



**Resilient Public Spaces and Communities: Data Driven Explorations**  
**ACS Manhattan Room**  
**@150 William Street, 19<sup>th</sup> Floor**  
**October 31, 2018, 8:30 a.m. to Noon**

**AGENDA**

**8:45 a.m. – 9:00 a.m.                      Setting the Stage and a Common Vocabulary (Pecha Kucha)**

- Defining Resiliency: Ingrid Stromberg, AREA Research
- Defining the Role of Public Space in Resiliency: Michael Plottel and Anna Torriani, Co-chairs AIA Public Architecture Committee
- Resiliency in Red Hook: Tevina Willis, Red Hook Initiative

**9:00 a.m. – 10:10 a.m.                      Current Ideas and Concepts in Academia and Practice (Framing Panel)**

- Community Engagement for Community Resiliency: David Burney, Associate Professor, Pratt Institute
- Where's the Data?: Gita Nandan, Visiting Associate Professor, Pratt Institute
- What Can the Data Tell Us?: Cassie Branum, AREA Research
- Student-Led Research in Resiliency: Robert Cody, Department Chair, New York Institute of Technology, and Zehra Kuz, Adjunct Professor, Pratt Institute
- Community Outreach for Large Construction (Mega) Projects: Michael Horodniceanu, Professor, NYU Tandon School of Engineering
- Resiliency +: Hana Kassem, Kohn Pedersen Fox and Adjunct Professor, The New School/Parsons  
Moderator: Terri Matthews, Director, Town+Gown

**10:10 a.m. – 11:00 a.m.                      Co-creating Knowledge and Change—simultaneous working group table sessions by topics below**

- What Allows Public Space to Function as Community Resiliency Asset in Both Disaster and Every Day Life?
- Moving from Qualitative Data to Quantitative Data: Where is It and What Can It Tell Us?

**11:00 a.m. – 11:10 a.m.                      Well-Deserved Break**

**11:10 a.m. – 11:45 a.m.                      Reconvening and What's Next?: Reporting Back and Closing Remarks**

**Background.** This symposium event is the next in a continuing series of design-related events in Town+Gown (see <https://www1.nyc.gov/site/ddc/about/town-gown-archives.page#symposia>) and is intended to accelerate the action research cycle by using a new format that involves a brief academic framing presentation and working group break-out sessions each focusing on issues identified in the framing session to tease out what we know, what we don't know and what we need to know in a way that engages the academic community to help provide specific research addressing research gaps.

In 2007, the City's PlaNYC focused everyone's attention on environmental sustainability issues within the city. Since Superstorm Sandy hit the city near the end of 2012—with the influx of federal disaster relief and rebuilding funds—the focus on environmental sustainability was joined, almost overnight, with an equally strong focus on resiliency. While environmental sustainability can be viewed as what we do to the environment and resiliency can be viewed as what the environment does to us, the two are so closely connected to be intertwined.

The focus within the academic design and planning fields also shifted quickly to resiliency, and few other neighborhoods in the city received more intensive academic focus than Red Hook in Brooklyn. The Town+Gown projects that focused on Red Hook are abstracted in Appendix A.

Thus, using the Red Hook as the case study for this symposium event, we will pull together all that has been done to establish the knowledge base and move it forward by exploring and contextualizing resilience in the built environment generally and public space design specifically and identifying issues for future research among the Built Environment disciplines within the Town+Gown community.

Designing resilient public spaces within communities and with communities requires understanding how to make them good for the community (e.g., supporting

community resilience) and effective as resilient designed objects. Public space, in its various forms, is the foundation for creating resilient cities. New York is a perfect example of this. The city's outdoor public spaces—its streets and plazas and its parks—have, for two centuries, allowed it to grow and respond to acute critical events, and weather longer-term chronic stressors. But today, projected environmentally-related forces demand a deeper analysis of the trends and events that have the potential to significantly impact the functioning of the city and its neighborhoods. To begin to address this, we must locate and identify critical data, understand how to use it to evaluate options moving forward, and understand how the public realm provides, to a greater or lesser degree, the lasting framework within which these efforts can progress.

**Piloting Knowledge Co-Creation Sessions.** At this symposium event, Town+Gown is piloting a new format aimed at “real time” co-creation of knowledge to identify what we know, what we don't know and need/want to know to make changes in practice and policy based on research so that Town+Gown can accelerate the action research cycle by:

- Moving Town+Gown research projects to the “thought leader” stage and toward a more systemic form of decision-making, using Town+Gown projects and related symposium events as a point of departure
- Increasing academic synthesis and translation of current work in various areas as research resources

By identifying research gaps that the Gown community knows are important to the city, Town+Gown can work with Gown to focus future targeted research to address those gaps, which constitutes “action” within Town+Gown's action research paradigm. It is also possible, however, that this knowledge co-creation can identify insights to support “action” without additional research.

Soon after this symposium event concludes, Town+Gown will synthesize the work from the working groups as an addendum to the event precis and make it available to those who participated, post it to the Town+Gown website Archives, and create follow-up events, all with a view to developing future targeted identified research projects.

### **Protocol for Working Group/Table Sessions.**

Those attending this symposium event will break into the following groups:

- What Allows Public Space to Function as Community Resiliency Asset in Both Disaster and Every Day Life?
- Moving from Qualitative Data to Quantitative Data: Where is It and What Can It Tell Us?

Using the framing presentations as a taking off point of departure, in each working group:

- Practitioners and Academics share knowledge of what they are doing/would like to do/where known data is (*what we know*)
- Practitioners share knowledge of impediments (city-wide process/organizational issues and regulatory issues) (*what we need to know*)
- Identification of targeted research ideas in the presence of participating academics for future research projects/events in T+G to support

practitioners and for researchers to use back at their schools to show areas that need work

- Also, identification of insights to support “action” without additional research
- All keeping in mind:
  - Role of city/city agencies as owner
  - Role of city/city agencies as regulator within its jurisdiction of its own buildings/infrastructure, privately-owned buildings, industry participants, and markets
  - Role of designers (architects and engineers) and builders
  - Role of communities
  - Data gaps

With the materials made available at each table, each working group will explore ideas in the topic area in some capturable form and present them at the end of the session, with suggestions for next steps for Town+Gown and the working groups.

Each working group can use whatever process they feel will work for it, but should consider assigning members to the following roles:

- sticky note maker + placer on white paper (familiar to those who have been through VE/VA engagements)
- picture taker
- summarizer and/or presenter to reconvened group

**Abstracts of Completed 2103-2014 Town+Gown Projects*****4D BIM Explorations in Design and Construction Management*****Town** NYC DDC**Gown** Pratt/Architecture**Researcher(s)** Students in ARCH 521B/CM 423P, Spring 2014

**Objective:** Inspired by an earlier project based on building information model (BIM) technology, this architecture and construction management multi-disciplinary seminar explored the use of BIM technology by architects and construction managers during the design phase, which is conventionally thought to be the domain of the architect. Super Storm Sandy provided an opportunity to test a “kit of parts” pre-fabricated modular design, construction and procurement strategy to solve physical challenges for local government agencies providing an array of local services in neighborhoods affected by disasters during the medium-to-longer-term period after the event. When “place matters” for emergency service provision, the ability to efficiently construct temporary facilities depends on developing a practicable methodology to mobilize after the immediate emergency by designing, in advance, a suite of building typologies with “off the shelf” components in a way that respects the neighborhood context and addresses constructability and installation issues during design.

**Methodology:** This seminar simulated an interchange between the design process and the construction process, which are often distinct and serial, using virtual design and construction tools as the hub of all exchanges of information during the design phase. BIM permits a high level of interaction among members of the architect, engineer and contractor (AEC) team at an early point of the design process and can link together all AEC team members in a single work flow, resulting in greater accuracy and productivity in building execution. Using two use case study typologies—an administrative office in which human service agencies could co-locate and a muster and storage site for agencies providing infrastructure repair and restoration services—the student teams used several BIM programs to collaborate on the design, cost estimation, procurement, scheduling and installation of prototype temporary structures at vacant sites in Red Hook. BIM scheduling and cost modules incorporated data to increase installation efficiency, and BIM design modules permitted final designs to contain sufficient interior flexibility to accommodate other likely long-term uses.

**Findings:** Six student teams produced three designs for the human services facility and three designs for the infrastructure facility. The students concluded that BIM-enabled multi-disciplinary collaboration permitted them to create more efficient and effective designs with realistic construction implementation methodologies embedded into the designs. The suite of completed designs, with associated schedule and cost data, also provided evidence of the feasibility for local government to create a kit-of-parts design and procurement strategy for post-emergency mobilization across a

spectrum of public services in any neighborhood, with neighborhood context, fabrication and standard site issue solutions reflected in the designs.

**Next Steps:** Future research to advance public construction applications were raised in this seminar, as the use of BIM technology in the design and construction industry continues to expand.

### ***Sustainable Communities: Making the Invisible Visible***

**Town** NYC DEP and NYC DDC

**Gown** Pratt/Graduate Center

**Researcher(s)** Students in Sustainable Communities, Fall 2013

**Objective:** This seminar explored the use of communication design to make the “invisible” visible and communicate facts related to the public right of way (PROW). Millions of New Yorkers encounter infrastructure projects in the PROW every day as they navigate the City. These projects would benefit from further explanation since the intention of either the design and construction process or the physical manifestation of the project may not be directly visible to the passerby. These countless interactions represent moments of opportunity for the City to engage, inform and elicit feedback from its communities. Good signage, a definition explored during this seminar, can help provide this explanation and render casual, everyday interactions into teaching moments with the potential to increase public awareness and stewardship of elements in the PROW.

**Methodology:** While the original intent of the seminar was to focus generally on signage for conventional infrastructure projects, the intervention of Super Storm Sandy on the case study neighborhoods—Red Hook, The Rockaways and Coney Island—moved attention away from construction-related communications toward comprehensive communications approaches for local planners to build and maintain sustainable communities in the context of likely environmental emergency situations. With assistance from City agencies and using the types of signage currently in place, the student teams generated prototype communication design projects aimed at increasing community outreach and educating with respect to sustainability in neighborhoods recovering from breaches in resiliency.

**Findings:** The Coney Island project used Kaiser Park as the site of an interactive signage system to communicate the need for coastal infrastructure due to the vulnerable nature of the shoreline and its effect on the community. The Red Hook project used NYC DOT’s “Look” campaign, a signage project aimed at increasing environmental awareness in crosswalks, as the foundation for their model to bring attention to green infrastructure projects in Red Hook, providing educational opportunities for communities to learn about how the City manages storm water during large scale rain events and how individuals can make changes in their everyday lives to ameliorate some of the negative impacts of rain events on the eco-system. The Rockaways project proposed a connected network of interactive community information resource stations, which included way finding during emergencies and a linked governmental outreach and community engagement emergency response mechanism and with

educational features, to make climate change preparedness visible and provide useful climate change-related information that supports community engagement.

**Next Steps:** Future research, including subsequent iterations of this seminar, can focus on communication design to expand the ability of City agencies with PROW projects to communicate basic facts about the infrastructure projects as well as connect these projects to broader facts such as environmental sustainability and resiliency.

### ***Mapping Red Hook/Red Hook HUB: A Creative Placemaking Project***

**Town Amplifier/MGMT\***

**Gown Pratt/Communications Design**

**Researcher(s)** Students in Design Advocacy: Creative Placemaking, Spring 2014

**Objective:** AIGA/NY's *Design/Relief Red Hook HUB: A Creative Placemaking Project* was supported by research conducted by a communications design studio entitled *Mapping Red Hook*. The overall Design/Relief initiative piloted an experiment in community-centered, participatory design process, engaging with three waterfront neighborhoods, one of which was Red Hook, to demonstrate how designers can work with individual communities to enable them to imagine a more vibrant future as they moved to overcome the lingering impact of Super Storm Sandy.

**Methodology:** The underlying hypothesis for both the initiative and studio is that increasing communications at the neighborhood level will lead to more resilient neighborhoods during and after an emergency situation. In order to investigate existing community assets in Red Hook that would increase communication and celebrate its strong neighborhood identity, the research team began to measure space and understand the neighborhood at a street level. Using a human-centered approach, the team strategically applied various methodologies, such as spatial patterns mapping, ethnographic research, prototyping, tracking/measuring user experience, water tables, automotive/pedestrian traffic data and interviews, in order to identify five Red Hook locations that were most likely to draw the highest number of people from its diverse demographic profile. Simultaneously, the *Design/Relief Red Hook HUB* team conducted its own research, team building and concept development processes in collaboration with community representatives, holding community design charrettes and workshops and engaging in numerous conversations with community members and stakeholders to develop a design, similar to the traditional bulletin board, for a community-centric and community-generated information system.

**Findings:** The *Mapping Red Hook* team identified five locations—NYCHA Miccio Center, the public library, another NYCHA recreation center, Fort Defiance and Coffey Park—that their research suggested would draw the highest number of Red Hook residents to the eventual communication infrastructure developed by the *Design/Relief Red Hook HUB* team. The *Design/Relief Red Hook HUB* team designed a physical communication object—the HUB—in conjunction with a sustainable operational protocol that was intended to take in, filter and share information supplied by Red Hook residents. The design for the

HUB's public interface consisted of physical posting boards, split into sections, including a traditional bulletin board area and a curated posting area, digital displays and mini HUBlets that would feature an edited selection of most important messages culled from the larger system. The HUB elements were designed, based on community identified needs, to function both during times of crisis and non-crisis, and a committee made up of designated partners undertook to oversee the HUB's ongoing operations.

**Next Steps:** The HUB was fabricated and is located in front of the Miccio Center, one of the sites identified by the Mapping Red Hook Team. Its design contains elements with potential for adaption and incorporation as a communications tool on future Town+Gown projects. *Mapping Red Hook* also serves as open-source tool to support future research projects ([mappingredhook.prattgradcomd.com/](http://mappingredhook.prattgradcomd.com/)).

*\* Building Ideas abstracts projects that originated outside Town+Gown that relate to existing research questions or projects. Since projects like this can provide the foundation for future research projects within Town+Gown, they are captured in Building Ideas.*