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Crowd-Sourced City

### **The Million Dollar Fix**

Our mission in this project was to complement the Participatory Budgeting New York City (PBNYC) initiative by contributing a new crowdsourcing component – via an SMS function tied to a Ushahidi platform – to fill a gap that we identified in the avenues of communication being pursued in the official process. Our client for the project was the Center for Urban Justice, who was primarily interested in our help to streamline the entry of survey data following the official vote in March 2012 because of their limited staff resources and the quick turnaround time to prepare for round two of the PBNYC initiative for the City’s 2012-2013 Fiscal Year. Although our client was most interested in the research side of the PBNYC initiative, we ultimately implemented a project that, while supportive of our client’s goals, is more closely aligned to both the mission of this class and the PBNYC initiative more broadly, namely to maximize public participation.

We initially approached our project by trying to simply address the request of our client, specifically, to create a paperless version of the outgoing survey for March 2012 to streamline the process of data collection and entry. The rationale for helping our client overcome the logistical challenges associated with limited staffing for the voting in March was clear to us, as we could assist with data compilation to incorporate constructive feedback into the next iteration of the PBNYC initiative for the following fiscal year. As Schuler (2008) explains, “Confidence in the election process encourages voter participation and increases the likelihood that all parties will accept the results” (p. 145), and government transparency and accountability are two fundamental tenets of the participatory budgeting initiative. However, as we began to conceptualize what the user experience might be like, we started to encounter potential problems with our approach. While most of the objectives were technically feasible, we

judged that the likelihood for participation would be very low. This was mainly due to the sheer quantity of questions on the out-take survey that would have to be answered by users through their mobile devices (see below). Not only were there 14 total questions, but the last question asked for additional comments (as opposed to a multiple choice answer), which is not feasible for the limited number of characters permitted via text message.

<p><b>PB NYC Voter Survey</b></p> <p>Please take 2 minutes to fill out this form to help us improve the participatory budgeting process. All information will be kept confidential and used only for evaluation purposes. Please make sure you complete the entire survey. If you do not feel comfortable answering a question, feel free to skip it. Your input is very important!</p> <p><b>Personal Information</b></p> <p>1. How long have you lived in this neighborhood?</p> <ol style="list-style-type: none"> <li>Less than 1 year</li> <li>1 to 3 years</li> <li>4 to 7 years</li> <li>8 to 15 years</li> <li>More than 15 years</li> </ol> <p>2. What is the highest level of education you have?</p> <ol style="list-style-type: none"> <li>Elementary or middle school</li> <li>Some High School</li> <li>High School Diploma or GED</li> <li>Associate/Vocational Degree</li> <li>Some College</li> <li>Bachelors Degree</li> <li>Graduate Degree</li> </ol> <p>3. How would you identify your race and/or ethnicity? (mark all that apply)</p> <ol style="list-style-type: none"> <li>American Indian or Alaska Native</li> <li>Asian</li> <li>Black or African American</li> <li>Hispanic</li> <li>Native Hawaiian/Other Pacific Islander</li> <li>White</li> <li>Other: _____</li> </ol> <p>4. What is your gender?</p> <ol style="list-style-type: none"> <li>Female</li> <li>Male</li> <li>Other: _____</li> </ol> <p>5. What is the estimated yearly income of your household?</p> <ol style="list-style-type: none"> <li>Less than \$10,000</li> <li>\$10,000 to \$14,999</li> <li>\$15,000 to \$24,999</li> <li>\$25,000 to \$34,999</li> <li>\$35,000 to \$49,999</li> <li>\$50,000 to \$74,999</li> <li>\$75,000 to \$99,999</li> <li>\$100,000 to \$149,999</li> <li>\$150,000 or more</li> </ol> <p>6. What is your age?</p> <ol style="list-style-type: none"> <li>14 years or under</li> <li>15 to 19 years</li> <li>20 to 24 years</li> <li>25 to 34 years</li> <li>35 to 44 years</li> <li>45 to 54 years</li> <li>55 to 64 years</li> <li>65 years</li> </ol> <p>7. What language do you feel most comfortable using?</p>	<ol style="list-style-type: none"> <li>Bengali/Bangla</li> <li>English</li> <li>Haitian Creole</li> <li>Mandarin</li> <li>Polish</li> <li>Russian</li> <li>Spanish</li> <li>Yiddish</li> <li>Other: _____</li> </ol> <p>8. Have you ever worked with others in this community to try to solve some community problems?</p> <ol style="list-style-type: none"> <li>Yes</li> <li>No</li> <li>Don't Know</li> </ol> <p><b>Evaluation of Participatory Budgeting</b></p> <p>9. Today's Date _____</p> <p>10. Based on your experience, how would you rate the following? (choose either poor, fair, good, or great for each of the following.)</p> <ol style="list-style-type: none"> <li>The quality of the budget proposals on the ballot</li> <li>The materials and information presented to voters</li> <li>The voting process</li> <li>The Participatory Budgeting process overall</li> </ol> <p>11. How did you hear about today's vote? (mark all that apply)</p> <ol style="list-style-type: none"> <li>Councilmember paper newsletter</li> <li>I got an email</li> <li>I saw a flyer</li> <li>Newspaper article</li> <li>Word of mouth</li> <li>Someone came to my door</li> <li>Mailing was sent to my house</li> <li>Phone call</li> <li>Internet/website</li> <li>A religious institution</li> <li>A community group</li> <li>I got a flyer in my child's backpack</li> <li>Other: _____</li> </ol> <p>12. Besides voting, how else have you participated in Participatory Budgeting? (mark all that apply)</p> <ol style="list-style-type: none"> <li>Attended a neighborhood assembly in Fall 2012</li> <li>Attended a neighborhood assembly in 2012</li> <li>Made a specific budget proposal at an assembly</li> <li>Made a specific budget proposal online</li> <li>Discussed the budget proposals with other community members</li> <li>Served as a budget delegate</li> <li>Volunteered to help organize the process, with the Council Member office or District Committee</li> <li>Other: _____</li> <li>None of the Above</li> </ol> <p>13. Has participatory budgeting changed your opinion of what the district's priority issues are?</p> <p><input type="radio"/> No, I still think the same</p> <p><input type="radio"/> Yes, I now better understand the importance of other issues</p> <p>14. Do you have any other comments or suggestions regarding the Participatory Budgeting process?</p> <p>_____</p>
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In an interim step in our process, to address the shortcomings of using text messaging to complete the outgoing survey, we considered creating a Google Form that could be linked to a QR code, which could be available to the public on voting day in March 2012.

However, we ultimately decided that our project could and should be more explicitly connected to the goals of our crowdsourcing class. This led us to reconsider how our project could more effectively meet our goals of community participation, and also support the broader goals of the Participatory Budgeting initiative.

In crafting the idea for what project to implement, we referred to many of the course readings for inspiration. The readings from the first two weeks of the course effectively established a theoretical backdrop, and offered some practical case study analysis, for our client-based work this semester. We valued the assessment by Rheingold (2008) that the internet is, and was always meant to be, an “innovation commons” (p. 48), and crowdsourcing is clearly an extension of this concept. Brabham (2009) illuminated for us the applicability of crowdsourcing to planning, namely that it “operationalizes crowd wisdom” and makes it possible to “[leverage] collective intelligence” (p. 250).

In their overview of the promise of public engagement via micro-participation, Evans-Cowley and Griffin (2011) refer to an admirable objective to “bridge the ‘Arnstein Gap’ between degrees of tokenism and citizen power” (p. 3-4). In her pioneering article in 1969, Sherry Arnstein equates legitimate public participation with the notion of citizen power, broadly defined as a scenario in which “the have-not citizens, presently excluded from the political and economic processes,” possess decision-making authority (p. 1). Arnstein employs the image of a ladder to illustrate eight “gradations” of public participation, ranging from the “illusory” model of manipulation, serving merely as a “public relations vehicle by powerholders,” to actual citizen control, in which the “have-not citizens obtain...full managerial power” in a decision-making process (p. 3, 4). Between the extremes of nonparticipation and citizen power is an intermediate category of tokenism – comprising the three rungs of informing, consultation, and placation – that represents the crucial “first step toward legitimate citizen participation,” but the critical missing link is the “redistribution of power” to the have-nots (p. 1, 5). Although the examples that Arnstein cites, including the Community Action and Model Cities programs, are now outdated, her message is timeless, and concerns still abound about the extent to which citizens are effectively empowered in planning processes. Indeed, at its core, the

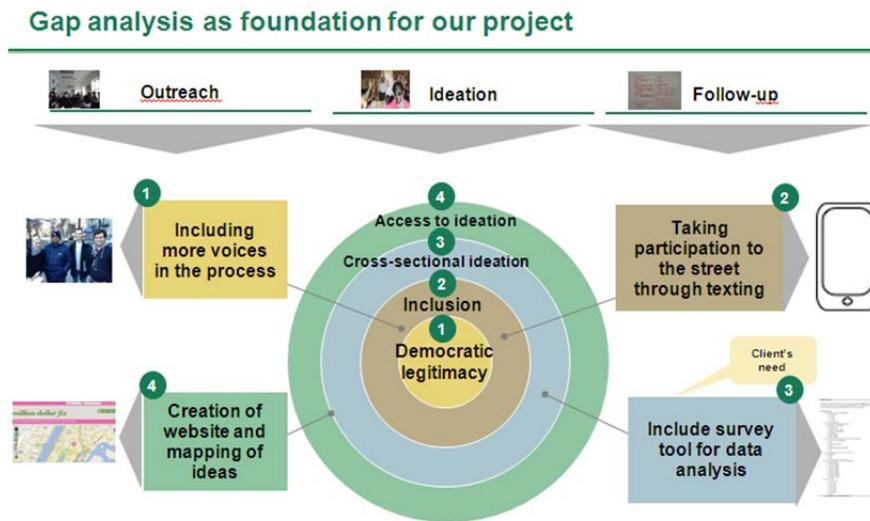
PBNYC initiative is about redistributing decision-making authority from elected members of the City Council to ordinary citizens.

Accordingly, after careful consideration of our clients' needs and an exploration of possible technologies, we decided to create an interactive SMS-mapping platform to augment the community outreach efforts of PBNYC. Behind our reasoning were three essential points:

- Our outreach strategy would include more voices by utilizing diverse media. This would allow for different forms of expression, and potentially, ongoing dialogue.
- The system would allow for both participation and data collection simultaneously. This integrated approach could even potentially be introduced in other PB processes.
- Lastly, by using mobile technology, we could increase the likelihood of reaching out to local residents unable or unwilling to attend the neighborhood assembly meetings, or unfamiliar with the PB initiative overall.

In employing a Ushahidi platform for our website, we further reflected upon the course readings as a rationale for our approach. Broadly, we find it noteworthy that the adoption of the Ushahidi platform to planning contexts originally stemmed from its use in crowdsourcing crisis information. One particularly fascinating component of the software's development for the post-election violence in Kenya was that the principal initial focus was on "building and launching an overall framework, and addressing the details and any technical hitches later" (Okolloh 2009, 66). Interestingly, Okolloh (2009) presents two different Kiswahili definitions for the word, "Ushahidi": (1) "testimony," which corresponds to his own definition; and (2) "witness," as defined by Kinyanjui (2008) in "Box 1" (p. 66). The two definitions complement each other and add credence to the underlying objective of the Ushahidi software, namely to enable bystanders to report on events as they unfold in real-time.

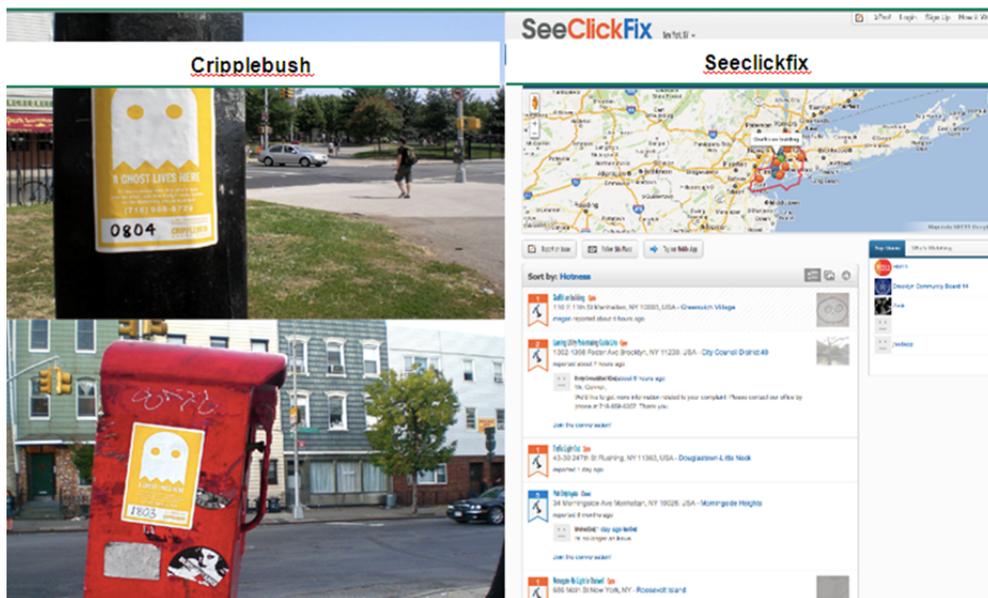
For our project, we saw great promise in linking the Ushahidi platform to an SMS function, to fill a gap that we identified in the outreach efforts of the official PBNYC process, as detailed in the graphic below.



Specifically, much of the initial outreach by the PBNYC team, coordinated by Community Voices Heard, was focused on encouraging people (through a combination of conventional mailings, email list serves, and online social media) to attend neighborhood assemblies to submit their project suggestions. This initial strategy was supplemented by the creation of a Ushahidi-type map by the Project for Public Spaces, which wisely enabled people to submit project ideas without attending neighborhood assemblies. However, we noticed that one promising option for an innovative outreach effort was not being tapped into, namely text messaging. Additionally, in comparing demographic data for the attendees at neighborhood assemblies in a given District (we selected District 8 as our case study) with that of the overall District, we noticed that the formal participants in the PBNYC initiative appeared to not be entirely representative of the population at large. For instance, our data analysis showed an

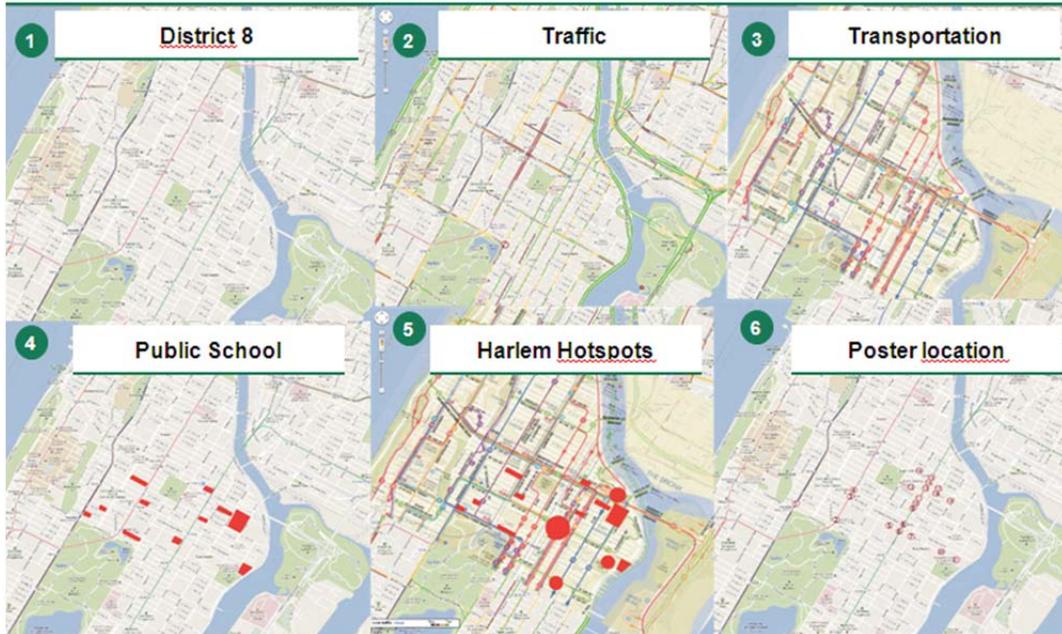
underrepresentation of blacks in District 8, as blacks comprised 44% of neighborhood assembly attendees, but comprised 56% of total District residents.

Our solution, therefore, was to expand the reach of participation to the streets, albeit removing the explicit connection to PBNYC (both to sidestep the politics of the initiative as well as to engage members of the public who may not be knowledgeable about the initiative but still have ideas for how to improve the community). Drawing our inspiration from other projects such as Cripplebush and See Click Fix (see below), our solution was to add an additional crowdsourcing component to the PBNYC initiative by adding a new means of participation through SMS tied to a Ushahidi platform, thereby encouraging a broader cross-section of overall District representation.



Our explicit goal was to hang flyers in busy and highly visible locations within our test case of District 8 to maximize the likelihood of participation. Therefore, as an initial step in our research before selecting locations, we conducted an informal qualitative hotspot analysis to maximize the utility of our efforts:

## Where are the Harlem Hotspots?



Our implementation strategy involved hanging two variations of a flyer at different hotspot locations in the District, tagged with different numbers to enable us to geocode the text responses (see below). We originally discussed a number of additional flyer ideas – including a broken basketball hoop in a park, a sewer overflowing due to rain, and a bus shelter without a roof – but we opted to just use two variations.



# WHAT WOULD YOU FIX WITH A MILLION OF THIS BAD BOY?

TELL US WHAT YOU WOULD FIX ON THIS BLOCK WITH ALL THAT CASH BY TEXTING

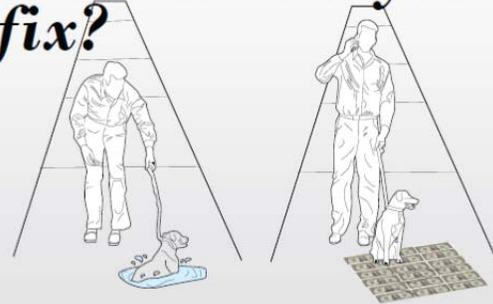
312-560-6041

WITH THE NUMBER BELOW FOLLOWED BY YOUR IDEA!

FUN FACT: DID YOU KNOW YOUR DISTRICT HAS A MILLION DOLLARS READY FOR YOUR COMMUNITY'S IDEAS?

m o o . x i t t s i l l o b n o i l l i m

# What would you fix?



BEFORE

AFTER

THIS GUY WAS UNAWARE OF THE DEPTH OF THAT PUDDLE AS HE WAS WALKING HIS DOG ON THE SIDEWALK.

TELL US WHAT YOU WOULD FIX or BUILD ON THIS BLOCK IF YOU COULD BY TEXTING

312-560-6041

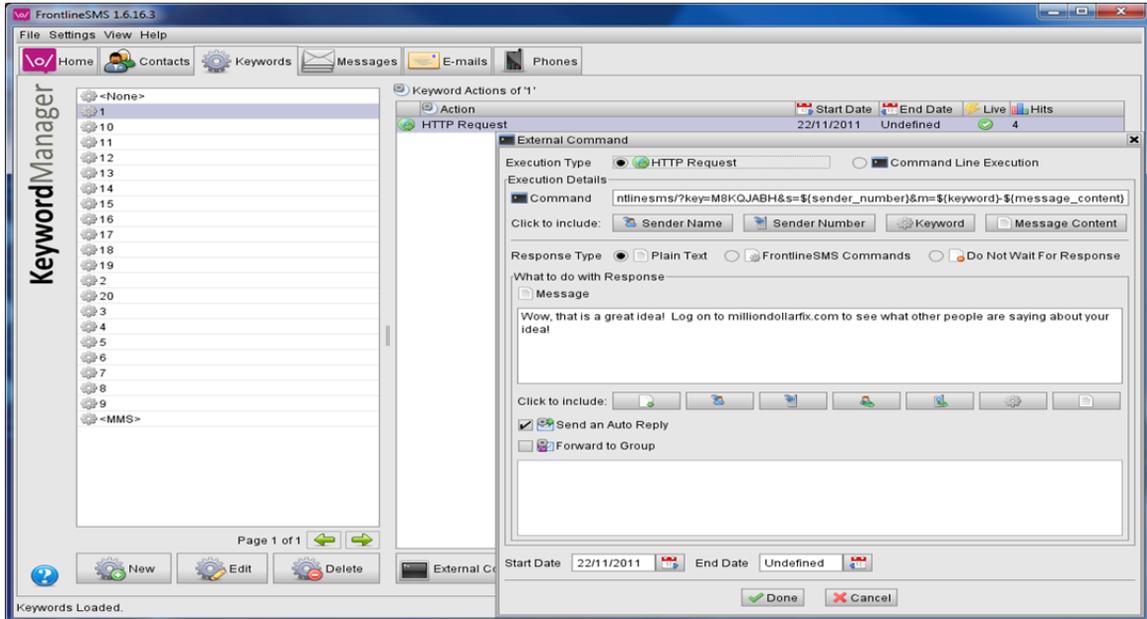
WITH THE NUMBER BELOW FOLLOWED BY YOUR IDEA!

FUN FACT: DID YOU KNOW YOUR DISTRICT HAS A MILLION DOLLARS READY FOR YOUR COMMUNITY'S IDEAS?

m o o . x i t t s i l l o b n o i l l i m



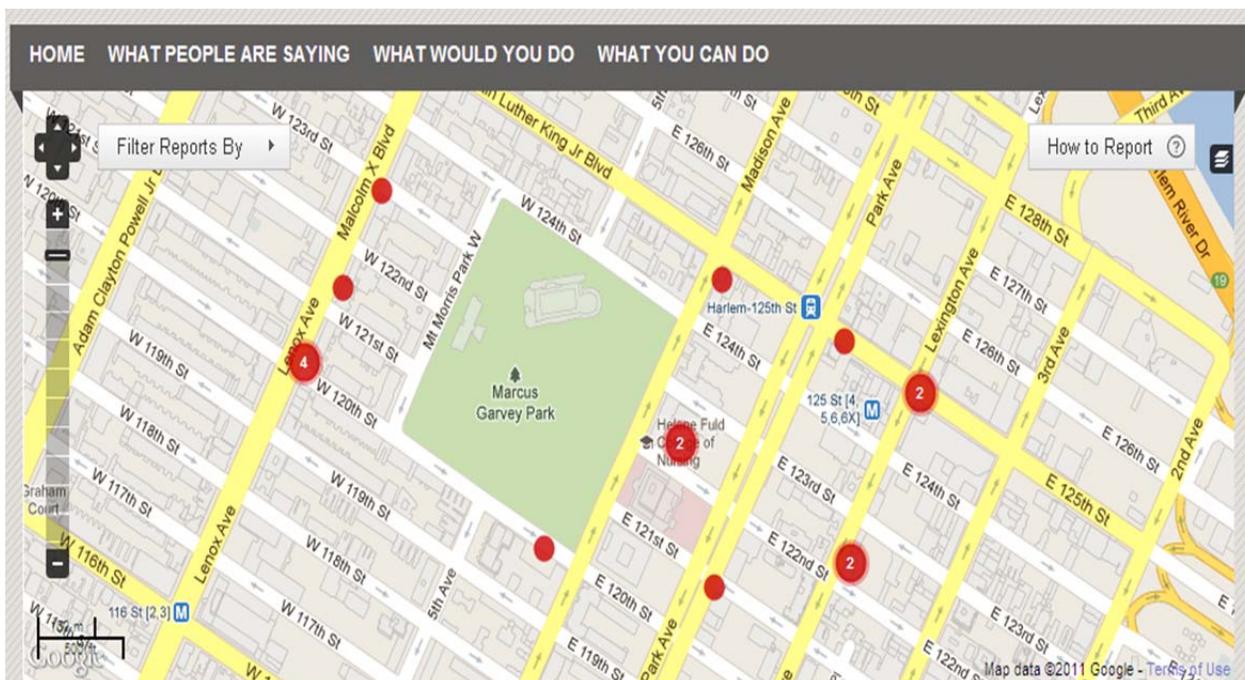
We used the program, Frontline SMS, to generate automatic responses to the texts (see below), which would not only acknowledge the user's suggestion, but also encourage the user to visit our website, [www.milliondollarfix.com](http://www.milliondollarfix.com), which we elaborate upon in a subsequent section of this report.



In addition to passively hanging flyers, we also actively interviewed people to solicit suggestions for how to spend \$1 million to fix their community (noting that the money must be spent on capital projects, as is the case in the PBNYC initiative).



Our data that we gathered, both text responses and interviews, are denoted on the map and summarized in the text below:



- Text (at 123<sup>rd</sup> Street and Lexington Avenue): “Fill the holes with garbage”
  - “Answer ta question for starters. Would be get rid of bloomberg. Idea. Would be good fa all n.y. And i live in east harlem. Fill the holes wit all the garbage we trip over daily. Get a broom fill em up”
- Interview (at 120<sup>th</sup> Street and Lenox Avenue): art center\*
- Interview (at 120<sup>th</sup> Street and Lenox Avenue): Santeria congregation space\*
- Interview (at 121<sup>st</sup> Street and Lenox Avenue): affordable housing
- Interview (at Lenox Avenue between 121<sup>st</sup> and 122<sup>nd</sup> Streets): supermarket with healthier options\*
- Interview (at 123<sup>rd</sup> Street and Lenox Avenue): clean up the litter\*
- Interview (at 120<sup>th</sup> Street and Lenox Avenue): opera classes for children\*

- Interview (at 120<sup>th</sup> Street between 5<sup>th</sup> and Madison Avenues): convert a brownstone into housing for children and tourists\*
- Interview (at 123<sup>rd</sup> Street and Madison Avenue): community center\*
- Interview (at 122<sup>nd</sup> Street between Madison and Park Avenues): homeless shelter\*
- Interview (at 125<sup>th</sup> Street and Park Avenue): shelter for recovery from drug abuse and homelessness\*
- Interview (at 125<sup>th</sup> Street and Lexington Avenue): elementary school\*
- Interview (at 122<sup>nd</sup> Street and Lexington Avenue): better signage for pedestrians
- Interview (at 125<sup>th</sup> Street and Madison Avenue): clean up the garbage on the sidewalks\*
- Interview (at 125<sup>th</sup> Street and Lexington Avenue): more frequent bus service\*
- Interview (at 121<sup>st</sup> Street and Park Avenue): safer streets with more police\*
- Interview (at 121<sup>st</sup> Street and Park Avenue): cleaner hospital facilities\*

\* denotes a potentially ineligible idea for the PBNYC initiative, in that the suggestion is – in part or in whole – an ongoing service as opposed to a one-time capital investment. For instance, while it would be a capital project to *construct* a community center, homeless shelter, or drug abuse recovery center, a necessary ongoing *service* would be to staff these locations. One of the challenges that we acknowledged in both the official PBNYC process as well as our internal process for the class was the lack of understanding among the public about what would constitute an eligible capital project.

One interesting finding from our implementation effort was that the public tended to be most drawn in by the cause-related locations for our flyers (see below), such as on boarded-up residential buildings (which conjured up suggestions of improved housing). Indeed, such cause-related locations seemed more effective than crowded spaces (at bus stops) or alienated spaces (such as on benches).

## Which locations worked?

1

Crowded Space



2

Alienation



3

Cause-related



Highest attention at cause related locations

Out of our 17 total data points, all but one was generated manually by us to input suggestions we received during our in-person interviews. We only received one text message, and, interestingly, the suggestion was directly related to the image on the flyer (namely, the before-and-after graphic of a broken sidewalk). The suggestion was to “fill the holes with garbage.” In reflecting on this result, we are now cognizant of the danger of feeding ideas to the public, which may in fact influence their thought process.

On our website, [www.milliondollarfix.com](http://www.milliondollarfix.com), in addition to mapping the data we collected from our interviews and text responses, we also included a tab called, “What Would You Do,” which would lead the user to the following survey:

1. How would you normally go about fixing a problem in your neighborhood?
2. Are you currently involved in your community? For example, do you belong to any local civic organizations? Do you attend meetings of your Community Board?

3. Are you happy with the way your City Councilmember spends his/her budget in your neighborhood? Are you aware that you could have a say in this?
4. Have you heard about the Participatory Budgeting initiative in New York City? If yes, have you been involved in the process?

The purpose of the survey was to help unpack the question of whether people responding to our flyer knew about – and were actively participating in – the formal PBNYC initiative. After teasing out the answer to this question, we provided the user with an additional tab, called “What You CAN Do,” which offered some basic information about the PBNYC initiative, including a link to the official website.

As we gauge how to measure project success, we ask ourselves – and subsequently answer – three fundamental questions:

1. Was our project crowdsourcing?
  - a. We can confidently assert that our project was indeed a crowdsourcing strategy, in that the objective was to increase the level of participation by building a platform (via SMS linked to a Ushahidi map) for residents of District 8 to share ideas to improve the community. **We contributed a new avenue for participation, via SMS, to the menu of options being offered by the formal PBNYC initiative.**
2. Did we help to further the goals of the PBNYC initiative, in support of our client?
  - a. Indeed, our fundamental goal was to approach people on the street – whether or not they were aware of the PBNYC initiative – who care about the state of their community. The objective was to maximize participation.
3. What lessons did we learn from the experience?

- a. Crowdsourcing is about maximizing the quantity and quality of participation; it need not be simply about the use of technology. We had this important realization following our data collection exercise. While only one person sent us a text, the overwhelming response on the streets to our interview technique was appreciation at the opportunity to have one's voice heard. Technology appeared to not be the game-changing ingredient that we originally anticipated. In the end, it comes down to knowing your user; will the target population actually use your prototype? Are there less technological alternatives that may be more appropriate for your target population? Indeed, our interview strategy seemed to be the most effective facet of our project to maximize participation.
- b. Since many of the people we interviewed were unaware of the PBNYC initiative, an important question that we only began to answer with our project (due to time constraints) is *why*? In retrospect, and if we were to do this project again, we would follow a more iterative process: our very first step would be to interview people on the streets to inquire how they receive communication about their community. Based on that feedback, we would tap into the most effective and context-specific means of outreach. **Rather than having our specific project idea guide our outreach, our approach would be to employ a front-ended outreach effort to inform our eventual project for implementation.**
- c. The PBNYC message appears to not be entirely heard and/or understood by the District residents, so an outreach initiative that speaks a different language and uses different techniques is needed to attract those that do not usually participate in the community.
- d. The jump from off-line to on-line, especially in low-income communities, can be difficult to trigger, especially if cost is associated with participation as in texting

methods. Indeed, when we asked people during our interviews whether they would be willing to text their responses if they saw our flyers, many declined because they do not have unlimited text packages and are unwilling to spend money to participate, which is understandable. Therefore, this was another substantiation for our interview technique.

- e. As an aside from the lesson we learned that technology we may not be the most effective strategy to maximize participation, we also feel that our two different modes of communication (i.e., text and website) perhaps may be confusing (even though we designed our website to match the branding of our flyers). We suggest potentially focusing on one call-to-action in the future to avoid confusion. Additionally, to maximize the accessibility to the user, we suggest communicating the call-to-action using the same mode of communication as the requested action itself.

In addition to the future strategies/recommendations outlined above, we also make two supplementary recommendations for how to improve engagement in the PBNYC initiative:

1. Work with a local non-governmental organization (perhaps Community Voices Heard) for outreach to the local public schools to include their input into the process beyond the one formal youth neighborhood assembly.
2. Create a more focused campaign using electronic media to increase awareness and participation, including a call-to-action through PBNYC affiliates' (i.e., Steering Committee members') social media accounts, a mass texting initiative using Community Voices Heard's phone number list, as well as a local Google Ads campaign to increase traffic to the PBNYC website and promote greater interaction with the ideas. Furthermore, we encourage creative thinking on the part of the PBNYC Steering Committee regarding the inherent value of incorporating "gamification elements and rewards as incentives" to motivate participation in

subsequent iterations of the PBNYC initiative, combining the important characteristics of motivation and trigger (Cramer, Rost, and Holmquist, 2011, p. 7). Indeed, this is in keeping with what Seth Priebatsch discusses in his TED Talk about the role of the “game layer” to supplement the “social layer.” As discussed by Gordon and Koo (2008), social media such as Facebook and Twitter represent only one layer of the capacity for technology to influence people’s behavior.

As with any micro-participation strategy, there is clearly a “learning curve” involved in implementation, as acknowledged by Evans-Cowley and Griffin (2011, p. 255). One challenge that transcends both our project and the broader PBNYC initiative is “how to kick start the crowd,” followed by the difficulty of actually “sustaining [the] online community” (Brabham 2009: 256), but we are confident that crowdsourcing holds great promise for the future of PBNYC.

One primary takeaway from our experience is that crowdsourcing is fundamentally “a tool and not a solution” (Okolloh 2009: 69). Furthermore, planning itself is both a process and an outcome, and it is imperative that we keep in mind that crowdsourcing is inherently about enhancing the planning *process*. Our conviction is that an improved planning process can effectively enrich the eventual outcome.

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