Imagining Community After Disaster: Integrating Artful Design and Community Engagement

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In a matter of minutes, people are in an unfamiliar world...
Disaster Recovery Context

Challenges

- Traumatic stress inhibits thought
- Different effects of different people in different places
- Pressure to rebuild immediately to obtain federal recovery funds
- Place identity and attachment – psychological need to rebuild quickly

Opportunities

- Social capital enhanced – community sentiment, care for others
- Problems become visible
- Inescapable need to invest – or leave...building becomes a priority
- Motivating problem engages assistance from outsiders – universities agencies, foundations...
Overall Project Goals

Learning

- Guide community through discovery with students and consultants
- Explore possibilities and potential impacts within the context of place and community values
- Create scenarios for pathways and partnerships for building over time

Action

- Articulate values and issues underlying planning and design decisions
- Develop strategies for rebuilding that create equity and sustainable systems
- Solicit feedback from potential partners and begin implementation
Methods

Four-year engaged planning and building process (time to learn and do initial projects)

Integrated learning, communication, and community service (synergy among residents and partners)

Embrace sense of place, social values, and performance in all proposals to bridge to future
1: Imagining possibilities

Service Learning, Social Learning and Co-creation
Service Learning and Design

- 2012 Studio: Issues, performance, and ideas for building
- Summer 2013: Community Visioning Program
- 2013 Studio: Scenarios for specific areas or infrastructures
- 2014 Studio: Design with residents and stakeholders for project sites and programs
Values-based planning: What is important to you? Why? What would this look like if we were true to these values?

Practical & participatory research: Learning together in the field with simple but effective methods. Social and physical problems.

Investigative design: Design on site, in studio, and in workshops; in public, with residents, and alone. Designs are taught, and co-created – not delivered.

Communicative Process: listen, reflect, respond, capture, document, repeat…
One and a half years after the tornado, the first studio class worked with the committee to understand how community values and place qualities could frame new development efforts.

Using the lens of valued activities, place qualities, and social equity, students documented community systems and resources, analyzed their performance, and created scenarios for preservation/change.

They worked closely with the committee.
**Participatory Design Approach**

Focus groups were utilized for collecting data and identifying projects. One round of focus groups polled from the Rebuild and Recover Steering committee, while the second round polled from non-steering committee citizens in different age groups.

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“We were a town before, but now we are a community.”
Graphics not just “eyewash” – explain and demonstrate how things work

The **communicative graphic** above explains the relationship between land use, water quality, and impacts on drinking water.
Investigative Design: Students developed options that would achieve various goals, such as reducing energy costs for the municipality and residents. Above a student explains how systems integrate and how much energy would cost under each scenario.
Designs are coded to show how connectivity, water, and social interaction are supported in the proposed solution.
Each class also explored partnerships and funding opportunities.
Spring/summer 2013: ILR Community Visioning

- In-depth transportation planning
- Planners used studio work as foundation
- ISU and committee conducted research based assessments
- Two years from disaster: technical design, with social and place roots
Professional Consultation

Reinforced values basis and respected place concepts

Added technical resolution to performance-based design, especially for storm water and walkability (equity and access issues)

Provided detail necessary to write for major grants from CDBG, Iowa DOT, Iowa DNR, and foundations
Studio 2: Social + Performative

Students and committee members developed strategies for rebuilding in the neighborhood, to be implemented once infrastructure is complete.

1) Housing for various income levels and ages; Open space for social activity and leisure pursuits; Enhanced connectivity with services

2) Two to five years from event: planning and strategies for areas and systems
Engagement methods included homeowner survey; door-to-door interviews, and public workshops; Facebook page.

Mapleton West Neighborhood | Property Owner Perspectives
These questions relate to the Westside Neighborhood as a whole and not necessarily to a specific property. Please respond to the following statements according to this scale:

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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
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<td>1</td>
<td>2</td>
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<td>5</td>
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- I support street and sidewalk improvements in Mapleton West Neighborhood

Future development in the West Neighborhood should include a neighborhood park

Future development in the West Neighborhood should include owner-occupied houses

Future development in the West Neighborhood should include more rental housing

Future development in the West Neighborhood should accommodate seniors

Future development in the West Neighborhood should include a community garden

Future development in the West Neighborhood should include a recreational trail

Future development in the West Neighborhood should include lighting along streets and walkways

Water problems within the blocks should be solved

Water problems along the street should be solved

Future development in the West Neighborhood should attract new residents to the city

Conclusion from the Questionnaire:

- Many property owners find it difficult to imagine change, but believe steps such as new streets, trails and other amenities would help produce momentum.
- All questions averaged 4.0 or higher, would could indicate a large interest in new development.
- Although most landowners only own the lot which their residence is located, there is still an interest in developing rental and senior housing.
- Housing development is a priority, but public space would be supported in areas that aren’t used as such.
Trend Summary
With the goal of developing a resilient neighborhood, it is necessary to address current issues and to provide framework for future development. Some issues that we identified include the lack of connectivity with the community, a large amount of vacant lots, and a need for more recreational space. These three core issues were at the forefront of the neighborhood design, and thus solutions have been developed. These solutions include increasing the population density to provide a larger tax base and increase the sense of community. With the implementation of the community trail and the complete streets plan, connectivity will no longer be an issue. The west neighborhood can be provided with a wide range of recreational opportunities by programming currently vacant lots.

These guidelines provide the potential for a socially, economically, and environmentally resilient neighborhood.

SUMMARY AND TRENDS TO COMPLETE NEIGHBORHOOD
Studio 3: Places and Partnerships

The local committee and students developed detail studies and worked with the committee to organize resources and outline project logistics fitting for the community.

Previous plans that provide context and history are shared online, in the library, in city hall. Churches and the library helped connect the new class with residents.
ARThUR CARHART TRAILHEAD

STORY OF WATER MOVEMENT

“After seeing the amount of water moving to this site, I think that the WATER QUALITY plan should be considered for the first phase of work.”

“I NEVER REALIZED how much water was on this site, or how it could be treated.”

“This would create a new PERSPECTIVE of water.”

EVAPOTRANSPIRATION RATES (gallons / day): PLANT SPECIES

MAPLE RIVER

DETENTION BASINS

7 DETAINS: 36,637 gal. ←
RETAINS: 12,121 gal.

6 DETAINS: 15,599 gal.
RETAINS: 5,155 gal.

5 DETAINS: 84,923 gal. ←
RETAINS: 28,069 gal.

4 DETAINS: 76,397 gal. ←
RETAINS: 25,250 gal.

BIOSWALE AREA

DETAINS: 43,963 gal.
RETAINS: 12,795.5 gal.
ARThUR CARHART TRAILHEAD

SITE ANALYSIS AXONOMETRIC DIAGRAMS

Storm Water System
This designed system allows stormwater to flow through the water detention area and into the river after entering the river. When the first detention basin fills up, water will flow into the next detention basin through a pipe.

Axis
Two major axes inform the layout of various features, walls, and benches in the design.

Structure
Circular water detention basins treat water and reduce runoff risk before releasing it into the river. The size between the detention area and outside see the water management across the site. Benches are a recycled site element that are used as shelter supports.

ELEVATION AXONS

Elevation Map:
As the green grows, the elevation is increasing in height. The dark green running along the top of the current highways, the highest elevation around. More the river is scanned as its normal height.

Rainstorm Map:
As demonstrated in this map, the area the water is allowed to flow through during a rainstorm has increased. This has allowed greater infiltration and filtering of the water before it enters the river.

River Flooding Map:
When the river floods, water will back up into part of the site until it reaches the bank, at which point it can no longer enter any more of the site. This is because of an engineered check-off where the river during a rain event crosses to the other side to the bank.
Summary of collaborative design

- Over time, planning moved from values, to issues, to analysis, to options and exploration,
- Then to deep technical resolution on infrastructure
- And then to formal development of neighborhood and site scale design
- Community engagement evolved from what do you want to how do we build
- Building capacity while healing occurs
- Building momentum with progressively more complex projects
- Integrates co-learning and communication as foundations for design studio
- Opens up to broad partnerships as projects develop
Imagine, communicate, create… together

Video by students capturing steering committee reflections on infrastructure and open space projects
2: Communication Strategies
Methods for Reaching Residents

- Local media (newspaper, radio station, TV)
- Website
- Established presence at the library
- Newsletter (weekly, monthly, bi-monthly?)
- Mailers in utility bills
- Fliers
- Social media (Facebook, Twitter, Blogs)
- Community kiosk
A communication strategy employing these methods was introduced to the Iowa’s Living Roadways Community Visioning Program (participatory planning process).

A series of follow-up interviews with past participants revealed that committees that made the effort to publicize their activities tended to be more successful implementation than those that didn’t.
## Communication in the Context of Disaster Recovery

### Official
- Announcements of upcoming events posted in City Hall
- Articles published in the local press
- Rebuild and Recover website
- Information access point established in the library (display, notebook, website)

### Social
- Announcements of upcoming events posted in church bulletins
- Letters to the editor
- Rebuild and Recover Facebook page
- Workshops
Social Communication Dimension

The methods that were most effective where those that focused on people and social interactions.
Workshops

Workshops that students conducted in the community were appealing to residents, who “adopted” the students as their own. The setting was personal, non-threatening, and conducive to one-on-one interactions.

Community visioning design workshops offered a similar setting in which residents were encouraged to offer feedback.
Social Media

The Mapleton Rebuild and Recover Facebook page is more popular among residents than the website, indicating that the social aspects of using Facebook are more appealing. Social media is also the venue of choice for youth.
At the same time, maintaining an “official” line of communication is important to ensure that the public is aware of opportunities for input.
The ISU students created a Rebuild and Recover website, which has a prominently displayed link on the city’s website.
Community Visioning in Mapleton

Mapleton has a major opportunity for planning a future. The Iowa Community Visioning Grant has awarded to seven communities in Iowa: Fondu, Gil City, Keota, Lake City, Mton, Ossian, Shellsburg. The Visioning Program partnership between the Department of Transportation Iowa State University Landscape Design Architects Extension and Trees For. In order to qualify for Transportation Enhancement program, a community have a population of 10,000, must have a committee of volunteers willing to dedicate time and talent to the visioning process. Since 1996, are 192 Iowa communities have benefited from visioning process.

City of Mapleton receives $75,000 REAP grant for walking and biking trail

REAP invest in projects that enhance and protect Iowa’s natural and cultural resources. Fifteen percent of REAP is set aside for grants to cities for projects that help establish natural areas, encourage outdoor recreation and resource management.

The City of Mapleton is the recipient of a $75,000 REAP grant for the proposed 18 acre Carhart Conservation area, which is located 100 feet north of the “burn pile” in Mapleton. The system was proposed in previous planning processes involving the citizens of Mapleton. After the tornado, the Rebuild and Recover Mapleton Board looked at a means of bringing healing to the community as it begins a long-term plan for recovery. This project was developed with assistance from Julia Badenhoop, FASLA, Associate Professor of Landscape Architecture. She has provided vast knowledge of recovery opportunities.

Envisioning a rebuilt and better Mapleton

A group of landscape architects from Jeffrey L. Bruce and Company LLC, a Landscape Architecture Firm, from Iowa City held a two-day workshop yesterday and June part of Vision a Rebuild of Recovery and the $75,000 REAP grant for how do we make Mapleton better than it was before the tornado. With Marla Whilnson, With fewer trees, these have been problems with storm water runoff on the west side of the city.

Media Coverage

Ongoing local media coverage kept the efforts of Mapleton Rebuild and Recover “front and center” and part of the public record.
Digital Media in the Context of Disaster Recovery

- In Mapleton, one physical space to exhibit the design work was not available.

- Currently, products are on display at the community center, the library, and on the website.

- The goal is to provide “one-stop” shopping with a comprehensive, online digital archive.
Conclusion

- People need to have access to places/resources that they trust – city hall, public library, committee members

- Hidden, social dimension - churches, Facebook, and other supportive networks are needed to connect with people within their community.

- Communication requires multiple dimensions – one type of communication won’t work

- People need time to process information individually and as a group
3: Investment in Social and Organizational Capital
Organizing Rebuild and Recover

Organizational

- City clerk and three council members are ex officio
- Board has the authority to decide and budget for the city
- Board can secure grants and donations that are held in board account
- City executes fiscal, infrastructure, and land-use tasks with board

Social

- Board membership includes people of diverse means and education
- Includes many directly affected
- Developers and landlords, business, and professionals
- Strong ties to area churches; many couples
Board Roles

- Advocate for well-being and equity
- Reach out to social network
- Directly assist those in need; organize others in community to do the same in sub-groups
- Create and implement a long-term (10- to 20-yr) recovery strategy
- Garner resources with the help of the community to implement the plan
Deep learning and social action

Learning

Doing
Organize others to articulate commitment

Representatives from churches, businesses, civic organizations, and local government offered support for community visioning. Writing authentic letters is a performance of community sentiment and inscribes shared values.
Open meetings, same time and place

Committee meetings include learning and planning, as well as reporting and decision making. All are welcome to attend, but only the most invested stay involved. Solidifies core board members as a working group.
Move quickly to action, in “bite-sized” steps

While still working with the first studio, board member Doug Hageman and members of his church built a community garden to provide food and the healing of gardening to those who lost their homes and experienced extreme trauma.

Demonstrates care, consideration of equity, commitment to action
Symbolic Projects

Some projects perform mainly as a signal that Mapleton is pulling together. A town gazebo on the main road was rebuilt by students at the local high school; plantings of showy native plants restored the area.

Pollinators, color, and scents all reflect the experience of the regional character of the Loess Hills that residents identify with, reflecting place identity.
Mapleton’s new walking trail gets some springtime enhancements

Issues such as storm-water management, drinking water quality, and poor pedestrian connections and access to services and natural areas led to the development of integrated transportation and storm-water systems. The first phase was this walking trail and restoration near the Maple River. Benches were built by high school, gates by local steel works, grading and earth by area farmers, planting by committee and others.
Slow, “deep” development

**Project Partners**
- Residents
- Iowa State
- Trees Forever
- County Conservation and County Health
- Iowa DOT
- Iowa Economic Development Authority

**Mix of grants to date**
- $150K from Iowa DNR
- $75K from Wellamrk Foundation
- $50K from MVAO Schools
- $500K from CDBG
- $80K from Iowa DOT
- $200K donations
Time

Learning

- Committee and community learn together over time
- Social learning – beyond individual – allows community to understand and “vet” ideas
- Application in building and management of new landscapes solidifies knowledge

Action

- From simple but meaningful to complex and meaningful
- Building partnership and capacity with projects
- Phased and asynchronous bite-sized chunks for even large projects; allows multiple actors to participate
Thank you!

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