Local Planning Networks and Neighborhood Vulnerability Indicators

- PI: Philip Berke, Texas A&M
- Co-PIs: Galen Newman and Walter Peacock, Texas A&M
- Engagement Lead: Jaimie Masterson
- Students: Matt Malecha, Mallini Roy, Siyu Yu

Coastal Resilience Center PI Meeting, 2/28-31 2018
University of North Carolina
Chapel Hill, NC

Advisory Board

MEMBERS

- Chad Berginnis, CFM- Association of State Floodplain Managers, Executive Director
- Darrin Punchard, AICP, CFM- Punchard Consulting
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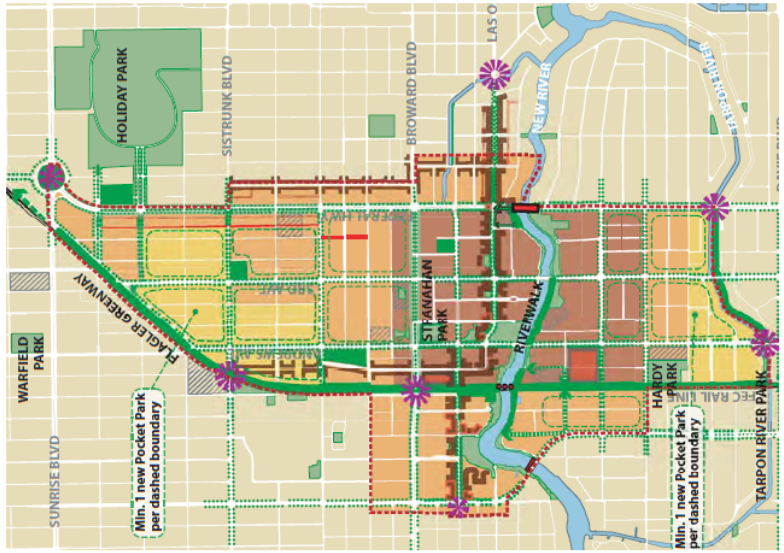
- Jennifer Ellison- City of Urbandale, Community Development Director
- Allison Hardin, CFM- City of Myrtle Beach, Planner and Coastal Hazards Education Specialist
- FEMA, National Coordinator for Community Recovery Planning and Capacity Building Recovery Support Function
- Michele Steinberg, National Fire Protection Association, Wildfire Division Manager
- Rich Roths- URS Corporation, Principal Planner
- Barry Hokanson, AICP- PLN Associates, President of the American Planning Association Hazard Mitigation and Disaster Recovery Division (APA-HMDR)

ACTIVITIES

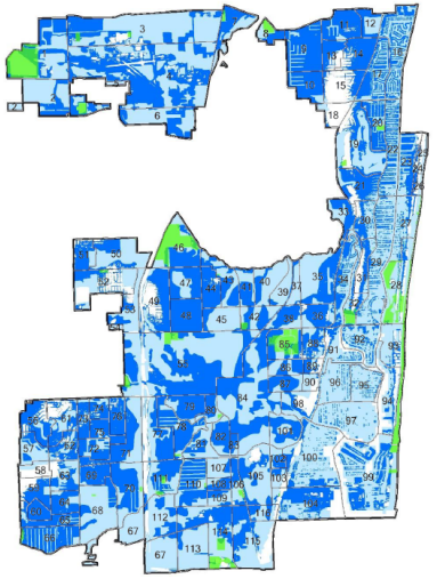
- Meetings
  - May 16, 2016
  - July 14, 2016
  - Oct 17, 2016
  - Jan 5, 2017
- Objective:
  - Offer feedback on the scorecard and guidebook
- Outcomes:
  - Guidance and leadership to oversee the process.
  - Guidance for low-capacity communities.
  - Connected scorecard with other agency initiatives.
  - Framed physical and social vulnerability so communities could utilize existing resources.
  - Refined the visually appeal of guidebook.

Networks of Plans

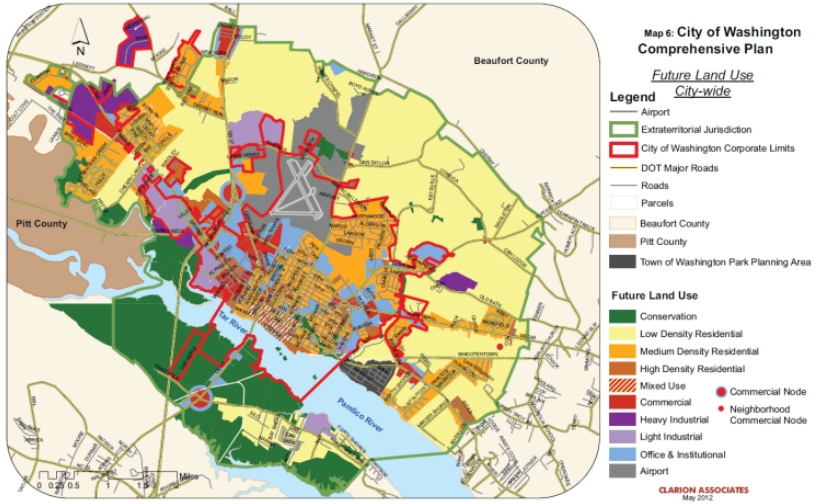
- Communities adopt a plethora of plans that require collaboration.
- Mitigation planning viewed as disconnected from other urban planning initiatives that influence development in hazard areas.



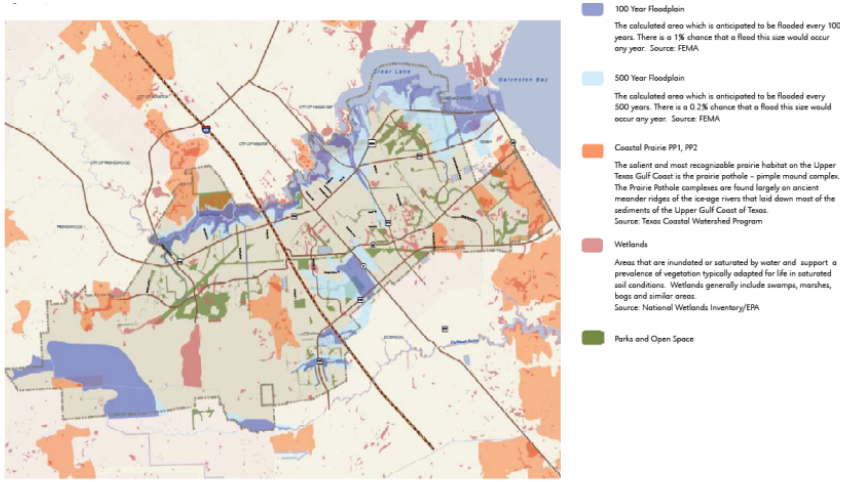
Ft. Lauderdale Downtown Area Framework Plan



Ft. Lauderdale Future Park Plan



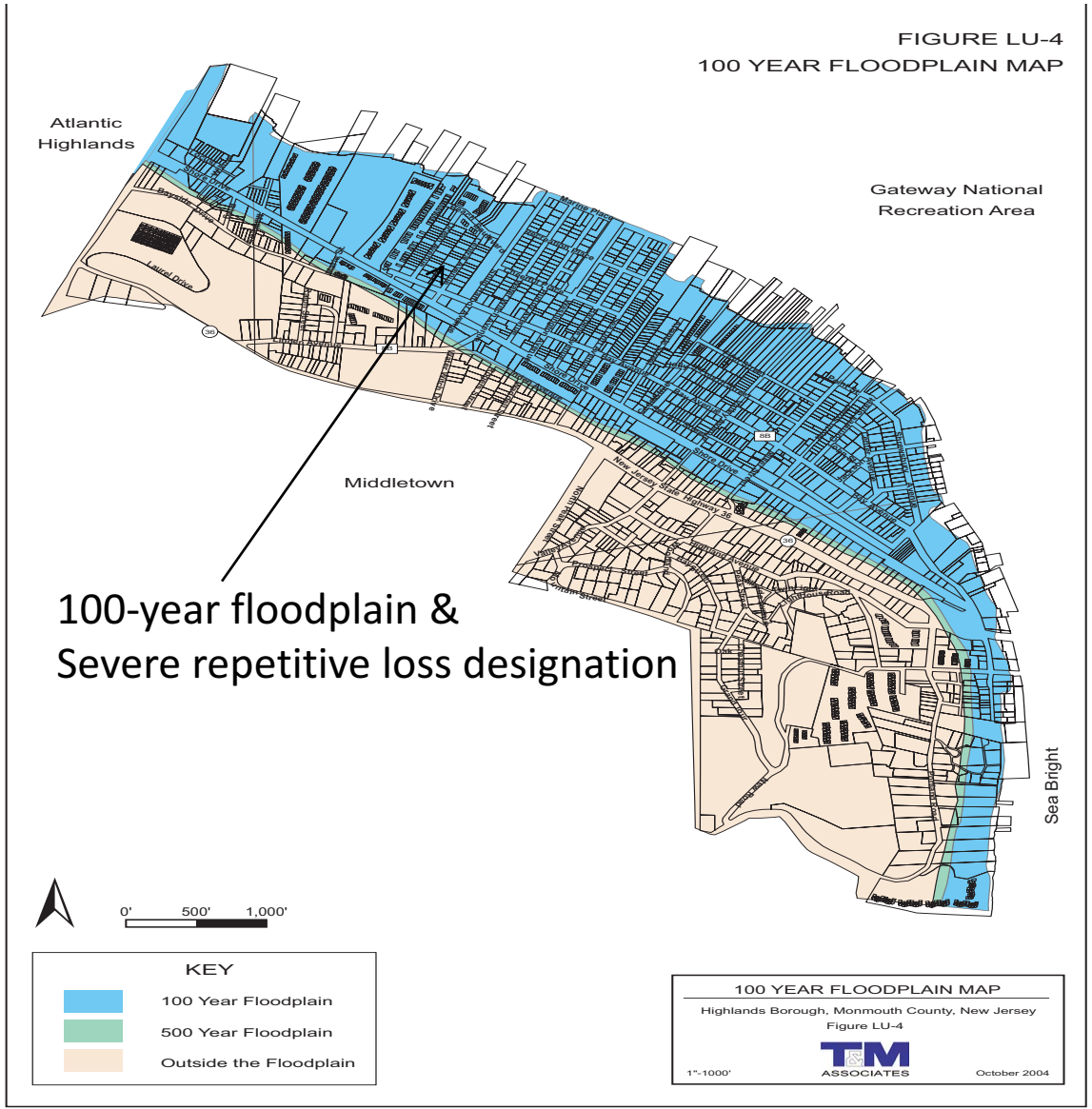
City of Washington, NC Comprehensive Plan



League City Open Space Plan

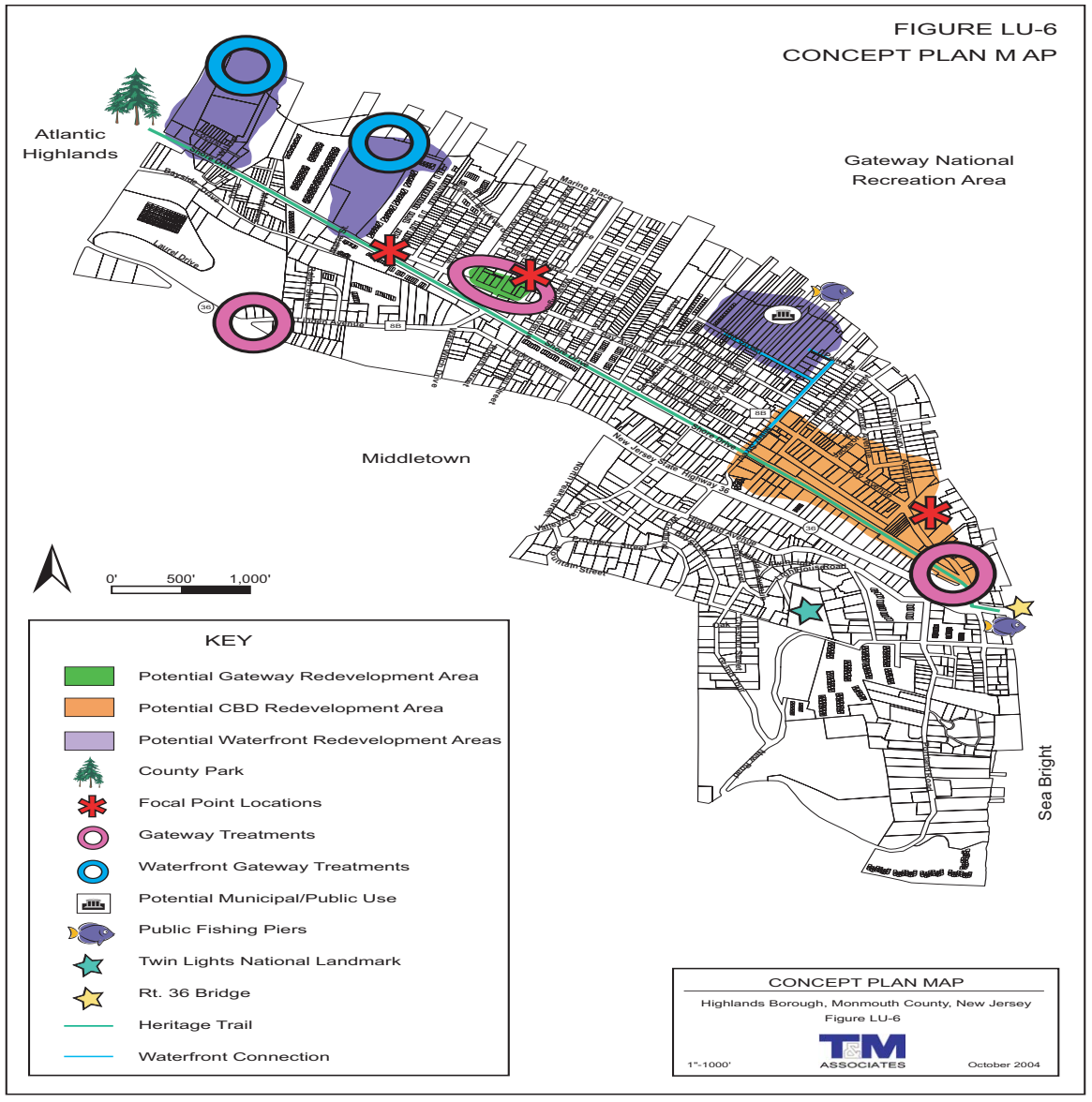
NJ Municipality: Before Hurricane Sandy: Opposing Intentions?

Hazard Mitigation Plan



100-year floodplain &
Severe repetitive loss designation

Comprehensive Plan



Project Objectives

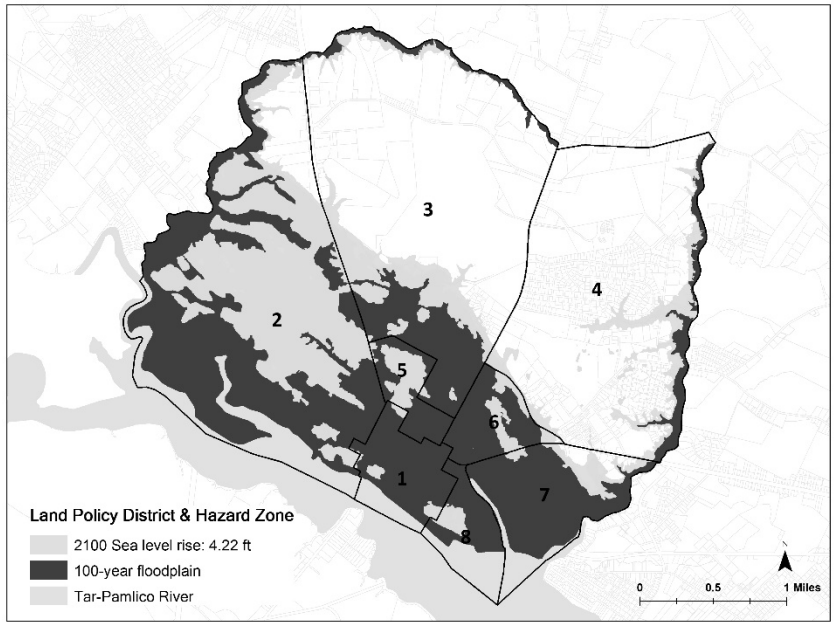
Develop and apply a resilience scorecard:

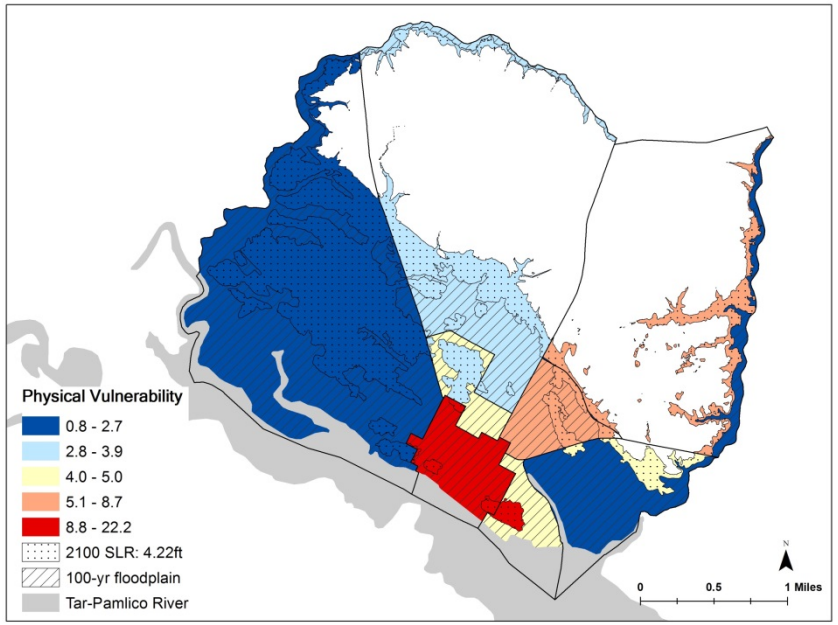
1. To spatially evaluate the coordination of local networks of plans.

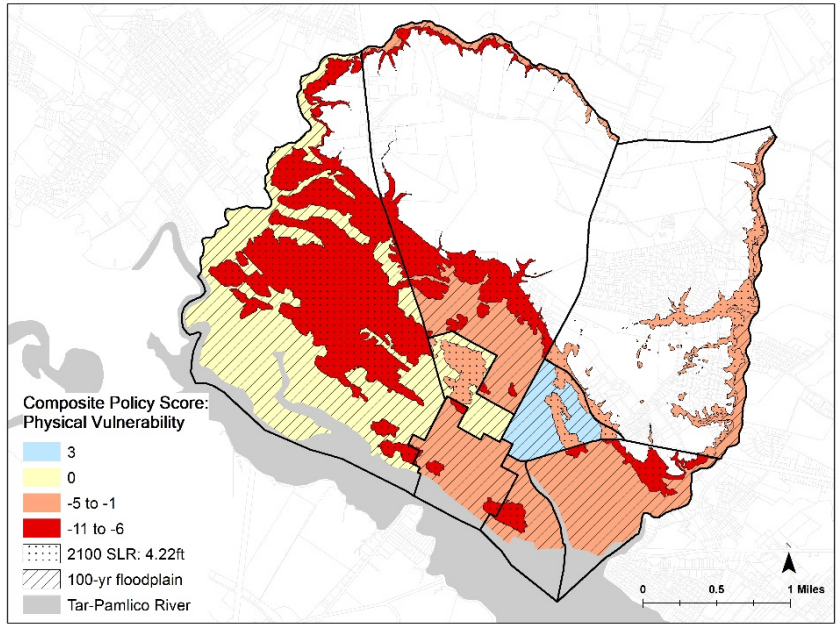
1. To spatially assess the degree to which the network of plans targets areas most physically and socially vulnerable.

2. To develop a ”how to guidebook” in collaboration with communities to evaluate networks of plans.

Plan Integration for Resilience Scorecard
(Physical Vulnerability)







Phase 1

Delineate districts and hazard zones

Phase 2

Determine vulnerability

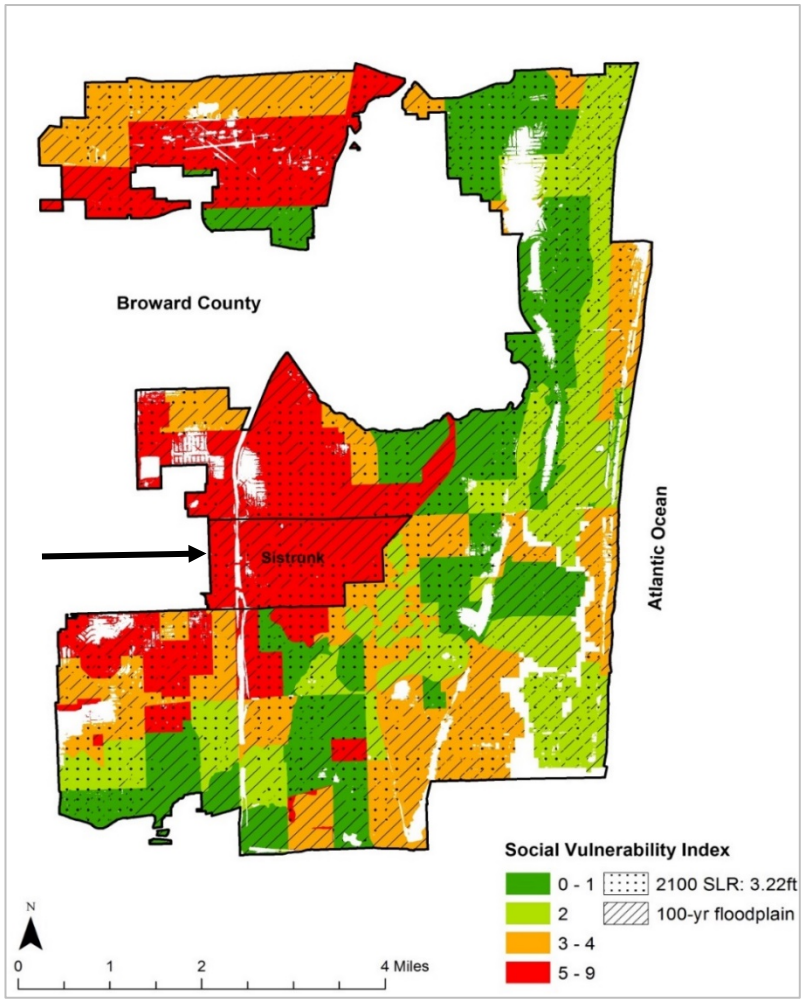
Phase 3

Score plans

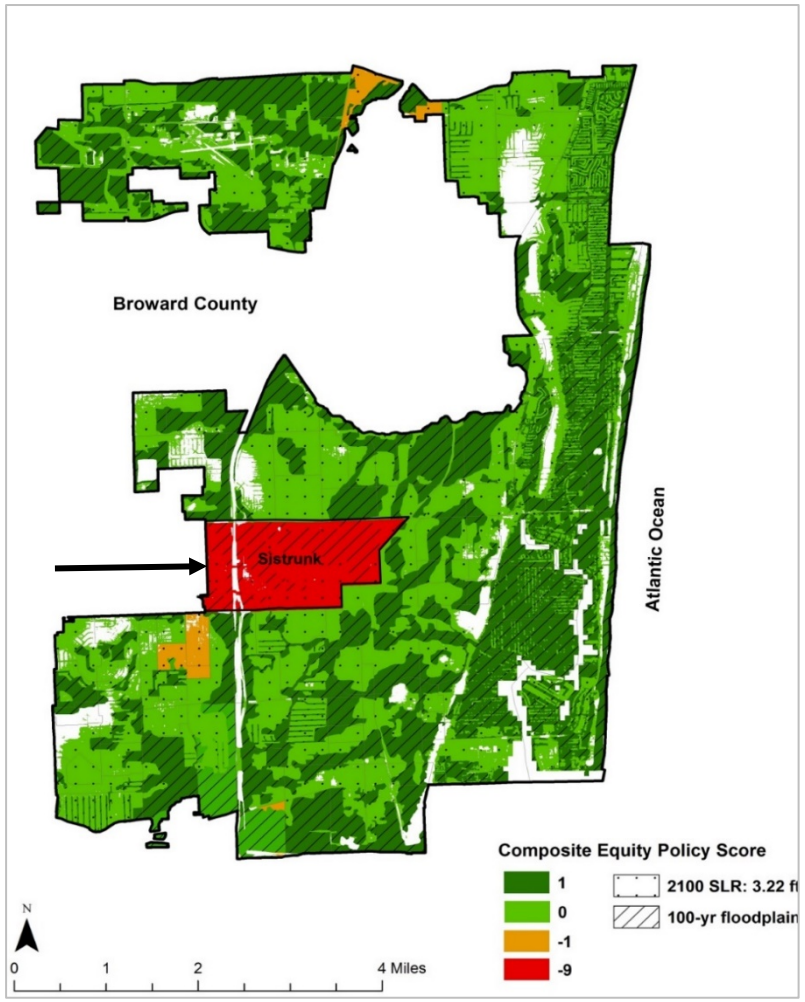
Source: Berke, P. et al. 2015

Sistrunk Neighborhood: Ft. Lauderdale, FL

High Social Vulnerability



Low Equity Mitigation Policy Score



Enterprise Zone Policies

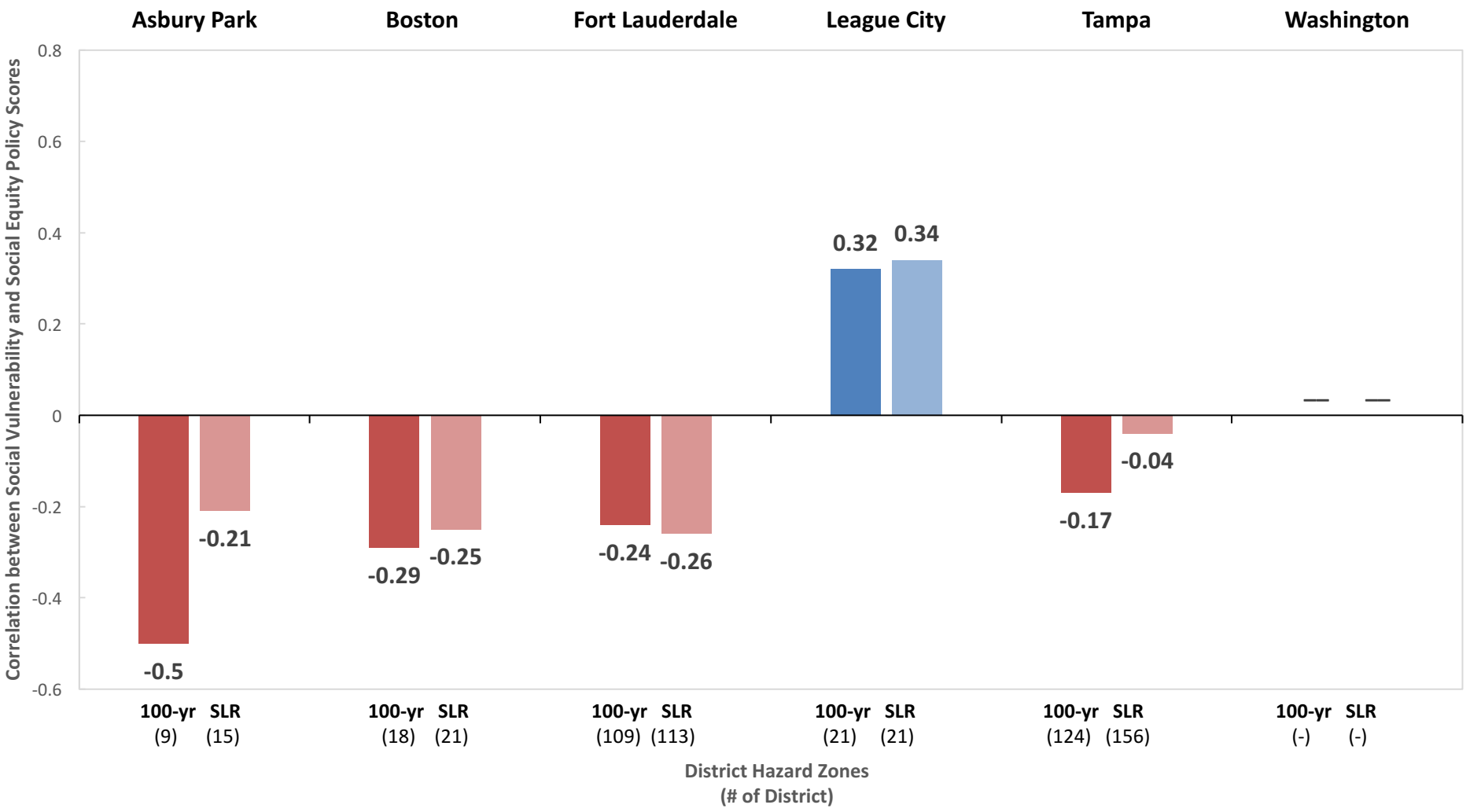
-tax credits

-low-interest loans

-tax increment financing

-infrastructure investments

Correlation between Social Vulnerability and Social Equity Policy Scores for Plans in Six Cities (*Pearson's r*)*



*Negative r means that weaker policy scores are associated with higher social vulnerability.

Publications

- Berke, P., G. Neman, J. Lee, T. Combs, C. Klosna, and D. Salveson. 2015. Evaluation of Networks of Plans and Vulnerability to Hazards and Climate Change, *Journal of the American Planning Association*, 81(4): 287-302. (Best Article of the Year Award, American Planning Association)

- Berke, P., M. Malecha, S. Yu, J. Lee, J. Masterson. 2018. Plan Integration Scorecard for Resilience: Evaluating Networks of Plans in Six Coastal Cities, *Journal of Environmental Planning and Management* (forthcoming)

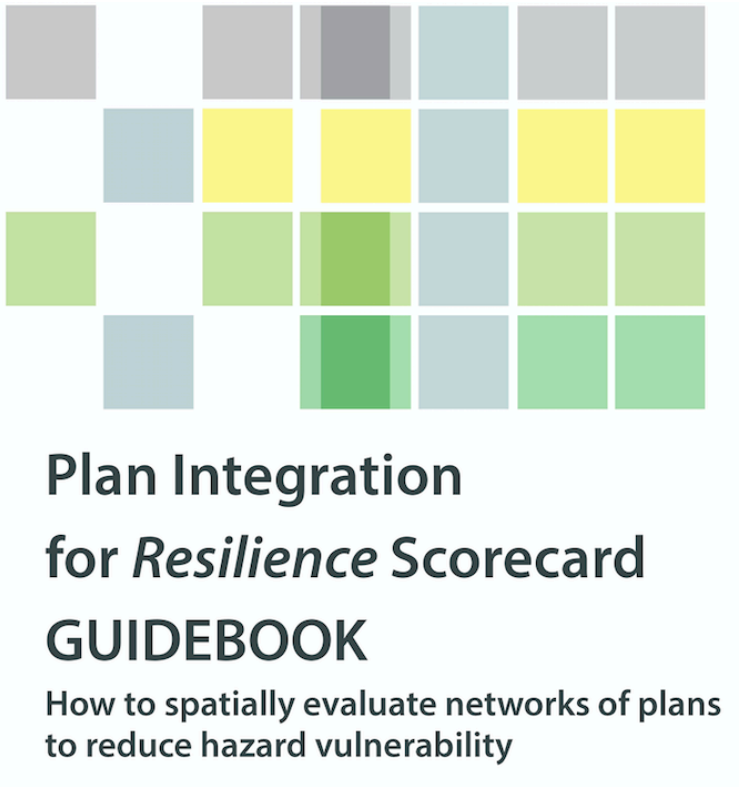
- Berke, P. J. Cooper, S. Yu, J. Lee, J. Masterson. Do Plans Pay Attention? Social Vulnerability and Networks of City Plans, *Nature Climate Change* (under review)

- Malecha, M., N. Brand, J. Masterson. Spatially Evaluating a Network of Plans and Flood Vulnerability Using a Plan Integration for Resilience Scorecard: A Case Study in Feijenoord District, Rotterdam, the Netherlands *Land Use Policy* (under review)

Doctoral Dissertations

- Matt Malecha, Urban & Regional Science
- Siyu Yu, Urban & Regional Science
- Mallini Roy, Urban & Regional Science

Translating Research to Practice



Technical Assistance Tasks:

1) Indicators of integration of mitigation
2) Identify conflicts and opportunities
3) Vulnerability assessments

Participatory Tasks:

1) Willing partner communities
2) Staff participate in training sessions
3) Self-evaluate plans, seek public input, draft revisions

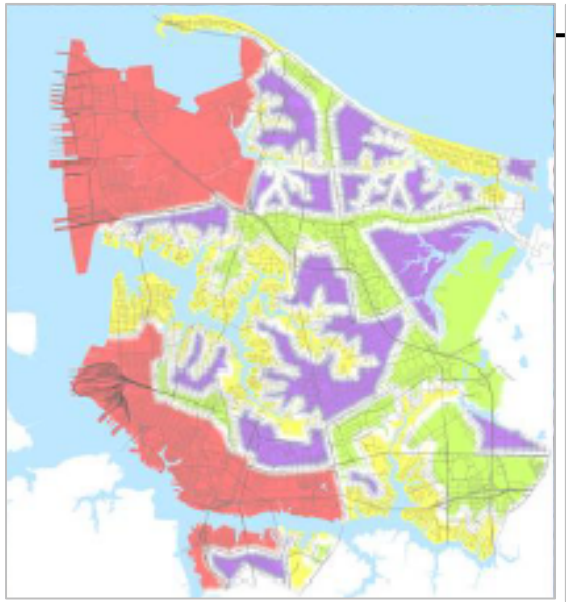
High Tide, Norfolk

©Will Parson, Chesapeake Bay Program, 2015.

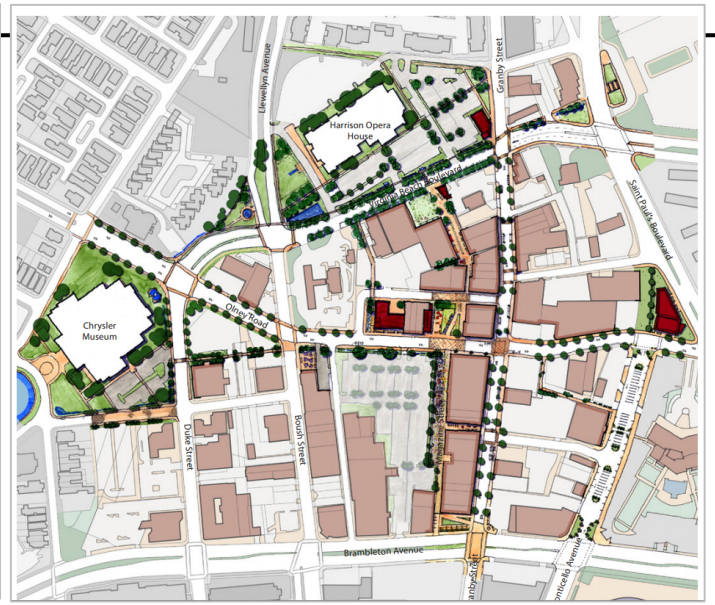
Motorists drive through so-called nuisance flooding in Norfolk, Virginia..

Example of End User Outcome: Network of Plans in the City of Norfolk

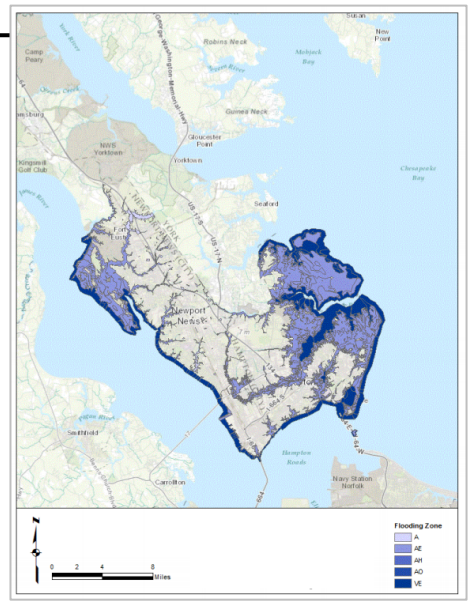
Plan Type	Lists of Plans (Year Adopted)
Comprehensive Plan	1. PlaNorfolk 2030: The General Plan of the City of Norfolk (2016 update)
Mitigation Plan	2. Hampton Roads Hazard Mitigation Plan (2016)
	3. Sand Management Plan Guidance Document (2016)
Resilience Plan	4. Norfolk Vision 2100 (2016) Rockefeller Foundation
Small Area Plans	5. Downtown Arts and Design District Revitalization Strategy (2013) 6. Military Circle / Military Highway Urban Development Area: A Vision for the Future (2017)



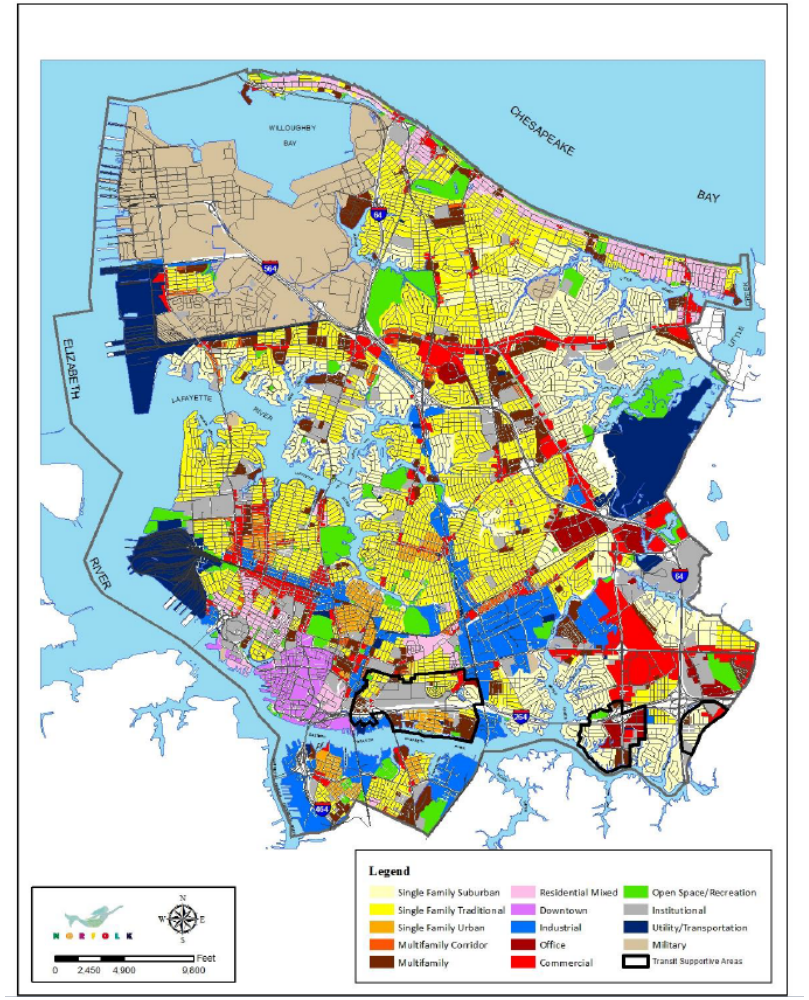
Norfolk Vision 2100



Downtown Arts and Design District Revitalization Strategy

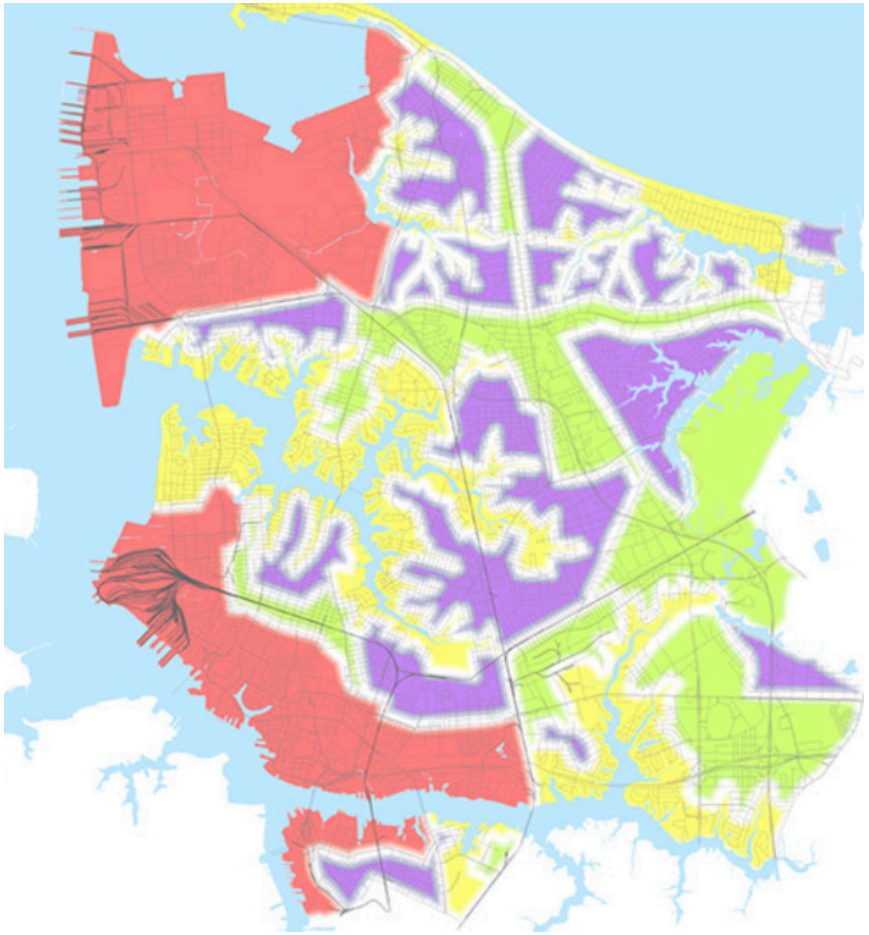


Hampton Roads Hazard Mitigation Plan

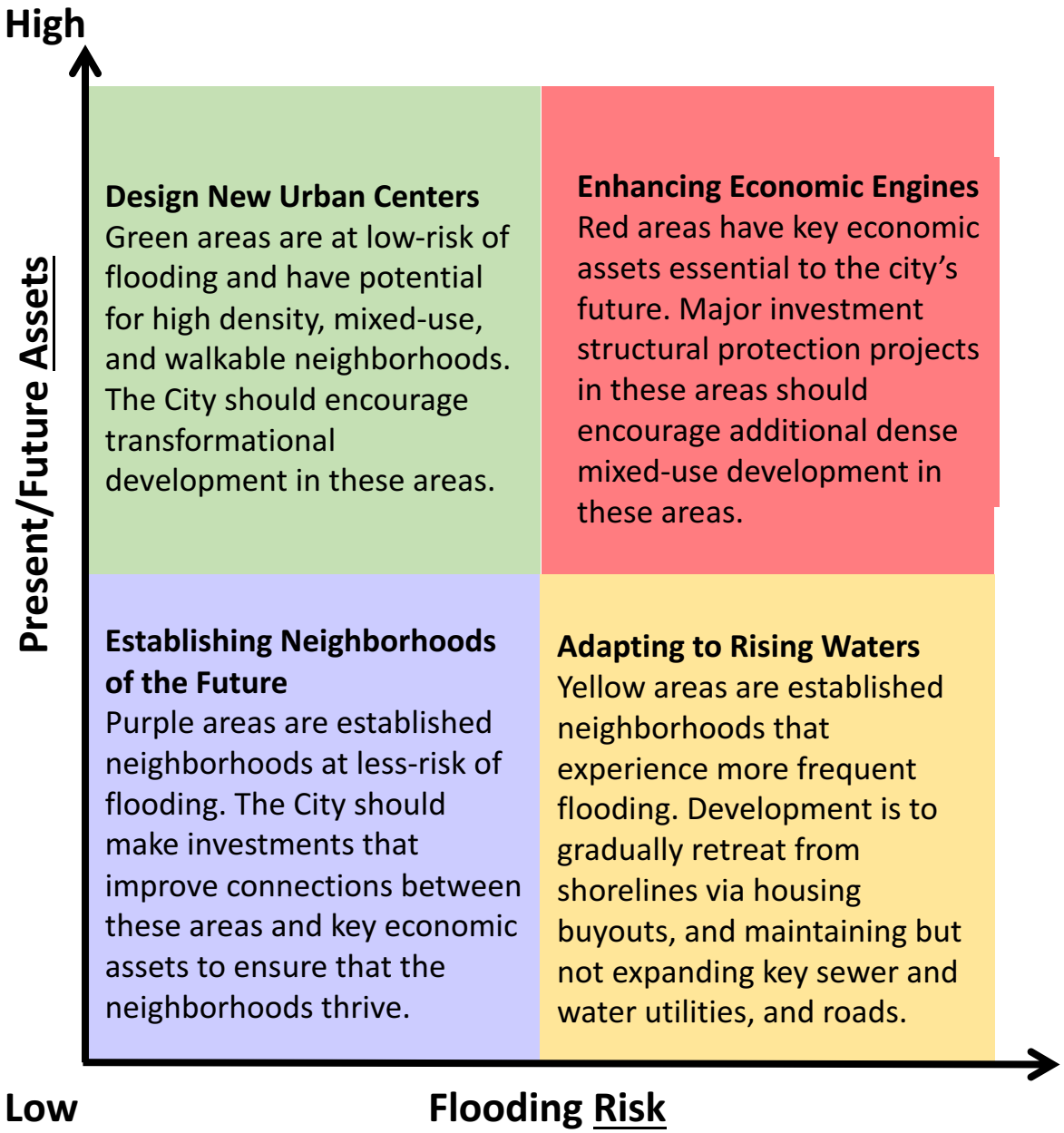


PlaNorfolk 2030

Norfolk, Virginia's Vision 2100 includes land use strategies to address long-term vulnerability to coastal hazards and sea level rise.



Adapted from www.norfolk.gov.



Project Impact

- "The Resilience Scorecard was a great tool to allow us to evaluate our existing plans and policies...Following our participation in scoring Norfolk's plan, we undertook a major plan amendment to more fully incorporate our Hazard Mitigation Plan as a key element in our comprehensive plan. As we kick off the drafting of our next comprehensive plan later this year, we plan to revisit our scores from the Resilience Scorecard to better guide future development and investments."

  – George Homewood, FAICP, CFM, Planning Director, City of Norfolk

NORFOLK, VA: ENGAGEMENT AS END USERS

Team/users:

- George Homewood, FIACP, CFM- Director of City Planning
- Paula Shea, AICP- Principal Planner
- Jeremy Sharp, AICP- Principal Planner
- Steven Pyle- Assistant Emergency Manager
- Matt Straley- GIS Coordinator
- Katerina Oskarsson, Deputy to the Chief Resilience Officer of 100RC

Activities/contributions

- Initial training, Dec 2016
- Monthly check-in meetings (Jan-June 2017, and Sept 2017)
- Scorecard complete, June 2017
- Adopted amendments to plans based on scorecard, June 2017
- Adopted “Resilience Quotient” within ordinances, Oct 2017
- Excepted to use comprehensive plan update in 2018

LEAGUE CITY, TX: ENGAGEMENT AS END USERS, POST-HARVEY

Team/users

- Mark Linenschmidt, AICP- Senior Planner
- Korrie Becht- Long Range Senior Planner
- Kris Carpenter- Planning Manager
- Ryan Edghill- Emergency Management Coordinator
- Chanel Jones- Assistant Emergency Management Coordinator

Activities/contributions

- Initial training, Nov 2016
- Second training and follow-up meeting, April 2017
- Follow-up meeting Post-Hurricane Harvey, Nov 2017
  - Scorecard evaluation is 75% complete
- In 2018, expected to use scorecard:
  - To update comprehensive plan
  - To identify Harvey impact zones as hazard zones in analysis

LA GRANGE, TX: ENGAGEMENT AS END USERS, POST-HARVEY

Team/users

- Texas Target Communities Program
- Scott Byler, Economic Development Director
- J. Paul Bruhn, Pastor of Methodist church and leader for recovery

Activities/contributions

- Initial comprehensive planning kick off, June 2017
- Meeting post-Hurricane Harvey, Oct 2017
- Using scorecard to inform comprehensive plan (ongoing)
    - Harvey-impact area as a hazard zone in analysis
    - Testing scorecard in recovery context

Association of State Floodplain Managers webinar (1,000 participants)

Thank you for joining us for:

Plan Integration for the Resilience Scorecard

October 4, 2017
2:00pm - 3:30pm Central Time

Presenters

Jaimie Hicks Masterson, AICP
Institute of Sustainable Communities, Associate Director
Texas A&M University
jmasterson@arch.tamu.edu

Philip Berke, PhD
Institute of Sustainable Communities, Director
Texas A&M University
pberke@arch.tamu.edu

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Slides:
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Handouts:
Guidebook for Plan Integration
Scorecard Template
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Transcript Q & A / Comments:
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For Past & Future Planning Information Exchange (PIE) Webinars:
https://www.planning.org/nationalcenters/hazards/planninginformationexchange/

https://www.planning.org/nationalcenters/hazards/planninginformationexchange/

Additional Outreach Activities

2016:

- APA-HMDR website, LinkedIn, newsletter
- Model Forest Policy Program (MFPP) monthly webinar Sept 2016
- APA Hazard Mitigation and Disaster Recovery Division, host scorecard application session at annual conference, April 2016

2017:

- American Planning Association Conference in New York session, May 2017
- National Hurricane Conference session, April 2017
- Natural Hazards Conference, July 2017
- New Jersey Workshop, August 2017
- Association of State Floodplain Managers host quarterly webinar of 1000 participants, October 2017

2018:

- FEMA PrepTalk, January 2018
- TX Sea Grant Training, Feb 2018
- National Hurricane Conference session, March 2018
- Island Press Blog
- Gulf Coast Climate and Resilience Community of Practice Annual Meeting, May 2018

Anticipated Project Impact

What difference will it make to end users?

- Eliminate duplication of effort.
- Promote economic development.
- Equitably reduce vulnerability across neighborhoods.

Examples of Quotes from Advisory Board Members

- “This is the next generation of FEMA guidance. This is proof of concept.”
- “The local impact of this is incredible. For larger cities, there are so many layers to pull back and this helps you do that.”
- “Really love the spatial aspect of plan integration.”
- “The Plan Integration for Resilience Scorecard is so important because it looks at everything. Too often communities want to silo...”
- “This should be the gold standard for CRS requirement 510.”

Proposed Follow-on Work

EXPAND SCORECARD CAPABILITIES

- Integrate with federal programs
  - NIST - Community Resilience Planning Guide
  - FEMA - Community Rating System
- Disaster recovery
- Business continuity and economic development
- Link to ordinances, infrastructure investments
- Additional hazards
  - wildfire, drought, seismic