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Aalaa Mohammed

*CUNY New York City College of Technology.*

Jude R. Vallon

*CUNY New York City College of Technology*

Calvin O. Walters Jr.

*CUNY New York City College of Technology*

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# Investigating Project Success Factors in Post-Disaster Rebuilding Efforts in NYC

Group Members: Aalaa Mohammed, Jude Vallon, Calvin O. Walters Jr.

Professor Anne Marie Sowder

Department of Construction Management and Civil Engineering Technology  
New York City College of Technology, CUNY



## ABSTRACT

On October 29, 2012, Superstorm Sandy caused nearly \$19 billion in damages in New York City including damage to 69,000 residential units. A precipitated amount of roughly \$4.2 billion in Community Development Block Grant was allocated towards PDR construction. These funds addressed a range of needs, including rebuilding and rehabilitating housing, assisting displaced tenants, and providing aid to businesses. Post-Disaster Rebuilding (PDR) is similar to construction in the modification of an existing facility that involves either renovation, additions, or subtractions to scopes of work to assist the overall performance of the facility. However, PDR goes further in a highly coordinated process involving planning for future disaster events, integrating a temporary facility plan for those displaced, and tackling housing issues for all those affected by natural disasters. PSF (project success factors) consist of activities or elements that are required to ensure the successful completion of the project. Researchers have discussed literature PSF for PDR projects on topics including the importance of shared data modeling for interdisciplinary exchange of information for effective communication and risk reduction, formulating a holistic PDR approach that can be effective and adaptable to future reconstruction efforts (and inclusive of all stakeholders), and assessing the experience levels of all team members. However, existing research into the assessment of the goals for PDR projects is limited, warranting an investigation of construction success factors as it applies to PDR efforts to improve equitable community resettlement and sustainable and resilient structure.

A review of the literature was generated to identify accepted project success factors in construction projects, such as the case study of PDR response to Hurricane Sandy in New York City, in helping to identify common themes for success factors. Specifically, three areas will be examined from the case study: 1) Strategy/planning, 2) Resiliency and 3) Communication. Implementing these strategies in PDR projects will assist in the further understanding and success of reconstruction projects in this field of work.

## METHODOLOGY

- 1 Reviewed literature to identify key themes for project success factors for PDR projects.
- 2 Used case studies from PDR in NYC for Hurricane Sandy and applied these tools for analysis of PDR success.
- 3 Compared case study findings against key themes from literature.

## DISCUSSION

The ability to rebuild, rebound, and recover efficiently and quickly as possible is a critical part of PDR. Revisions in codes guides the professionals in ensuring an enhanced factor of safety rebuilding in at-risk zones of the cityscape. The disaster in severely battered infrastructure, very little left to be salvaged or restored. It also created an opportunity for innovative research designs and "future city" projects such as the Living Breakwaters to be incorporated into the PDR effort, thus rebuilding a more resilient and sustainable city. Impact of low-income residents revealing the demand for equitable communication strategies in promoting a community-based empowerment initiative. Through integration with contactor-based performance goals, total project quality becomes the driving principle towards success.

## RESULTS

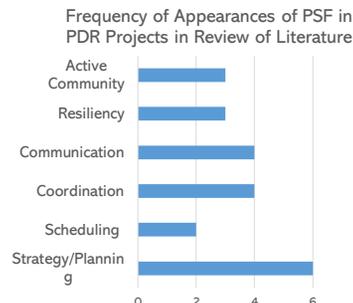


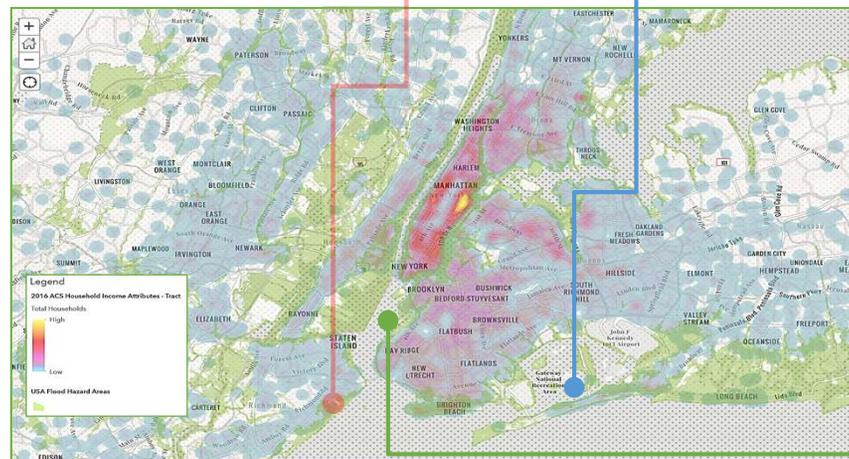
Figure 1: PDR PSF themes that were mentioned in relevant literature and the number of times each appeared in 6 articles.

### KEY THEMES APPLIED TO CASE STUDY

Severe damage to aging infrastructure prompted building codes and zoning revisions - *Strategic Planning*

Mitigation of existing cityscape being overtaken by future natural disaster would also require innovative designs such as the Living Breakwater Project - *Resiliency and Sustainability*

Outreach to local communities following Hurricane Sandy found that 64% of registered households for federal assistance in New York City were low-income, further exposing the residents are of permanent displacement - *Equitable Communication*



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## CONCLUSION

In final analysis, strategic planning, proper scheduling, communication, and resiliency are some of the top PSFs that should be implemented in PDR, to coordinate projects effectively. Active community participation and stakeholder engagement also play a vital role in PDR decisions as it allows the public to offer opinions on their built communities and stakeholders to offer professional insight on the projects at hand, allowing for proper decision-making and PSF integration. The findings strongly suggest that PSFs are key resources and skills that determine the successful implementation of a project in terms of its direction and benefits and proposes that stakeholders and project managers should consider these factors for best practices when managing PDR projects.

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