



Department of
Environmental
Conservation

Community Risk and Resiliency Act

Guidance for Consideration of Flood Risk in
Smart Growth Public Infrastructure Assessment

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Community Risk and Resiliency Act Summary

New York State enacted the Community Risk and Resiliency Act (CRRRA) in 2014. The purpose of the law is to ensure that certain state funding, facility-siting regulations, and permits include consideration of the effects of climate risk and extreme weather events.

The CRRRA includes five major provisions:

1. Adoption of science-based sea-level rise projections
2. Consideration of sea-level rise, storm surge, and flooding (coastal and inland)¹ in facility siting, permitting, and funding
3. Inclusion of mitigation of sea-level rise, storm surge, and flooding in the list of Smart Growth Public Infrastructure Policy Act criteria
4. Development of model local laws to enhance community resiliency
5. Development of guidance on the use of natural resources and natural processes to reduce risks

CRRA and the Smart Growth Public Infrastructure Policy Act

CRRA amended Environmental Conservation Law (ECL) Article 6 (Smart Growth Public Infrastructure Policy Act [SGPIPA]) to add mitigation of risk due to sea-level rise, storm surge, and flooding to the list of smart growth criteria used to evaluate public-infrastructure projects.

The SGPIPA, enacted in 2010, aims to shift state spending on transportation, sewer and water treatment, water, education, housing, and other publicly supported infrastructure projects away from sprawl and toward compact development that conserves resources. The SGPIPA originally established 10 smart-growth criteria to be used by state public infrastructure agencies when approving, undertaking, supporting, or financing public infrastructure projects.

The 10 criteria originally included in the SGPIPA are as follows:

- To advance projects for the use, maintenance, or improvement of existing infrastructure
- To advance projects located in municipal centers
- To advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan, and/or brownfield opportunity area plan
- To protect, preserve, and enhance the state's resources, including agricultural land, forests, surface and groundwater, air quality, recreation and open space, scenic areas, and significant historic and archaeological resources

¹ As CRRA does not differentiate among various types of flooding, e.g., coastal, fluvial, pluvial, this document, and all other guidance developed pursuant to CRRA addresses all types of flooding occurring in New York.

- To foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, diversity and affordability of housing in proximity to places of employment, recreation, and commercial development and the integration of all income and age groups
- To provide mobility through transportation choices, including improved public transportation and reduced automobile dependency
- To coordinate between state and local government and intermunicipal and regional planning
- To participate in community based planning and collaboration
- To ensure predictability in building and land use codes
- To promote sustainability by strengthening existing and creating new communities that reduce greenhouse gas emissions and do not compromise the needs of future generations, by, among other means, encouraging broad-based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain its implementation

CRRA added an eleventh smart-growth criterion to the SGPIPA:

- To mitigate future physical climate risk due to sea-level rise, storm surges, and flooding, based on available data predicting the likelihood of future extreme weather events, including hazard risk analysis data, if applicable

The Climate Leadership and Community Protection Act

The Climate Leadership and Community Protection Act (CLCPA) amended CRRA to expand the scope of climate hazards that must be considered by applicants to certain Department of Environmental Conservation (DEC) permit programs. An additional amendment to CRRA requires such consideration by applicants for permits for major projects in all regulatory programs covered by the Uniform Procedures Act (UPA, ECL §70-0117). The CLCPA did not amend the SGPIPA to expand the scope of hazards to be considered in smart growth assessments beyond mitigation of risks associated with sea-level rise, storm surge, and flooding, as required by the original CRRA. However, in their planning of public infrastructure, project sponsors are encouraged to consider all relevant future physical risks due to climate change. As part of the permit application process, sponsors of projects that require UPA permits may be required to demonstrate the consideration of future physical risks associated with any climate hazard.

Smart Growth Assessments

Consistent with the SGPIPA, agency and authority project sponsors must demonstrate consideration of the SGPIPA criteria in written smart growth assessments (ECL §6-0107). Before making any commitment to acquire, construct, or finance public infrastructure projects, the chief executive officer of state infrastructure agencies² must attest in a written Smart Growth Impact Statement that the project,

to the extent practicable, meets the relevant smart growth criteria.³ If the project does not meet the criteria, or if compliance is seen as impracticable, the agency or authority must complete a statement of justification. Smart Growth Advisory committees in each agency or authority advise on compliance with the Smart Growth Criteria as it relates to that organization's policies, programs, and projects.

Consideration of Sea-Level Rise, Storm Surge and Flooding

CRRA directs the Department of Environmental Conservation (DEC), in consultation with the New York State Department of State (DOS), to prepare guidance on the implementation of CRRA. With assistance from DOS and many other state agencies, DEC developed the New York State Flood Risk Management Guidance⁴ (SFRMG) to guide state agencies responsible for programs affected by CRRA as they develop any regulatory changes and/or program-specific guidance on consideration of sea-level rise, storm surge, and flooding, and other related guidance.

The SFRMG is intended to inform development of all guidance prepared or amended pursuant to CRRA, as well as any program-specific changes made to incorporate additional consideration of flood risk. The SFRMG describes flood-risk management guideline elevations that incorporate possible future

conditions, including the greater risks of coastal flooding presented by sea-level rise and enhanced storm surge, and of more severe inland flooding expected to result from increasingly frequent extreme precipitation events. DEC and other state agencies responsible for implementation of programs listed in CRRA should consult the SFRMG as they develop any regulatory changes and/or program-specific guidance to require that applicants demonstrate consideration of sea-level rise, storm surge, and flooding.

Municipalities may adopt their own flood hazard maps to include higher design flood elevations from which freeboard is measured, or they may adopt more restrictive local standards. Guidelines included in the SFRMG may be used by municipalities to incorporate reduction of future flood risk into local hazard maps or standards.

² New York State infrastructure agencies and authorities covered by the SGPIPA include the Department of Transportation, the Department of Education, the Department of Health, the Department of State, the New York State Environmental Facilities Corporation, the New York State Housing Finance Agency, the Housing Trust Fund Corporation, the Dormitory Authority, the Thruway Authority, the Port Authority of New York and New Jersey, the Empire State Development Corporation, the New York State Urban Development Corporation, and all other New York authorities.

³ An example of an agency smart growth assessment form is that used by the NYS Department of Transportation, available at <https://www.dot.ny.gov/programs/smart-planning/repository/SG%20Worksheet%20Rail.pdf>.

⁴ New York State Department of Environmental Conservation. 2020. New York State Flood Risk Management Guidance. Albany, N.Y. 126 pp.

Consistency with the following additional CRRA guidance and regulatory materials is recommended for state and local decision making:

- *Use of Natural Resilience Measures to Reduce the Risk of Flooding and Erosion in New York*⁵ describes natural protective features and their use in reducing risk to climatic hazards.

- *Model Local Laws to Increase Resilience*⁶ provides tools for local governments in New York State to regulate the use and development of land to enhance community resilience.
- 6 NYCRR Part 490, Projected Sea-level Rise⁷, adopted in 2017, establishes science-based sea-level rise (SLR) projections. CRRA requires DEC to update this regulation every five years.

General Principles for Smart Growth Assessments

In the context of smart growth assessments pursuant to the SGPIPA, as described above, infrastructure agencies should apply the following general principles to the mitigation of future physical climate risk criterion added to the SGPIPA by CRRA:

- Public infrastructure projects should be sited, designed, and constructed to prevent and minimize damage associated with future sea-level rise, storm surge, and flooding.
 - Project location and design should anticipate and seek to avoid negative effects on adjacent areas and any downstream areas due to water-level change, storm surge, flooding, or increased precipitation and storms. Consideration of potential effects should include, but not be limited to, impact of diverted floodwaters onto adjacent properties; contamination of surface waters or groundwaters; obstruction of natural sediment transport, and increased erosion of, or risk of damage to, adjacent built or natural areas.
- Project designers should consider the use of resilience measures that feature natural resources and natural processes, including constructed stormwater green infrastructure, to reduce the risk posed by climatic hazards.
- The choice of building materials, design, and layout should be guided by flooding and/or inundation potential, including projected future conditions. These practices include elevation of structures; wet floodproofing, in which buildings and areas of the project site are designed to be flooded and easily repaired with materials that will not be damaged or foster mold growth; and dry floodproofing, in which areas of the project or site must be fully protected from water intrusion.

⁵ New York State Department of Environmental Conservation. 2020. *Use of Natural Resilience Measures to Reduce the Risk of Flooding and Erosion in New York*. Albany, N.Y. 339 pp.

⁶ New York State Department of State. 2019. *Model Local Laws to Increase Resilience*. Albany, N.Y. 341 pp. Available at <https://www.dos.ny.gov/opd/programs/resilience/index.html>

⁷ Available at <https://www.dec.ny.gov/regulations/103877.html>

- Public infrastructure agencies should assess whether infrastructure projects are consistent with mitigation of risk due to sea-level rise, storm surge, and flooding.
- Assessment processes should incorporate the recommendations, flood risk management guidelines, and information sources described in the SFRMG.
- Construction of new infrastructure projects should be avoided in flood-hazard areas, as defined by the flood-risk management guidelines described in the SFRMG.
 - Exceptions include projects requiring, or necessary to support, water-dependent uses; projects that require waterfront access for public, recreational, scenic, or environmental conservation purposes; functionally dependent use infrastructure, including bridges and culverts, projects necessary to reduce future storm and erosion damage, provided that non-structural or nature-based features, living shorelines, or other environmentally beneficial shoreline management options are utilized to the extent practicable; repairs or maintenance to existing structures that lack practical alternative adaptation options; projects necessary for security or national defense; projects where there are no practical alternatives available to avoid potential danger to the public and/or significant ecosystem damages without the project; and projects that protect historic or archaeologically significant resources, where alternative management options are insufficient for such purposes.
- Interagency, community, and stakeholder collaboration in project development decisions is encouraged. Particular attention should be given to using state-of-the-art community and stakeholder engagement strategies and tools, such as those listed below, in underserved and disadvantaged communities and areas of environmental justice concern. The Environmental Protection Agency's EJSCREEN: *Environmental Justice Screening and Mapping Tool* provides high-resolution environmental and demographic information. Agencies may use this information to identify areas of environmental justice concern according to criteria established by those agencies. As required by the Climate Leadership and Community Protection Act, the Climate Justice Working Group will develop criteria for identification of disadvantaged communities by 2021.

Additional Resources

The SFRMG specifies data and mapping resources to guide decision making. The following resources may also be useful:

Design – Nature-Based Systems/ Green Infrastructure

Community Resilience Economic Decision Guide for Buildings and Infrastructure Systems, NIST Special Publication 1197, National Institute for Science and Technology/U.S. Department of Commerce (2015).

<http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1197.pdf>

Creating a Natural Resource Inventory: A Guide for Communities in the Hudson River Estuary Watershed, NYS Department of Environmental Conservation—Hudson River Estuary Program/Cornell University (2014).

<http://www.dec.ny.gov/lands/100925.html>

Green Infrastructure Guide, Pace University Land Use Law Center/City of Newburgh (2015). <http://www.law.pace.edu/sites/default/files/LULC/CAC%20Green%20Infrastructure%20Guide.pdf>

Rooftops to Rivers II: Green Strategies for Controlling Stormwater and Combined Sewer Overflows, NRDC (2013).

<https://www.nrdc.org/resources/rooftops-rivers-ii-green-strategies-controlling-stormwater-and-combined-sewer-overflows>

Design – General Resilient Infrastructure Design

Guidelines for Implementing Executive Order 19888, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input. http://www.fema.gov/media-library-data/1444319451483-f7096df2da6db2adfb37a1595a9a5d36/FINAL-Implementing-Guidelines-for-EO11988-13690_08Oct15_508.pdf

Waterfront Edge Design Guidelines, developed by the Waterfront Alliance in collaboration with federal, state, and New York City agencies, as well as practitioners, scientists, and insurers, incorporates regulatory considerations and improves the quality of waterfront project designs before they enter the regulatory process. <http://wedg.waterfrontalliance.org/>

Risk Analysis

Coastal Resilience Tool. The Nature Conservancy provides a tool to assess risk and vulnerability to coastal hazards, including current and future storms and sea-level rise scenarios. www.coastalresilience.org

Guidance for NY Rising Community Reconstruction Plans (pp. 16-20). http://stormrecovery.ny.gov/sites/default/files/documents/Guidance_for_Community_Reconstruction_Plans.pdf

Planning for Rising Waters: Final Report of the City of Kingston Tidal Waterfront Flooding Task Force, (pp.22-24). <http://www.kingston-ny.gov/content/8399/8491/8495/10452/10505.aspx>

Community and Stakeholder Engagement

PUSH Buffalo's Green Development Zone: A Model for New Economic Community Development—The Planning Process/Community Involvement Case Studies, pp. 4-11, by Skye Hart and Sam Magavern (2017). https://ppgbuffalo.org/files/documents/push_buffalo_27s_green_development_zone.pdf

University at Buffalo Regional Institute: Citizens Planning School/Champions for Change—One Region Forward Planning Process (Winner of 2016 APA National Planning Achievement Award in Public Engagement). <http://regional-institute.buffalo.edu/project/one-region-forward/>

University at Buffalo Regional Institute: Ways to Think About Planning in Buffalo Niagara: Approaches, Tools and Resources—One Region Forward Guidebook. http://uploads.oneregionforward.org/content/uploads/2015/02/Ways-to-Think-About-Planning-in-Buffalo-Niagara-Guidebook_FINAL2015.pdf

University at Buffalo Regional Institute: Niagara Street Now. <http://regional-institute.buffalo.edu/project/niagara-street-now/>

Planning Partner Manual: Take Care NY Action Planning Process, Hester Street (2016). https://hesterstreet.org/wp-content/uploads/2017/07/TCNY_1_Planning-Partner-Manual_sm.pdf

Policy-Making By and For the People, Hester Street (2020). <https://hesterstreet.org/2020/07/hst-guide-to-policy-making-by-and-for-the-people/>

Listen: The Community Engagement Toolkit/Opportunity 360. Enterprise Foundation. <https://www.enterprisecommunity.org/opportunity360/community-engagement-toolkit>

Communityviz Community Engagement Toolkit/Opportunity 360 (Scenario Planning). Enterprise Foundation. <https://www.enterprisecommunity.org/opportunity360/community-engagement-toolkit/communityviz>

State Resources

GreenLITES (Leadership in Transportation Environmental Sustainability), NYS Department of Transportation. <https://www.dot.ny.gov/programs/greenlites>

New York State Hazard Mitigation Plan, 2019, New York State Division of Homeland Security and Emergency Services. <http://www.dhSES.ny.gov/recovery/mitigation/plan.cfm>

NYS 2100 Commission Report: Recommendations to Improve the Strength and Resilience of the Empire State's Infrastructure, NYS 2100 Commission/Office of Governor Andrew M. Cuomo (2013). <http://www.governor.ny.gov/sites/governor.ny.gov/files/archive/assets/documents/NYS2100.pdf>

Smart Growth for Coastal and Waterfront Communities, EPA/Sea Grant/ICMA (2013). <https://coastalsmartgrowth.noaa.gov/report.html>

Village of Sidney NY Rising Community Reconstruction Plan. http://www.stormrecovery.ny.gov/sites/default/files/crp/community/documents/sidney_nyr-cr-plan.pdf

Federal Resources

Achieving Hazard-Resilient Coastal and Waterfront Communities, NOAA/EPA (2013). <https://www.epa.gov/smartgrowth/achieving-hazard-resilient-coastal-waterfront-smart-growth>

Supplemental Tool: Incorporating Resilience into Critical Infrastructure Projects, U.S. Department of Homeland Security (2013). <https://www.dhs.gov/publication/nipp-2013-resilience-ci-projects>

U.S. Climate Resilience Toolkit shares information, tools, and subject matter expertise designed to build climate resilience. <http://toolkit.climate.gov/>

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