Neighbors Building Community - A Community Empowerment Initiative Through Community Mapping

Mark J. Salling
Cleveland State University, m.salling@csuohio.edu

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Neighbors Building Community - a community empowerment initiative through community mapping¹

Overview
Cleveland State University’s Office of Civic Engagement, through an Engaged Learning Enhancement Grant, funded a pilot demonstration project to evaluate the use of community mapping for assisting with community assessments of neighborhood issues in a west side neighborhood of Cleveland. The project used neighborhood residents to collect and map data on a variety of neighborhood issues, specifically dilapidated buildings, potentially dangerous dogs, pot holes, broken sidewalks, offensive graffiti, trash in vacant lots, dead trees, and more.

The pilot project educated the participants about neighborhood issues, while providing the community with documentation on issues that can be presented to council representatives and city officials. Participants were eager to use mapping technology to improve their neighborhood, enjoyed walking the neighborhood and working as teams, and attained an appreciation of neighborhood qualities, such as many well-maintained homes and gardens and its many tree-lined streets, as well its physical problems. Participants recommended that subsequent database development and mapping include community assets and factors related to health and environmental quality.

It is hoped that as institutions respond to the issues and priorities, the citizens of the community will be empowered to effect change. The most important outcomes were an enhanced sense of community and engagement in neighborhood affairs.

Context
The target neighborhood on the near west side of Cleveland is one of a low income population, with more than its share of old and abandoned housing, lots that blight the neighborhood, streets and public spaces in poor condition, and shows the signs of obvious physical and social decay that often contributes to community dissolution.

This neighborhood is not unique in this regard. Many low income and poverty-stricken neighborhoods in Cleveland and other American cities suffer abandonment and loss of community cohesion. McMillan & Chavis assert that sense of community is attained by four factors: membership, influence, integration and fulfillment of needs, and shared emotional

¹ This project was funded through an Engaged Learning Enhancement Grant from Cleveland State University’s Office of Civic Engagement.
connection². Membership includes, among other things, boundaries that can take the form of cultural traits, but a geographic identity is also important in the context of urban neighborhoods and their social connections. Influence works both ways — of the member on the group, and the group on the member. Working together to accomplish a goal builds this cohesion. Sarason (p.176) conceived a similar notion as "an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them."³ Finally, of critical importance is a shared history and participation or identification with that history, which contributes to a shared emotional connection.

**Approach: Community Mapping**

Community mapping involves the use of mapping and Internet technologies. But it is more than a technology; it is a way for local citizens to develop connections of community interests through enhanced communications with one another, educate themselves and others about local conditions and issues, inform and advocate with the institutions that affect their neighborhoods, and thus empower the community to effect change.

A definition of community mapping is “... the use of spatial data by community groups to analyze and communicate about community issues, assets, and strategies for change.”⁴

Another definition says that “Community mapping is an approach that helps people to get directly involved in their own development and that of the whole community. It encourages the community to consider what it can achieve for itself, before seeking assistance elsewhere. It identifies the kind of assistance they must seek, in order to achieve their aims.”⁵

The goal of this community mapping project is to demonstrate the utilization of technology to engage and empower residents to identify, report, and advocate for changes in the conditions that contribute to social and physical decay in the community. But the more significant goal is the building of community through collective action.

The hypothesis is that residents can help to identify the social, economic, and environmental factors that create adverse human impacts in their community. They can also identify opportunities for improvement in their communities.

In summary, the objectives of this effort included the following:

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• **Education**—provide neighborhood residents with increased awareness and understanding of place-based contributors to community connectedness.

• **Engagement**—provide an innovative technological tool for engaging citizens.

• **Efficacy of the software**—provide a practical example and evaluation of how community mapping technology can be used in community empowerment efforts.

• **Accurate real time information**—provide accurate real-time information that can be mapped and shared easily.

• **Empowerment**—allow citizens to identify and report problems proactively and conveniently.

• **Cost savings**—provide cost savings for the city official by utilizing residents as an extension of the city to report issues and provide accurate information that is locationally and community specific.

• **Sharing responsibility**—participants will learn about the conditions that impact their community and how to organize around addressing the issues.

• **Taking action**—Local officials can utilize the information to develop and prioritize a community agenda in the community.

**Target Area:** Denison-Storer-Fulton Neighborhood of Cleveland, also known as the “Stickiness Neighborhood”.

**Project Leaders and Participants**

- Gordon Martin, Pastor/Director, Prince of Peace Outreach and Deliverance Ministries
- Wansoo Im, PhD, Vertices LLC and the Center for Community Mapping
- Mark Salling, PhD, GISP, Northern Ohio Data & Information Service (NODIS), Levin College of Urban Affairs, Cleveland State University
- Colt Ossoff, CSU student
- Selected residents of the Denison-Storer-Fulton neighborhood of Cleveland

**Process**

Dr. Mark Salling of the Levin Urban College at Cleveland State University, Gordon Martin, Pastor/Director of Prince of Peace Outreach and Deliverance Ministries, and Dr. Wansoo Im of Vertices LLC collaborated to manage a project in which neighborhood residents of the target community designed and implemented a field survey of neighborhood issues.

Ten community participants were recruited and they identified problems in the neighborhood’s physical environment. Participants were trained and employed in gathering field data about conditions using smart phones, and uploaded mapped information to an Internet mapping service.

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6 See https://www.google.com/maps/@41.45892,-81.722264,15z
7 Descriptions of the three project leaders and their organizations are found in Appendix A.
8 4800 Denison Avenue, PO Box 602233, Cleveland, OH 44102, pastor@popceclevelandoh.org
9 http://vertices.com/about-us/
10 http://urban.csuohio.edu/faculty_staff/staff/salling.html
application. Community participants decided what information to collect and helped design the field survey.\textsuperscript{11}

Data, including photos of the problem observations, were entered using residents’ smart phones and software provided by Dr. Im. The software, Mappler\textsuperscript{12}, enables the user to both enter the data and see the results through charts, photos, and mapped patterns as it is entered. This interactive, real-time system reinforces the utility of the data collection. The final set of data has also been mapped on the Internet (and summarized here) so that community members can see their work and get a visual sense of the issues in their neighborhood.

Later, entered data can be merged with data from the county’s real property tax database, those maintained by various city departments charged with maintaining city services, and others as needed.

Salling, Pastor Martin, and a CSU student (Colt Ossoff) who was taking an independent study class for the project, met with potential participants at the POPCE center on September 17, 2015 to present the project. Training by Dr. Im took place the morning of October 10, 2015 and participants performed field work on that afternoon and the following day (Sunday, October 11, 2015).

The ten participants were assembled in teams. Each team had at least one smart phone to enter data. Teams were instructed to be careful. One member was charged with looking out for traffic and other potential dangers. All participants were instructed not to take photos in which there were people unless they had their permission.

Participants were also surveyed on attitudes toward the neighborhood and opinions about the mapping project. These data have been compiled and presented below.

A project wrap-up meeting with participants and eight other community residents was held at POPCE on Saturday, November 21, 2015, at which much of the results presented here were discussed.\textsuperscript{13} Cleveland’s director of City Planning also attended. The meeting generated much discussion and ideas were exchanged about next steps (see discussion of next steps and conclusions below).

\textsuperscript{11} Most (8) of the participants were of high school age, one was in his early 20’s, and another was a middle aged person. Four were female and six were male.
\textsuperscript{12} http://www.mappler.net/
\textsuperscript{13} The project budget included funds to buy lunch on the two field data collection days (delivered pizza and take-out Chinese food) and the project wrap-up meeting (take-out pizza).

\textit{Neighbors Building Community - Community Mapping – submitted 11/30/2015}
Photo 1: Director of Cleveland City Planning Department, Freddy Collier (standing), talks with community participants in project wrap-up meeting at POPCE, November 21, 2015
Results
The web site is at http://www.immappler.com/popce/

Participants produced data that are shown in Figures 1 through 3.

Figure 1 shows the number of major issues covered. This distribution is largely influenced by the particular interests of the teams, their attention to the issues, and differences in their understanding of the variables and categories.

Figure 2 shows the study area and the zones that the teams surveyed. The distribution of observations varies by zone, as some teams were more attentive and spent more time than others.

One conclusion drawn from the pilot project is that better training should include more demonstration and providing more examples of the data to be collected (see conclusions section below).

Figure 3 shows the geographic distribution of some of the specific problems found.

Photo examples of neighborhood problems are found in Appendix B.

Figure 1: Frequency of Found Problems

<table>
<thead>
<tr>
<th>Number of Observed Problems</th>
<th>Number of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilapidated Building</td>
<td>14</td>
</tr>
<tr>
<td>Dogs</td>
<td>5</td>
</tr>
<tr>
<td>Graffiti</td>
<td>9</td>
</tr>
<tr>
<td>Potholes</td>
<td>1</td>
</tr>
<tr>
<td>Street Light</td>
<td>10</td>
</tr>
<tr>
<td>Traffic Safety</td>
<td>11</td>
</tr>
<tr>
<td>Trash</td>
<td>14</td>
</tr>
<tr>
<td>Trees</td>
<td>8</td>
</tr>
<tr>
<td>Vacant Lot</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Note: Some recategorization was necessary. “Other” included some that belonged with specific categories.
Figure 2: Study Area, Field Zones, and Observed Problem Locations

Figure 3: Selected Problems Mapped
How the Participants Felt
Data from a survey of participants after their training and experience in using community mapping to identify neighborhood conditions are summarized in Figure 4.

On a scale of 1 to 5, on average participants felt that they had a reasonably good knowledge of their neighborhood (1.78) and are interested in helping to make the neighborhood a better place (2.00). They also gave their neighborhood a fair rating on its overall conditions and problems (2.89).

Using an agreement scale of very true (1) to totally false (5) respondents generally do not think they will be moving out of the neighborhood in the next year (3.40). They generally don’t think the neighborhood is getting worse (3.30). Their rating of it compared to others in the city is that it probably not much better, nor much worse (2.75).

Though the participants feel fairly strongly that the neighborhood could be made better if “we” try (1.78), they are less sure that their neighbors are willing to make that effort (2.80).

Regardless, the participants have a significant liking for their neighborhood (1.40).

In addition, participants were asked to express their opinion of the project. Written responses were as follows:

- Awesome – really helped change perspective
- I think that the project is going to be good and fun.
- It’s cool!
- Fun
- I like it. This shows us how good and bad our neighborhood is.
- I think this project is fun and environmental
- It’s a good idea and can make a huge difference.
- It seems like a good thing for the neighborhood

Additional discussion provided similar comments and enthusiasm. Comments by some of the participants were also captured on video. Web links are as follows:

https://www.youtube.com/watch?v=sTdmkDFloAY

https://www.youtube.com/watch?v=rRLwW6Mjweg

https://www.youtube.com/watch?v=ylGaheYlY8U

A thank you video message to CSU from some of the participants is at https://youtu.be/ic6e9QbksDk.
Photo 2: Thanks to CSU from a few of the participants
Figure 4: Feelings about Neighborhood

How well do you know your neighborhood?
1 = very well, 5 = not well

How interested are you in helping to make this a better neighborhood?
1 = very interested, 5 = not interested at all

How do you rate the overall conditions/problems in the neighborhood?
1 = really terrible, 5 = good

The following are scored 1 = very true, 5 = totally false

- I am planning to move to a better neighborhood within the next year or...
  1.40
  3.40

- Things are getting worse in my neighborhood.
  2.00
  2.75

- My neighborhood is better than most other neighborhoods in the city.
  2.00
  3.30

- I think we are able to make it a better neighborhood community if we try.
  2.00
  3.40

- People in my neighborhood are willing to work to make the community better.
  2.00
  2.80

- I like my neighborhood.
  1.40
  1.78

n=10
Next Steps and Conclusions

The data collected through this limited community mapping demonstration project is not comprehensive; nor was it intended to be. Its value is in demonstrating that neighborhood residents can, with only limited training, be involved in working together to identify neighborhood issues.

Though the project was limited to a small area and with few participants, it has demonstrated that community mapping has significant potential to engage citizens in assessing neighborhood conditions. In a very short time, participants understood how to use the technology on their smart phones and to grasp how it can display condition issues for everyone to see.

Regardless of the small number of participants and though based only on a small application, this project demonstrates both the utility of the technology and the importance and potential of collaborative citizen engagement in the research of neighborhood issues.

All participants expressed optimism about how the project could be useful. They also found the experience enjoyable, walking their streets and noticing things – both problems and qualities - they hadn’t taken the time to see previously. They also enjoyed the comradery of working together.

After the mapping work was completed, Dr. Salling met with and briefed Mr. Freddy Collier, Cleveland City Planning Director, about the project. They discussed some possible immediate things that might be useful in bringing the results to action. Ideas were also discussed about how to use the project as a stepping stone to further community mapping work in the City. Subsequently, Mr. Collier also attended the project wrap-up meeting.

Future projects using community mapping should improve on this experience in the following ways.

1) There should be more training and standardization of the survey fields. Examples of various levels of problems such as potholes or broken sidewalks should be provided, for example.

2) Comparison with others in the community and with other communities and before and after the exercise would be useful is ascertaining how the project affect the participants and their opinions about the community.

3) It was hoped that more community participants would be involved in the project. Part of the reason for the low participation was lack of understanding of the technology and how it would be used by Pastor Martin. It was difficult for Pastor Martin to enthusiastically promote the project due to the uncertainty about it and inability to effectively communicate what the project was about. This can be remedied in the future.
with demonstration of the technology and more preparation with the community leaders who might be involved.

Some specific actions to deal with issues identified in the project were also discussed, including:

- Seek assistance from the local community development organization (Stockyards CDC) in acquiring graffiti removal kits and paint so that residents can remove unwanted graffiti. The CDC staff normally performs this task, but has indicated that help from residents would be welcome. This would be an example of community residents themselves working together to resolve neighborhood problems. Should the CDC’s resources be too limited, the community could seek a donation of the kits and painting materials from a local hardware store.

- Organize to take advantage of the City’s sidewalk repair program and seek a donation or discount from a local contractor to fix broken sidewalks and curbs. The City operates a program that provides half the costs of doing such repairs with the expectation that the property owners provide the balance of funds. Even with the subsidy, this cost is often prohibitive for individual home owners. An effort could be made to secure a donation from a generous sidewalk repair or concrete provider to cover all or most of the additional costs to the neighborhood.

The community mapping project could also be expanded to other issues and other neighborhoods.

Many more aspects of inner city neighborhood concerns can be layered on top of one another through mapping, including a variety of health issues. These include health threats such as: convenient stores that sell alcohol & cigarettes; billboard advertisements for alcohol & tobacco; fast food restaurants; streets without clearly defined crosswalks; broken sidewalks and street potholes; streetlights that are out; and graffiti and other blight. Health opportunities can also be mapped, including: parks and playgrounds; bike and walking trails; community gardens; grocery stores with fresh fruits and vegetables; fitness center/recreation center; neighborhood job opportunities; good tree cover and vegetation; and access to health care facilities.

A suggestion made by more than one resident was to map neighborhood qualities and assets, promoting both local pride in the community and a marketing tool.
Appendix A
Background Information about Project Leaders and Organizations

Prince of Peace Outreach and Deliverance Ministries (POPCE)
Pastor Martin established POPCE in 2005 with a vision of community helping community to build a better community. POPCE is a faith-based community service organization that proactively assists community members in organizing and working together on efforts to improve the quality of life for all as they see fit. POPCE programs are completely volunteer-staffed, mainly by members of the Stockyard community.

Services include:
- Wise Guys Male Responsibility Curriculum;
- an open service pantry;
- Produce to People, which currently serves about 340 individual families a month with an all-volunteer led food drive;
- a computer lab which provides access to the Internet, instruction and Internet browsing, use of Microsoft software and computer technology instruction, job searching, creating resumes, or just enjoy themselves playing online games or checking email and social media accounts; and
- a community garden, with a local Greenspace Committee and hosting a Gardeners’ Tool Bank that leases out tools for big gardening projects.

Mark Salling, PhD, GISP
Dr. Salling is a Senior Fellow in the Maxine Goodman Levin College of Urban Affairs and, since 1981, Director of the college’s Northern Ohio Data & Information Service (NODIS) at CSU. He manages a team of researchers, programmers, GIS Specialists, and student employees involved in data dissemination, demographic analysis, and urban and GIS applications. Dr. Salling has published papers dealing with computer applications in planning, data dissemination, geographic information systems, poverty, residential mobility, environmental equity, redistricting, and demography. He has taught courses on GIS, urban geography, statistical and computer methods, and demography. He holds a B.A. and Ph.D. in Geography from Kent State University and an M.A. in Geography from the University of Cincinnati. Dr. Salling is a certified GIS Professional (GISP) by the Geographic Information Systems Certification Institute (GISCI).

Community Mapping Experience and Expertise
The involvement of Dr. Wansoo Im is a key resource for this project and gives it a high probability of success. He is dedicated to providing community mapping for nonprofit and environmental organizations at affordable rates and has a long list of such contributions. For this project, Vertices will provide services at a significant discounted price.
Dr. Im is an academic and field expert in community participatory mapping. He has pioneered the use of interactive web/mobile based Geographic Information Systems (GIS) to support community-based participation and research on a wide range of social and environmental issues. Recently he guided a team of high school students to map available gas stations in NJ/NY area after Hurricane Sandy, which was used by US Department of Energy, FEMA, and Google Crisis Map. His work on community participatory internet mapping was featured in The New Yorker magazine in 2006 (http://www.newyorker.com/archive/2006/03/27/060327ta_talk_seabrook) and The New York Times in 2008.

Dr. Im was an assistant professor in public health informatics in the Department of Family and Community Medicine for the National Health Disparities Research Center of Excellence at Meharry Medical College and an adjunct faculty at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University. He is the founder of Vertices, LLC, a geospatial information services company that provides innovative and interactive community mapping solutions. Dr. Im earned his PhD in Urban Planning from Rutgers University in 2001, a Masters in Urban and Regional Planning from the University of North Carolina, Chapel Hill in 1990, and his BS in Urban Planning in 1988.

Dr. Im has established a Center for Community Mapping (http://www.centerforcommunitymapping.org/). In addition to the project mapping available gas stations during Hurricane Sandy noted above, highlighted projects include “Safe Routes to School,” in which high school students assessed and documented the safety and pollution levels of sidewalks and crosswalks in Somerset, NJ.

Dr. Im has been working with Dr. Mark Salling at CSU in developing community mapping projects in the Cleveland area. He provided a seminar and two workshops at CSU for students and the community and a workshop for high school students through CSU’s CHAMPS (Careers in Health and Medical Professions) program in March 2013. As a result of one of the workshops, City Beautiful, together with and volunteer graduate students from the Levin College, used the contributed community mapping resources of Vertices LLC to develop an Internet community mapping application on historic properties in the Slavic Village community of Cleveland (see http://www.mappler.net/citybeautiful/)

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1 Dr. Im has also more established a center in South Korea and is seen at http://www.cmckorea.org (see also https://www.facebook.com/communitymappingcenter).
2 Students are members of IMSOCIO, an organization that was created through the partnership between SOCIO, Scholars Organizing Culturally Innovative Opportunities, and Dr. Wansoo Im of Vertices, LLC. IMSOCIO aims to encourage the academic progress of Hispanic high school students in Franklin Township by providing the support and resources necessary to facilitate their progression to higher education.
Appendix B
Photo Examples

1. dilapidated and dangerous house

2. dangerous trash

3. wires in tree

4. graffiti
5. dead tree

6. uneven sidewalk

7. broken street

8. pot hole
9. Uneven sidewalk

10. broken sidewalk and curb

11. trash on lot

12. dangerous front walk