs, are expected to improve environmental quality and citizens quality of life overall. This has implications for environmental justice issues in terms of access to a municipality's decision-making process. If people have preferences, then it can be said the desire exist to see preferences materialize by having the opportunity to make choices among options to suit individual and societal needs.

Quality of life, as measured by the concept of satisfaction, is an important agreed upon indicator used by policy makers to assess environment quality, [24] informs. Satisfaction has been deemed an appropriate measure because it embodies judgmental and cognitive processes in how individuals assess how policies impact their well being. This research in keeping with this philosophy has used public satisfaction as an outcome to assess the redevelopment perceived success. Perceived satisfaction is the result of the assessment of objective attributes (in consideration of context) of social and physical environmental factors and the meaning individuals ascribe to these attributes. A typical example is that the perception of an unpleasant aesthetics of a place may result from actual sightings of indiscriminately placed derelict vehicles.

Concerning brownfields redevelopment, some empirical attempts have been made to develop and refine indicators of successful brownfields redevelopment. Wedding and Brown [27] describe four domains of assessment of an overarching Sustainable Brownfields Redevelopment Tool (SBR) in determining the attainment of sustainable redevelopment goals. Inclusive domains are, *Environmental and Health indicators; Financial indicators; Social and Economic indicators and Livability indicators*. Experts were asked to rate the indicators of this tool. Of note, is that a community survey of residents and employees to determine community improvement was considered enough of a

significant component to warrant a weighting of 8.56 out of 10 in the *Livability* domain. In the entire SBR, the indicators with the highest weights were in the range of 8.00 – 8.89 accounting for 11 of the 40 indicators. This indicates that community opinion regarding brownfields redevelopment impacts is regarded as a critical evaluation tool by experts. Hula [21] specifically sought to discover the people of Michigan's responses to a government's initiative to redevelop contaminated sites into viable entities. Furthermore, Davies [28] assessed citizens' satisfaction with three redeveloped sites in Michigan and concluded that the initiatives engender satisfaction, which is enhanced through public participation. However, Davies qualitative assessment was done on five area group leaders.

This research uses a variety of quantitative tools with supporting qualitative documentation to explain the effects that the community changes have on the neighborhoods' perceived success of the redevelopment projects. Additionally, the scope of respondents was widened to include all residents living in close proximity to the redeveloped sites and not merely area representatives alone. Each person had the opportunity to tell his or her story, providing a more representative view of public sentiments in the affected locations. The assessed literature (Example, [17]) gave some information as to what citizens expect and the variables concerned in assessing environmental quality. They however, were not assessing mainstream perception of the change/s of these variables owing to an intervention (Brownfields redevelopment, in this case).

MATERIALS AND METHODS

Three redeveloped brownfield properties were purposively selected based on the desired criteria to select three types of sites in locations that were urbanized, suburban and exurban in Passaic County New Jersey and to do a comparison in these localities. The demographics of the survey

respondents in Paterson -urban, Clifton- suburban and Hawthorne-exurban are shown in Table 1.

The demographics show a predominantly middle aged to senior white population in Clifton and Hawthorne, with Hawthorne being the more senior. There is an African American black and Hispanic predominantly younger population in Paterson who has been residing in their neighborhoods for a significant period. This somewhat reflects the demographic profile of the municipalities.

Prior to the implementation of data collection methods in the municipalities, a focus group's assistance was elicited to discover their perception of how a brownfields redevelopment project had impacted their lives and their neighborhoods. Their answers were used to develop an interview schedule for the survey. An Internal Review Process (IRB) was completed to ensure that mandated requirements for interviewing human subjects were met.

Residential properties within ¼ mile radius of the site were buffered using Geographic Information System (GIS) software. This specific distance was chosen because if people live closer to the site, they are more likely to be cognizant of the site, and its social, economic and environmental impact on theirs and the neighborhood's overall quality of life. Individuals' eligibility for inclusion in the research was based upon their knowledge of the presence of the targeted redeveloped project before and after the redevelopment. Data collection activities took place over a period of four months in 2010, from April to July 2010. Secondary data from Council and Planning and Zoning Board minutes were collected during May 2011 to August 2011. In all, 129 interview schedule/questionnaires were analyzed.

Respondents were asked about observed changes perceived to be resulting from the redevelopment initiative. They were repeatedly reminded their responses must be based on the targeted redevelopment during the interviews. Specific time periods were targeted based on the time after each redevelopment took place in the municipalities to the present time of the survey (2010), because, if changes occurred based upon site redevelopment activities, they would realistically occur over a range of time. Based on the length of time they lived in the area at their present addresses, respondents are more likely to be observant of these neighborhood changes.

The communities' responses, that is *Public acceptance* and or satisfaction (based on whether or not they perceive the project is a success) with the development was measured mainly by perceived achievement of social goals individually and collectively. A five (5) point Likert Scale closed ended set of questions where 1 is strongly disagree to 5, strongly agree, measured the dependent variable

'public acceptance'. The Likert scale possesses two portions. One is the stem statement that examines an individual's attitude about the subject of interest and the scale that seeks agreement or disagreement with the statement. Because brownfields redevelopment overarching goals seek positive changes in the four (4) societal sectors both nationally and locally, therefore it was deemed appropriate to ask citizens about the type of changes they had seen (*Community Improvement*) because of the initiative and their impression of the change. Therefore, it could be assumed that the more favorable the impression of the change, the more likely it is that these observations could influence a more favorable perception (*Public acceptance*) of the redevelopment in terms of its impact on the individual and neighborhood.

Respondents were required to give a ranking of degree of favorability on the Likert type scaled items statements ranging from one to five (1 – 5), where 1 is unfavorable and 5 is very favorable only if they affirmed any changes in their neighborhood environment. However, these results must be interpreted with caution bearing in mind that respondents could attribute 'changes' owing to the redeveloped project when in actuality, it is not. Nevertheless, the results will indicate that an improved built environment is regarded highly by citizens in evaluating brownfields' redevelopment beneficial use.

Quality control was enabled through two sessions of pre testing of the interview schedule. There was continuing consultation and debriefing between interviewers and main researcher by phone during data collection and after a day's work. These interviewers were fellow PhD students and instructed in conducting interviews. During data entry, quality control was assured by proof reading the database. Each interview schedule in the database was crosschecked with the hard copy to spot discrepancies in data entry and coding. Corrections were made as necessary. This activity was done solely by the main researcher therefore avoiding inter-coder mistakes. During exploratory analysis/screening of the data, careful attention was given for mistakes in data coding and entry and rectified as necessary.

Using the Cronbach alpha test of reliability, the data was aggregated for all the municipalities because it was unnecessary to restrict the results to individual municipalities. The main purpose was to test the consistency of answers across the board. The SPSS statistical test analyzed 13 of the 129 responses because these respondents gave a full complement of answers to all the item variables measuring the observed changes. The Cronbach alpha test of

reliability results for this independent variable 'observed changes' is given in the Results section. Prior reliability results was .771 when two item statements "observe other changes" and "no change" were included in the analysis and rose significantly to .953 when they were dropped from the analysis. A score of .771 is acceptable and .953 is highly reliable. In order to minimize redundancy in the statistical result, it was necessary to eliminate these two item statements "no change" "observe any other changes" mentioned previously for two reasons. First, in order for the interview to continue, the interviewee had to have observed a notable change in their neighborhood, that is, the respective redeveloped project, making the item statement "no change" void. Selection for analysis therefore included respondents who had observed this change in their areas. Secondly, the response to "observe any other changes" was captured in the question "have there been any negative changes?" because respondents tended to express other changes that happened to be something they did not like. This question required a "yes" and "no" answer and a descriptive component. Cronbach Reliability test analysis on the outcome variable 'Public Acceptance' was also conducted. The results of this test can be seen in the Results section. To explore the relationship between changes in the built environment neighborhood and the level of acceptance or satisfaction with the redevelopment project, Chi-square test of association was done. The level of acceptance is inclusive of perceived benefits like health and social factors. To avoid ¹violations of the chi-square that would result from analysis on individual municipalities, the data had to be aggregated. Also, the scaled items were collapsed into three (3) categories for the number of "observed changes", that is, '0-1', '2-3' and 'uncertain'. Similarly, to avoid statistical violations and to cross tabulate with the outcome 'public acceptance', the 'public acceptance', variable was collapsed into two (2) categories, 'positive' and 'uncertain/poor perspective.' Factor analysis was also done on the municipal data to ensure the scaled variable 'public acceptance' is unidirectional, and, and to ensure the validity of the variable. This is critical in calculating total individual scores. No latent variable was found indicating the items were measuring the same construct (See Table 5). However, since the factor analysis showed item statement variable "redevelopment activities have helped the section of the community where I live" being responsible for

most of the variance (72.6%), it was used exclusively and as part of the total dependent "public acceptance" scale variable, in analyzing the a priori and other exploratory correlations. The choice was made to retain all the item variables in the measured scale since they were not expected to alter significantly, the results. Additionally, to get a clearer perspective on citizens' view of the livability of the neighborhood after redevelopment, and, to see if respondents believe their values were incorporated into the process and outcome, a separate analysis was done on three (3) item statements individually for each municipality. They are "redevelopment have helped the section of the community where I live", "redevelopment have agreed with citizens' values"; and "redevelopment have created a more livable community."

Mean scores were calculated for each individual's raw total score so that they could be constrained closer to the Likert Scale as well as being used in statistical tests such as Kruskal Wallis (H) test that require rank computation. The means in this case, took on the characteristics of ranks. Kruskal Wallis test was used to discern if there were differences in how the municipalities accept the outcome. However, the test did not indicate where the true difference lay. Respondents were asked to rate reasons for favoring redevelopment initiatives in their municipalities. The rating was on a scale of 1 – 5, 1 is not favorable and 5, highly favorable for the given statements. The purpose was to elicit what is most valued in the municipalities and that would contribute to a feeling of well being, possibly yielding a better understanding of their choice to accept or not accept the outcome. Each statement variable was analyzed separately for each municipality. Value scales 4 & 5 were collapsed to one (1) scale of 'favorable.' The number of times each statement was chosen as favorable was then counted and totaled to discover the most favored values. Since the focus is on a strong favored response because it indicates the degree of importance of the area of interest to the individual, only these two scales were valuable in collating the number of times this statement was chosen as being important and a percentage obtained to discover its relative importance to the other statements.

To complement the respondents' answers to the question of 'observed changes' public officials were interviewed. Council Minutes in each municipality, dating before, during and after the redevelopments, including newspaper reports, were perused for mention of any relevant changes that could be attributed to the redevelopments. Citizens comment periods and Council responses were examined.

¹ No cells should have expected frequencies less than five.

Table 2: Cronbach Alpha for 'Observed Changes' and 'Public Acceptance' Variables

Variable	Cronbach Alpha Value	No. of Persons	No. of Items	Scale Mean	Variance	Std. Deviation
'Observed Changes'	0.95	13	7	28.77	50.52	7.1
'Public Acceptance'	.906	129	5	15.22	31.93	5.65

Table 3: Observation of Negative Changes

Municipality	% of Respondents		
	Yes	No	Total
Paterson	30	70	100
Hawthorne	20	80	100
Clifton	58	42	100

Table 4: Number of Favorable Observed Changes by Number of Respondents

Municipality	No. of Favorable 'Observed Changes' Category	No. of Respondents	%
Hawthorne	0-1	8	18.6
	2 and over	28	65.1
	Uncertain	7	16.3
Total		43	100
Clifton	0-1	14	35.9
	2 and over	21	53.8
	Uncertain	4	10.3
Total		39	100
Paterson	0-1	7	14.9
	2 and over	31	66
	Uncertain	9	19.1
Total		47	100

Table 5: Inter Correlation Matrix of Perception of ‘Observed Changes’ Item Scale in the Municipalities

Statements	CIEnv	ADReFac	RedCr	RedPr	ImpSafCo	ImpPubHth	ImpStrc.
1. Observe cleaner environment.	1.000	.833	.794	.794	.601	.748	.783
2. Observe more recreational facilities.	.833	1.000	.811	.878	.544	.941	.867
3. Observe reduced crime.	.794	.811	1.000	.750	.615	.716	.668
4. Observe redevelopment project.	.794	.878	.750	1.000	.615	.781	.869
5. Observe improved safety conditions.	.601	.544	.615	.615	1.000	.524	.777
6. Observe improved health conditions.	.748	.941	.716	.781	.524	1.000	.835
7. Observe improved streetscape.	.783	.867	.668	.869	.777	.835	1.000

RESULTS AND DISCUSSION

The Cronbach Reliability test output for the independent variable ‘Observed Changes’ and the outcome variable ‘Public Acceptance’ is given in Table 2. Both results show that respondents were consistent and reliable in their responses to the item statements. Therefore they are considered highly acceptable for measuring both variables. The independent variable test score is .953 and the dependent variable is .906.

Table 3 shows the response to the question of any observed negative changes because of the redevelopment. Clifton respondents (58%) said they observed negative changes in comparison to 20% from Hawthorne and 30% from Paterson. Conversely, Hawthorne and Paterson respondents were more on the positive side with 80% and 70% citing no negative changes. Approximately 42% of Clifton respondents cited no negative changes.

Table 4 reveals that when approval of the number of

‘observed changes’ was analyzed by individual municipalities, the majority of respondents reported responses to changes in their neighborhoods in the 2 and over’ favorable changes category. Paterson compared to the others, have 31 or 66.0 % of 47 respondents in the 2 & over category. Hawthorne has 28 or 65.1% of 43 respondents in this category, and, Clifton, 21 or 66% of 39 respondents. On the other side, Clifton has the majority of respondents, 14 or 35.9% in the ‘0-1’ category of positive changes. Looking at Figure 1 and Clifton responses to the presence of negative changes after redevelopment there is an apparent dilemma here, but, the observation of negative change/s does not mean that people in this category cannot appreciate and observe other resulting positive influences. This may imply a measure of some objective assessment on their part.

Table 5 shows the result of the intra-correlation matrix of the final total item scale of ‘Observed

Changes' in the neighborhoods in the municipalities. The highest correlation was found between observations of improved public health conditions and more recreational facilities ($r = .941$). The next highest was between more recreational facilities with cleaner environment, (aesthetics) ($r = .883$). The third highest correlation was between observations of new redeveloped project with additional recreational facilities ($r = .878$)

For the outcome variable 'public acceptance', the factor analysis results are given in Table 6. The inter-correlation matrix in Table 7 conducted during the Cronbach Reliability test show the most highly correlated item statements are "redevelopment has created a more livable community" and "redevelopment has improved quality of life" ($r = .775$) indicating that people attributed increased livability with a better quality of life. There were good to high positive correlation among all items with the lowest value between "redevelopment has improved social life" and "redevelopment agreed with citizens values." ($r = .497$). The scale shows unidimensionality and that item statement one (1) is responsible for most of the variance (72.6%). The factor analysis validates the unidimensionality of the scale through its high loadings.

Table 8 concerns the cross tabulation relationship between the total measured scale of the outcome variable 'public acceptance' and the independent variable 'observed changes'. Forty three (43) persons (53.8%) out of 80 in the majority category '2 and over changes' had a positive outlook of the redevelopment impact whereas 37 (46.3%) had a negative view of the overall initiative. In the 0-1 category, six (6 or 20.7%) of 29 had a positive perspective, and 23 (79.3%) had a poor/uncertain perspective. The Chi-square value is 15.970 df 2, $p < .001$. The minimum expected count is 8.06. Cramer's $V = .352$, $p < .001$. This is a very strong relationship. Respondents overall had a more uncertain to poor view regarding neighborhood changes and their social impacts. (59.7% compared to 40.3%) The results also demonstrate that when people see positive significant neighborhood changes resulting from these projects they are more accepting of the changes. As positive changes increase, acceptance of the redevelopment projects increase.

In response to the item statement, "redevelopment has helped my section of the community where I live" (RDH), Table 9 shows the respondents' reaction to the redevelopment and its impact. Regarding

Paterson and Hawthorne, on an average, respondents tend towards a more positive view with a mean of 3.51 and 3.53 respectively. Clifton respondents tended to be more uncertain of its effect. Overall, concerning the total 'Public Acceptance' (PubA), Clifton tended more towards the negative, with Paterson and Hawthorne both having a more positive attitude towards the outcome of its effect. At face value, Paterson and Hawthorne respondents believe that the redevelopment had been beneficial. When they were required to delve into pertinent issues that would clarify their stance, then their overall ratings became more uncertain. The Kruskal Wallis H Test (H) for detecting difference in means shows that when applied to the municipalities using the two variables RDH, and scale PubA, there is a significant difference between the municipalities. The results from the analysis showed suburban town of Clifton mean differed from Paterson and Hawthorne. This is where the difference lay. For RDH, H results are $H = 7.62$, df 2, $p = .022$. It is significant at the .05 significance level. For PubA, results are: Chi square 7.317, df 2, $p = .026$.

Overall public acceptance for Clifton tended to be lower where observed positive changes are less whereas in Paterson and Hawthorne, public acceptance is greater because perceived observed positive changes are greater.

The item statement assessing livability of the neighborhoods shows in Table 10 that the majority of Paterson respondents fell at both ends of the scale. Paterson respondents felt more strongly about livability at each extreme ends of the scale where approximately 32 % strongly agreeing and 22% in strong disagreement. Overall, approximately 53% were on the 'uncertain' to 'disagree' end and 47% attributed increased 'livability' to redevelopment impact. For Clifton, approximately 40 % were in disagreement whereas 22% was uncertain and 36% was in agreement and 2% strongly agreeing. For Hawthorne, approximately 28% were disagreement, 21% uncertain and 42% in agreement and 9% strongly agreeing.

When asked if the redevelopment agreed with their values, the responses corresponded somewhat with those of livability. Sixty four percent (64%) of Clifton respondents did not agree that redevelopment agreed with their values. Paterson respondents stated that redevelopment was consistent with their values, (now 56%), and Hawthorne, 53% were in agreement and 47% in disagreement.

Table 6: Factor Analysis for Public Acceptance

Item Statements	Eigenvalues	% of Variance	Communality	Factor Loadings
1. Redevelopment activities have helped the section of the community where I live.	3.63	72.628	.758	.871
2. Redevelopment helped to create a more livable community and a sense of place	.577	11.537	.799	.894
3. Redevelopment change/s have agreed with citizens' values.	.335	6.696	.682	.826
4. Redevelopment change/s in my area has improved social life.	.243	4.863	.605	.778
5. Redevelopment in my area has improved my and my family's quality of life.	.214	4.276	.788	.888

N =129 NB. Only one component was extracted with Principal Component Analysis. The solution could not be rotated. In this case this is desirable to ensure the scale measures a single dimension.

Table 7: Reliability Inter item Correlation Matrix for Public Acceptance

Item Statements	<u>Redhelpcomm</u>	<u>Redcrliv</u>	<u>Redqualife</u>	<u>Redcitvalue</u>	<u>Redimpsoclfe</u>
Redevelopment has helped the section of the community where I live.	1	.722	.699	.735	.541
Redevelopment change/s create more livable community and sense of place	.722	1	.775	.663	.629
Redevelopment change/s has improved my and my family's quality of life	0.7	.775	1	.611	.684
Redevelopment change/s agreed with citizens' values	.735	.663	.611	1	.497
Redevelopment change/s has improved social life	0.54	.629	.684	.497	1.000

N= 129

Table 8: Favorable Change/s Observed by Public Acceptance

Favorable change Category		Public acceptance Category		
		Positive perspective	Uncertain/Poor Perspective	Total
0-1	Count	6	23	29
	Expected Count	11.7	17.3	29
	% within FavChangeCat.	20.7	79.3	100
	% within PublicAccpCat.	11.5	29.9	22.5
2 and over	Count	43	37	80
	Expected Count	32.2	47.8	80
	% within FavChangeCat.	53.8	46.3	100
	% within PublicAccpCat.	82.7	48.1	62
Uncertain	Count	3	17	20
	Expected Count	8.1	11.9	20.0
	% within FavChangeCat.	15.0	85.0	100
	% within PublicAccpCat.	5.8	22.1	15.5
Total	Count	52	77	129
	Expected Count	52.0	77.0	129.0
	% within FavChangeCat.	40.3	59.7	100
	% within PublicAccpCat.	100	100	100

Table 9: Mean Values for RDH and PubA by Municipalities

Municipality	No. of Respondents	RDH	STDV	PubA	STDV
Paterson	47	3.51	1.53	3.2	1.32
Clifton	39	2.9	1.17	2.68	0.92
Hawthorne	43	3.53	1.32	3.17	1.01
Total	129				

Table 10: Perception of Livability after Redevelopment

Municipality	% of Respondents					Total
	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	
Paterson	22	15	16	15	32	100
Clifton	18	21	23	36	2	100
Hawthorne	14	14	21	42	9	100

Important reasons to approve of redevelopment in the neighborhoods. On the question of the important reasons why the respondents reportedly would welcome redevelopment in their neighborhoods, Table 11 shows the results.

The most highly favored reason to approve of redevelopment projects in the municipalities is environmental aesthetics. Approximately seven nine percent (78.8%) of respondents in Paterson ranked it favorably; Hawthorne, 79.1% and Clifton, 66.6%. Collectively, public health and safety was the next highly favored. Individually, Paterson sees public health and safety as most important, (38 persons or 80.9%) and secondly, both environmental aesthetics and social relations take on equal importance. (78.8%). Hawthorne also gave public health and safety the highest approval rating, (37 persons or 85%) with 37 (83.8%) ranking job provision second. Clifton gave environmental aesthetics the highest approval, (26 persons or 66.6%) and property value increase second in importance. Regarding participation in the redevelopment process, this is more important to both Clifton and Hawthorne, being third in importance for Clifton and fourth for Hawthorne. For Paterson, it took fifth place along with historical values.

Through examination of the Council minutes and interviews with public officials, and a Kohler company representative, an attempt was made to have some validation of the respondents' observation of community changes. The implications of these changes through likely benefits that can be accrued

are stated. For example, benefits accrue from having parks and open spaces which encourage engagement in more physical activity, thus improving health. Moreover, they may also have created opportunities for building social relationships. This information was not forthcoming for Paterson. The following information listed in consecutive point form derived from the cities councils' minutes and pertaining to Hawthorne and Clifton is listed below.

Hawthorne

1. Kohler granted the municipality an easement to gain access to the Passaic River on the 7 acres of remediated portion of the property [29 p7]. In this case pedestrians and bikers will both gain access. This has implication for recreational & public health benefits and building social relations.
2. The Caballeros a well-known Hawthorne musical band, was given the privilege to continue to have its musical practice on the 3 acres of the site granted to the municipality. Here the company demonstrated sensitivity to cultural values and expression. This serve to benefit social relations between the company and the residents, and also amongst the residents as it is an avenue for social gathering. It has implications for the sense of place and community attachment as it increases peoples' civic pride in belonging to Hawthorne and to revel in the accomplishments of their very own.
3. Kohler donated land for recreational fields including baseball, softball and a small soccer

Table 11: Important Identified Reasons to Approve of Redevelopment Projects

Municipality	Reasons	Favor ranking	No. of persons	%
Paterson	Public health & safety	1	38	80.9
	Environmental Aesthetics	2	37	78.8
	Social relations	2	37	78.8
	Job provision	3	34	72.3
	Property value increase	4	33	70.2
	Crime reduction	4	33	70.2
	Participate in redevelopment	5	32	68.1
	Historical values	5	32	68.1
Hawthorne	Public health & safety	1	37	85.0
	Job provision	2	36	83.8
	Environmental Aesthetics	3	34	79.1
	Participation in redevelopment	4	29	77.5
	Property value increase	5	34	76.8
	Improve social relations	6	31	72.4
	Crime reduction	6	31	72.4
	Historical values	7	28	65.2
Clifton	Environmental Aesthetics	1	26	66.6
	Property value increase	2	25	64.1
	Participation in redevelopment	3	24	61.6
	Job provision	4	23	58.9
	Public health & safety	5	22	56.4
	Crime Reduction	6	21	53.8
	Historical values	7	19	51.3
	Improve social relations	7	19	51.3

fields. The recreational field lease is for 99 years. A monetary donation was made towards infrastructural development. Here recreational & public health benefits and building social relations are enhanced [30, p9].

- The Municipality was granted parking facilities on the ball fields as well as the use of the owners' private road to gain access to the fields [31, p3]. The granting and improvement of this infrastructure will ensure access to recreation from which public health benefits can result.

Additionally, it can enhance and maintenance corporate social relations

- There has been improvement in road infrastructure, that is, turning lanes and signalization on the corner of Wagaraw Road and Lincoln Ave. Kohler supported this venture through provision of its traffic report study. The signal is in both Passaic and Bergen County. However, widening of the road is needed on Passaic County side [32]. This improvement in signage facilitates safety.
- Sidewalks and curbs were replaced on Wagaraw Rd after Kohler's construction. This will enhance

aesthetics, safety and should facilitate better drainage for storm water. It also facilitates an improvement in streetscapes.

7. To preserve the wetlands, open space and wetlands delineation criteria were given to the company [33, p14]. This was recommended by the Future of Hawthorne Committee, a citizen committee. An Ordinance was passed accordingly. This will help in enhancing and maintaining ecosystem integrity and help people to develop more appreciation of nature and its benefits.

Clifton

1. An entry signage was placed on the setback on the Colfax Ave. entry, which is the main entry to the housing complex. Whilst this is for commercial purposes and convenience, it has improved the streetscape.
2. These three specifications were implemented to improve traffic conditions. (a) Road widening on Colfax Ave. (b). Construction of a left hand turn lane from Colfax Ave to gain access to the property. (c). Implementation of measures to facilitate easy flow of traffic at the intersection of Colfax Ave. and Broad St. including the regulation of traffic light at the intersection. This has implications for safety.
3. Trees were planted on top of the berm along Colfax Ave. This has aesthetics implications and can help (even in a small way) to reduce greenhouse gases.
4. New Jersey Transit railway upgraded and expanded its services, including parking, to accommodate the excess commuters. The newspaper, [34]a said that this was an expected activity owing to the redevelopment. While there is no clear evidence directly relating this to the redevelopment, this was an incentive to do so in order to accommodate this excess migratory population into nearby metropolitan New York and elsewhere. The Mayor said the condominium's residents are observed **walking** to the nearby train station to use the services. This has implications for environmental & public health benefits with mass transportation.
5. In keeping with a Clifton Zoning Ordinance, the developer has to contribute financially to the Clifton's affordable Housing Trust Fund. Whilst respondents may not have observed the tangible benefits to be derived, especially if they are already homeowners, this will benefit the municipality generally.

The results indicate that careful planning and impact studies including Social Impact Assessment (SIA) are very important to avoid or minimize negative

impacts. These are critical to achieve sustainable initiatives. Whereas the expectation is that a redeveloped site will be beneficial, perception of negative impacts on the neighborhood can lead to locally unwanted land use (LULU) despite its increase of the municipal tax base [35]. Herein lays a problem. Municipal authorities tend to view success of these redevelopments from a different perspective than citizens. Though local authorities may have some similarities of interests and values, especially if they are citizens of the same locale they serve, the ultimate reality is that an improved living environment is seen through the lens of building a thriving economic base for sustenance of the city. Therefore, the redevelopment policy initiative will be evaluated based on its economic viability measured in terms of increased ratable if it increases ratables and increases jobs. The ability to leverage private investment for the property, length of time from inception to project completion, are all critical variables to the success of the initiative from the municipality's economic perspective. A good quality living environment is a beneficial derivative for local municipal officials whereas for the neighborhood citizens, this is paramount. Ho [10] found financial outcome indicators from policy issues were of less importance to citizens than those assessing quality of life. Because they are the ones who have to live with the results of the initiative, this has prompted citizens to desire and demand better access to the decision making processes in the municipalities because the policy decisions taken and implemented by authorities affect their well-being. This was seen as the most important reason for 43% of the municipalities' respondents to desire access to the decision making process for brownfields redevelopment this research results found.

Despite the great emphasis on economic benefits, some questioned the projects' initiatives ability to provide jobs to the local population which means the income generating capacity at the local level raises some concerns. Paterson's local daily newspaper The Herald, informs that the Passaic County Building Trades Council comprising of 15 unions organized a city protest against a developer of the downtown City Center redevelopment. They protested that Paterson unionized locals were being deprived of jobs because the developer hired outsiders [36, pB01]. Some Paterson respondents anecdotal report, (6.4%) concede to this saying that redevelopment does not particularly benefit their neighborhood because the locals do not get the project related jobs. The protest was at odds with an earlier statement made by another developer that he hires local labor, (12 men) and endorsed by a Councilman [37, p B01]. The

unions and citizens were also protesting against the developer about payment of low wages (\$ 100 daily at \$12.00 per hour regardless of whether or not it was an 8 hour or 10 hour day), lack of health care benefits and labor practices that were unfair. Interestingly, elected officials such as a Freeholder was also part of the organized protest the paper reports. Conversely, the Passaic County Economic Development Authority Director reports that Paterson locals received redevelopment related jobs. For example, Walgreens employed 25 locals (Personal communication, April 21, 2010). Obviously, there is a lack of a proper avenue for feedback to the community regarding these statistics. 'Adam' from Clifton expressed uncertainty too about local contractors getting the jobs. In fact, a major goal of brownfields redevelopment initiative is to create jobs for locals under the Community Benefits Agreement. Developers are given incentives like subsidies to do so. [38, 37, p B01]. However, because this is not a binding agreement, it is based on the goodwill of the developer as the Paterson respondents found to their chagrin. Hawthorne Council had to "fight" to secure jobs at Kohler for unionized locals. Based on Council records, this was known to the citizens and may have contributed to some respondents positive perception that "redevelopment has helped the community" in terms of prospective improvement. Information on local job acquisition was not available for Clifton. Job creation is however unanimously important to respondents in all municipalities with it being more so firstly in Hawthorne secondly, in Paterson. First, Hawthorne respondents' priority choice of job creation may be a reflection of the strong desire to maintain the economic base to which they are accustomed. It is the most affluent of the three municipalities with a medium household income of \$55, 340.00 [14]. Secondly, the job negotiations between the municipality and Kohler would have highly sensitized them to the possibility of securing this economic incentive from private entities willing to establish businesses in their town. Thirdly, it may stem from the desire to leave a financial legacy for the next generation. Inter generational equity values are paramount to them because 31 (76%) of persons desired access to the town's decision-making process out of concern for the next generation. Inter generational equity would be important to them because the town's character is also built upon a rich family legacy of second and third generations. This cultural expectation and values of economic stability has implications for sustainable redevelopment policy initiatives that should be and can be realized through brownfields redevelopment.

In determining what was valued (from a list of supplied options to citizens for them to be favorable

of redevelopment initiatives in their neighborhood), a Clifton respondent said "*Jobs should not be provided at the expense of the community if it makes the community less livable.*" This point of view reinforces Burdge's & Vanclay's [16, p75] assertion among others, that evaluation of changes in a community from various individuals' perception contains elements of subjectivity. They said "*..... the same consequence of development is both a positive impact and a negative impact depending on the perspective of individuals.*" They offer what may be an insight into the reaction of Clifton's response to the redevelopment. "The Record" [39, A01] newspaper reported a positive response to the proposed site reuse (now the housing redevelopment project being researched). Nevertheless, the survey results yielded a mainly negative response. Whilst the respondents had not experienced the impact of change when the newspaper report was written, the fact is that individuals can change their minds over time based on circumstances. The degree of change and the number of changes experienced in a neighborhood and the rapidity of changes can cause members of a community to change their perceptions over time. Another issue is how much impact the affected community is willing to accept and bear [16]. The authors' statement supports the research results that respondents had a more positive perspective of the redevelopments when they reportedly experienced significantly more positive changes in their neighborhood. This further validates the research result that the less problems people perceive themselves to have, and, the more positive rating each assessed individual factor receives in total, will improve quality rating. This would explain why Clifton respondents were more 'unaccepting' of the actual and perceived changes resulting from the redevelopment. Furthermore, the problems of heavy traffic and areas that do not facilitate parking –have both been identified in a study that significantly decreased perception of neighborhood quality [40]. This is a disincentive for 18% of Clifton survey respondents in this research and 14 % of Hawthorne's respondents, having in their opinion, implications for compromise of neighborhood integrity including children's safety. In addition, three persons (3) or 8% of Clifton respondents mentioned problem with provision of parking infrastructure. Shaw et al [41] also reported increased traffic and an increase in school population are undesirable changes in brownfields redevelopment, a fact supported by affected respondents' anecdotes. For Clifton, most of the displeasure incurred by the redevelopment stemmed from this combination as well as concerns of increased adult population. However, the resiliency of a community to adapt to the impact of change must

be considered.

In view of the desired and more favored outcomes from the respondents' perspectives, local public officials and developers should be cognizant that public health and safety is highly valued by the public as was realized from it being very important to both Hawthorne and Paterson respondents. This provides focus on one of brownfields redevelopment national priority goals. It suggests that citizens values are in tandem with this major goal and expect economic revitalization of their neighborhoods will minimize, control, or eliminate those factors (including social) that are deleterious to their general well being. Brownfields can impact public health through safety, social, economic and environmental impacts [42]. Therefore, whereas before remediation, a site's overall impact may be negative, addressing its redevelopment from an integrated perspective should yield overall, positive individual and community health.

Public health has received top importance for Paterson, which is the first highly industrialized U.S. city, because, respondents have learnt through their lived daily experience of the sight and odor of smoke plumes, and exposure to possible other health nuisances etc. from the industries in their neighborhood and city that these can trigger health effects. Regarding the health status, in September 2004, 10,918 residents of the County were diagnosed with pediatric asthma, 28,088 with adult asthma, 16,093 with chronic bronchitis, and 5,503 with emphysema [43]. These figures imply a heavy burden of disease and implications for environmental justice. Paterson being historically more industrialized than the other two, and, combined with a significantly challenging environment due to higher poverty rate, may account for a significant portion of this statistics. The New Jersey Department of Environmental Protection's (NJDEP) [44] had this to say about an air monitoring program, "*Out of 132 air pollutants measured during the UCAMPP study, levels of p-dichlorobenzene were significantly elevated at one of the monitoring locations (176 Broadway) in Paterson for a two month period compared to the other monitoring locations in Paterson and around the state*". They further added that for seven other chemicals including benzene and carbon tetra – chloride at all three monitoring stations in Paterson and other monitoring stations in the state, there were elevated levels above the state's standard. For Hawthorne residents, choosing public health as a priority may be based on having experienced living with factories nearby (example the former BASF- the researched redeveloped site and adjoining Colgon factories). According to some of the Hawthorne

respondents' anecdotes, relief from odor and particulate fallouts etc. results in conditions more favorable to better public health necessitating an integrated holistic approach to attaining acceptable public health since it incorporates not only the physical state but the mental and social state too, and they have direct influence on each other. The public health and environmental impacts of brownfields have been much discussed including cleanup standards and long term monitoring of redeveloped sites. Particularly, the negative socio-economic, environmental and public health impacts on vulnerable people living in the sites' vicinity, resulting from expeditious remediation processes have been a priority concern of brownfields remediation policies [45]. Especially, there are ongoing concerns about health impacts on communities of color, low income and tribal groups [46]. Concerning long term monitoring of remediated sites and public health, this was of concern in Hawthorne. In Clifton, although the Shulton site (now the housing complex) had significant contaminants and underwent remediation, the Mayor said no one voiced this concern (Anzaldi, J. personal communication on May 5, 2011 Thursday). This may explain the low priority rating the public health issue had for the Clifton respondents. Citizens may have been unaware that the site had contaminants, or its significance may have been made low key by public officials and the developers who would rather not have "unnecessary", undesired public obstruction.

Environmental aesthetics received overall priority as an important value because an unattractive environment, especially if marred by derelict buildings and vehicles, overgrown lots etc, detracts from the beauty of the surroundings giving the place an air of neglect. This conveys to residents and outsiders, an impression of an impoverished blighted place which can be distressing and affect civic pride and sense of identity. The perception of attachment to the neighborhood is important, and heightened by perceived neighborhood quality [47, 19] endorse. Aesthetics, particularly buildings, social relationships, quietness in the neighborhood, green spaces, opportunities for cultural expression are particularly important in giving one a sense [47, p344] of attachment. Developers should be cognizant of the importance of factors that foster place attachment and design attractive buildings that conform to the neighborhood or city's character. Respondents validated this finding through the Principal Component Analysis (PCA) results that showed aesthetics and green spaces such as parks (recreational) accounted for the majority of variances observed. These examples of Anecdotal reports showed that for respondents, aesthetics is important.

A Hawthorne respondent said this about Kohler. *"The streetscape at the plant site has improved"*. A Clifton respondent also said this about the former Shulton industry on the Clifton site. *"Shulton was a beautiful factory and beautified the place"*. Possibly, the former contrasts sharply to the architectural infrastructural features for the Housing Complex (dense look, gated appearance) that may give the appearance of a deterrence to social relations and sense of neighborhood attachment. Uzzell et al, [19] affirm that aesthetics is an important criterion by which neighborhood improved quality of life is assessed. This is also evident by the high ratings given by experts in the SBR tool aforementioned. It was given a weight of 8.22 out of 10. [27].

Another expected benefit and success indicator from brownfields redevelopment is, increase in property values realized in properties within a ¼-mile radius of the redeveloped site (Shaw et al [41], in citing Northeast Midwest Institute, 2008). This is a socio-economic indicator. Values can see a 5-15% increase and up to 100% rise based on their benefits derived by proximity to parks. This research found that land values of the residential properties within the study areas in Clifton and Hawthorne, were relatively constant or on a downward trend. Apparently, this trend was more dictated by market forces reflecting the present economic downward trend in the U.S. and depends on the time when the general property assessment exercise was last conducted in the municipality. Respondents gave mixed opinions of increased property values. Those not favoring the increase stated the possibility of an accompanying rise in property taxes. This is one of the downside of revitalization. In this sense, it is like giving a gift with one hand and taking it back with the other.

The importance Paterson respondents accorded social relations was in sharp contrast to the other municipalities. This concern could be understood because of the social challenges, which they have faced for years. The fourth and fifth wards have been especially riddled by crime, which has eroded the social fabric of the society. Council Minutes showed this was a repeated concern of the citizens including Council members. They consistently spoke of a better quality of life and this is a high priority goal for revitalization projects. Other reasons for the importance the respondents ascribed to social relations may be the feeling of having their sense of identity bounded up in the neighborhood which causes them to have an affective bond with the neighborhood. Also, there is the establishment of their roots within the psychological and physical community (rootedness) among people of shared values and colorful challenging history with whom

they can identify (Brotherhood & Sisterhood). This may have strong cultural underpinnings. This suggests that both internal and external social processes may be mediating their feeling of attachment to their neighborhood (Manzo & Perkins [16] citing Riger & Lawrakas, 1981). This however does not imply that place attachment and social relations are of any less significance to Hawthorne and Clifton residents. It was given less importance than in Paterson possibly because when compared to Paterson, their societies had not experienced the degree of social upheaval experienced by Paterson. In this analysis, what was missing is an understanding of the importance of the relationship between peoples' self identification, core values, preferences etc. associated with significant places in the physical environment. Planners in community development, including brownfields redevelopment, should seek to facilitate these 'essentials' during the planning and implementation process. This is validated in the respondents' anecdotes in Hawthorne when they stated the importance of community integrity, which has implications for sense of place and attachment, as critical to a positive perception of the redevelopment. They were determined to preserve this treasure even to the extent of actually having a demonstration against a possible site reuse option for the adjoining Merck/Colgon site that is being considered for redevelopment. Yet, this important dimension of place attachment is often overlooked in community redevelopment and revitalization exercises despite having outcome goals of leveraging financial and time resources, social cohesion and control embodied in place attachment. Place attachment means people may have a greater reason to invest in social relations, time and money, and develop a 'watch dog mentality' in their neighborhood [16]. Hawthorne citizens are a typical example of place attachment helping to cultivate a strong spirit of volunteerism and neighborly behavior in the neighborhood. Community changes as an outcome of redevelopment will be expected to preserve and possibly enhance this value.

Finally, Shaw et al [41]) indicated the concerns of municipal officials that brownfields' redevelopment does not incur political risks. Benefits to be derived from redevelopment initiatives can minimize this political risk. One such benefit identified was the competitive advantage derived from the initiative. States, including New Jersey, compete for investment and a potentially highly productive population. What is desired is a population with characteristics- such as professionals that will reside in the municipality and contribute significantly to the municipality's economic base. Whilst the municipality may view

this as a benefit, some citizens do not. Creating a competitive advantage in this case is subject to conflicts. On one side, it is advantageous and on the flip side of the coin, it is not. Differing perspectives and goals between municipal officials and citizens come into focus. Officials see this influx of investment and population as a way of creating more affluence, close budgetary gaps [48, pA01, 49, p B07) to improve quality of life. Citizens do not particularly favor such population changes as promoting a good quality of life in this case. They view this as an externality to the community's infrastructure to absorb the additional population. According to 'Peter' of Clifton in his evaluation of the new residential development, "*The population increase will overburden the existing infrastructure like sewers and they are old*". This sentiment is not unique to Clifton, but shared nationwide, as can be realized from the literature and media reports. The challenge is getting municipal officials and citizens to come to awareness of each other's goals and values and develop a mutual understanding and to see how respective goals can converge to obtain the overarching goal of community development and thus citizens' development. This can be achieved through increased sustainable interactive dialogue and actions to be derived from increased access to decision making processes, a more transparent process in which citizens can have more or better opportunities created to improve their understanding of how and why certain policy decisions are made that is, the rationale of the decisions. Citizens must be able to either question, support or oppose decisions that have the ability to affect significantly, the social fabric of their lives, their community, and that of future generations. This is the essence of a participatory democratic process. Not all public officials are averse to public participation in policy decisions. Greenberg et al [3, p729] said, "*Many tax assessors believe that residents and local businesses want to be involved in deciding how to use the brownfield sites.*" This attitude is an important launching pad for the implementation of a participatory democratic process that is, discovering and harnessing a quota of flexible public officials, willing and determined to transcend barriers, including institutional ones to incorporate public sentiments in public decision-making. This can help to reduce political risks and increase the possibility of public acceptance of government policies effects.

CONCLUSION

There are powerful social factors influencing perceived and actual neighborhood changes and benefits resulting from brownfield redevelopment projects that drive public acceptance or

dissatisfaction of the projects in their neighborhoods. Attributing factors are place identification and attachment with ones neighborhood, among others that can be jeopardized, especially if individuals believe the change is fast paced, differs from the expected, or significantly alters the neighborhood's character. One of the ways these significant contributing factors can be better realized is through conducting more thorough social impact assessment studies of potential project impacts in order to minimize the impacts. In this regard, mainstream public involvement at all pertinent levels of the project stages is a critical avenue through which better insight can be gained about possible social , economic, health and environmental impacts of the projects. This offers scope for meaningful public participation. A SIA should be integral with the Environmental Impact Assessment (EIA) when it is being conducted instead of merely being a part because social impacts cannot be divorced from environmental impacts. In this sense, SIA sees a place for lay concepts to inform the experts doing the purely technical EIA and ultimately public policy. It can therefore assist as a policy guide as to the most feasible ways to mitigate potential impacts [16].

People have high expectations from these brownfield redevelopment projects and expect that they will positively affect theirs and their neighborhood quality of life. This is said because they became more responsive and supportive when more than one observed positive changes in the built environment were reported. Whereas observed changes in the built environment that were significantly more positive were perceived to be generally, more conducive to a better quality of environmental and social life, including health benefits, the opposite was realized for more perceived negative changes. Brownsfield redevelopment project will receive ratings that are more positive if the end use enhances what citizens' treasure, that is, community development initiatives that will complement their values and lifestyles and not detract from it. However, these expectations can realistically be better realized from area wide initiatives like Bartsh, [50] and Eisen, [51] suggest, and not merely from single site redevelopments evaluation and should be further explored from this approach. Nevertheless, this research offers a foundation for further exploration of how peoples' values and worldview interact in their assessment of brownfields redevelopment success including the degree of importance placed upon their achievement of social attributes.

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