



## **Resilient Virginia's Resiliency Checklist (2016)©**

**Developed in collaboration with**

**Virginia Municipal League and Virginia Association of Counties**

**The Resiliency Checklist is included in the 2016 VML VACO Go Green Virginia Local Government Challenge ([www.gogreenva.org](http://www.gogreenva.org)).**

Challenges faced by Virginia communities include more frequent extreme weather events, intermittent drought conditions, and increased occurrence of extreme heat events, periodic flooding, sea level rise, national security threats, and health risks from new or recurrent disease vectors.

This checklist contains suggested actions that local governments can take as a means to decrease overall community vulnerability, including health and safety concerns, food and energy security needs, and economic challenges.

For the Go Green Challenge, local governments would complete one action item under each of the categories provided. For the Resiliency Checklist, participants are to complete action items under the headings of (1) Policy & Leadership; (2) Preparation for Natural Man-Made Hazards; (3) Energy Security; (4) Strengthening Critical Infrastructure; (5) Strengthening the Local Economy; and (6) Health & Well Being. Find out more about the GoGreen Challenge at [www.gogreenva.org](http://www.gogreenva.org).

### **Description:**

There is no one-size-fits-all approach to building community resiliency, because the challenges our communities face vary from place to place. Local governments need to define their own goals based on local priorities.

Resilient communities are better able to bounce back from disasters and disruptions in a sustainable way and maintain a good quality of life for all. They are better prepared for uncertainties and able to adapt to changing conditions. Resilient communities have developed the ability to (1) prepare for anticipated hazards; (2) adjust to changing conditions; and (3) withstand and recover rapidly from disruptions.

### **1. Policy and Program Coordination**

#### **Action Items**

- ✓ **Ensure the sufficiency and completeness of your emergency response program and your hazard mitigation plan.**

- Link to background info:
- Virginia’s Local Emergency Operations Plan (EOP) guidance: <http://www.vaemergency.gov/em-community/plans/local-templates>
- Virginia’s Local Continuity of Operations Plan (COOP) guidance: <http://www.vaemergency.gov/em-community/plans/coop/local-gov>
- Emergency Management Accreditation Program: <https://www.emap.org/>
- NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs: <http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=1600>
- STAR Communities Section on Health and Safety HS-3: [www.starcommunities.org](http://www.starcommunities.org)

- ✓ **Integrate and coordinate emergency response and hazard mitigation plans, along with risk associated with recurrent flooding and man-made hazards, into local government long range planning, zoning, operations and management, as relevant to the locality or region.**

Link to background info:

- Getting to Resilience – <http://www.PrepareYourCommunityNJ.org>
- Integrating Hazard Mitigation Into Local Planning: [http://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating\\_hazmit.pdf](http://www.fema.gov/media-library-data/20130726-1908-25045-0016/integrating_hazmit.pdf)
- Plan Integration: Linking Local Planning Efforts (2015): [http://www.fema.gov/media-library-data/1440522008134-ddb097cc285bf741986b48fdcef31c6e/R3\\_Plan\\_Integration\\_0812\\_508.pdf](http://www.fema.gov/media-library-data/1440522008134-ddb097cc285bf741986b48fdcef31c6e/R3_Plan_Integration_0812_508.pdf)

- ✓ **Incorporate hazard mitigation principles into planning, design and implementation of public capital improvement projects, such as roads, public parks, and wastewater treatment facilities.**

Link to background info:

- Envision Guidelines, Institute for Sustainable Infrastructure: <http://www.sustainableinfrastructure.org/envision>

## **2. Prepare for Natural and Man-Made Hazards in the Community**

### **Action Items**

- ✓ **Evaluate community-wide vulnerabilities to extreme weather, recurrent flooding, climate variability, predicted inundation, and other anticipated natural and man-made hazards.**

Link to background info:

- Baltimore’s Disaster Preparedness Plan: [www.sustainablebaltimore.org/plans/disaster-preparedness-plan/](http://www.sustainablebaltimore.org/plans/disaster-preparedness-plan/)
- Norfolk’s Resiliency Plan: [https://issuu.com/norfolk/docs/norfolk\\_resilient\\_strategy\\_october](https://issuu.com/norfolk/docs/norfolk_resilient_strategy_october)

- ✓ **Adopt and implement preparedness and resiliency policies that address vulnerable populations, strengthen economic assets, and protect natural resources from natural and man-made hazards.**

Link to background info:

- Maryland’s Effective Actions for Local Government <http://www.climatemaryland.org/act-climate/>
- Norfolk Resiliency Plan: [https://issuu.com/norfolk/docs/norfolk\\_resilient\\_strategy\\_october](https://issuu.com/norfolk/docs/norfolk_resilient_strategy_october)
- Resilient Communities for America: [www.resilientamerica.org](http://www.resilientamerica.org)

### **3. Increase Energy Security, Improve Energy Efficiency and Explore Renewable Energy Options**

#### **Actions Items**

- ✓ **Develop an energy assurance plan to strengthen the ability of your local government to respond to and operate in energy emergencies.**

Link to background info:

- NASEO State Energy Assurance Guidelines: <http://www.naseo.org/energyassurance>
- California Local Energy Assurance Planning <http://www.caleap.org>
- Portland Energy Assurance Plan: <http://www.portlandoregon.gov/pbem/53662>

- ✓ **Implement energy efficiency programs that help residents, businesses, and local government operations save money and energy, lower carbon emissions, and reduce baseload and severe weather demand on the grid.**

Link to background info:

-See Energy Efficiency Section of 2016 Green Government Challenge at <http://gogreenva.org/?/challenge/participate/id/1/p/score>

- ✓ **Consider renewable energy options as part of a portfolio of energy sources to increase energy independence and reliability and to reduce adverse energy market price fluctuations.**

Link to background info:

-See Renewable Energy Section of 2016 Green Government Challenge at <http://gogreenva.org/?/challenge/participate/id/1/p/score>

-Community Solar Potential Study for Richmond: <http://www.vasun.org/new-report-examines-richmonds-community-solar-potential-NLC>

-SolSmart Program – <http://www.sustainablecitiesinstitute.org/topics/buildings-and-energy/solsmart>

-In 2013 the City of Roanoke issued a Request for Information (RFI) for a renewal implementation plan. Candidates proposed plans to execute municipal solar over the next decade. Although a partnership was not created with the vendors that responded, the city will issue a new RFI by the end of 2016. For the residential sector the city hosted a Solarize Roanoke Campaign with Community Housing Partners and added just under 100 kW to the community. Contacts: [nell.boyle@roanokeva.gov](mailto:nell.boyle@roanokeva.gov) and <https://www.communityhousingpartners.org/3574/solarize-roanoke.html>.

### **4. Renew and Strengthen Critical Infrastructure and Buildings**

#### **Action Items**

- ✓ **Identify (i) critical infrastructure in your community, including transportation, energy, stormwater, wastewater, water supplies, and drinking water systems, and (ii) critical emergency facilities, such as emergency management facilities, shelters, and hospitals.**

Link to background info:

NIST Toward a More Resilient Community – A Guide for Buildings and Infrastructure Systems  
[www.nist.gov/el/resilience/guide.cfm](http://www.nist.gov/el/resilience/guide.cfm)

- ✓ **Upgrade or protect critical infrastructure and buildings against extreme weather, recurrent flooding, or other relevant threats through an evaluation and redesign process.**

Link to background info:

- NIST Toward a More Resilient Community – A Guide for Buildings and Infrastructure Systems [www.nist.gov/el/resilience/guide.cfm](http://www.nist.gov/el/resilience/guide.cfm)
- Envision Guidelines, Institute for Sustainable Infrastructure: <http://www.sustainableinfrastructure.org/envision>. In Virginia, Roanoke and Norfolk are cities that have adopted the Envision Guidelines.
- LEED Resiliency Pilot Credits: [www.usgbc.org/credits/assessmentresilience](http://www.usgbc.org/credits/assessmentresilience) and <http://www.buildinggreen.com/newsbrief/resilient-design-pilot-credits-added-leed>

- ✓ **Prioritize investments that restore and protect the natural environment including use of green infrastructure for mitigation of flooding and other hazards.**

Link to background info:

<https://www.epa.gov/green-infrastructure>

The Nature Conservancy toolkit: <http://www.nature.org/newsfeatures/pressreleases/new-recommendations-for-climate-change-resilience.xml>

- ✓ **Harness innovations in information technology and resiliency modeling to optimize performance and risk mitigation and to reduce costs of resiliency measures.**

Link to background info:

US Climate Toolkit: <https://toolkit.climate.gov/>

NOAA: <https://coast.noaa.gov/digitalcoast/aboutT>

Coastal Resilience: <http://coastalresilience.org/>

- ✓ **Identify or create new models to finance improvements and manage risks to community and privately owned and operated assets through engagement with the private sector and economic development partners.**

Link to background info:

- -See 2015 GoGreen Government #12 - PACE

- -VRA Loans: <http://www.virginiaresources.org>
- Virginia Saves Interest Reduction Program: <http://www.vasavesgcp.com>
- Virginia Office of Public-Private Partnerships: <http://www.P3virginia.org>
- USDA Rural Development Loans: <http://www.rd.usda.gov/va>
- VDACS Agriculture and Forestry Industries Development Fund (Facility and Planning Grants) - <http://www.vdacs.virginia.gov/marketing-agriculture-and-forestry-development.shtml>

- ✓ **Reduce risks and damages due to flooding by meeting the minimum floodplain management requirements to participate in FEMA's community rating system (CRS).**

Link to background info:

- <http://www.wetlandswatch.org/WetlandScience/SeaLevelRise/CRSGuide.aspx>

- Roanoke participates in Community Rating System (CRS) and has a high score of "7". The CRS recognizes and encourages community floodplain management activities and depending upon the level of participation, flood insurance premium rates for policyholders can be reduced up to 45%. The city has mandated a Stormwater Tax for all impervious property of ninety cents per five hundred square feet. Revenues generated from this tax are used to make stormwater management improvements. Find out more at <http://va-roanoke.civicplus.com/500/Stormwater>.

## 5. **Strengthen the Local Economy**

### Action Items

- ✓ **Work to retain and attract investment by safeguarding businesses from extreme weather, recurrent flooding and inundation by ensuring reliable access to energy, water, transportation, and other key infrastructure and resources.**

Link to background info

- Virginia's Local Continuity of Operations Plan (COOP) guidance: <http://www.vaemergency.gov/em-community/plans/coop/local-gov>

- ✓ **Support and incentivize the private sector by creating more diversified local and regional economies that are more resilient to economic downturn, through job creation and reduced regulatory burden in sectors such as clean energy, infrastructure design, resiliency technology, advanced manufacturing, and local agriculture, forestry, and aquaculture.**

Link to background info:

- E2 report on clean energy jobs: <http://www.cleanenergyworksforus.org>
- VAEEC survey on Energy Efficiency and jobs: <http://www.vaeec.org/wp-content/uploads/2012/01/VAEEC-2013-census-report-FINAL.pdf>
- USDA Rural Development Programs: <http://www.rd.usda.gov/va>
- Main Street programs for towns: <http://www.dhcd.virginia.gov/index.php/business-va-assistance/virginia-main-street-vms.html>
- Virginia Tech Save Our Towns Program: <http://www.saveourtowns.outreach.vt.edu/>
- Virginia Cooperative Extension: Agritourism info: <http://www.ext.vt.edu/topics/agriculture/agritourism/index.html>

- Agricultural Development Board Guide: <https://drive.google.com/file/d/0B9b2OsKouUmGTDINNFViTVN6VW8/view>
- Center for Innovative Technology – Broadband Program - <http://www.cit.org/service-lines/cit-broadband/>

- ✓ **Create a business and industry advisory group to assist your local government with resiliency planning and regional economic development.**

## 6. **Ensure Health and Well Being**

### Action Items

- ✓ **Anticipate, address and prepare for potential health hazards and challenges to continuity of health care access caused by extreme weather events, recurrent flooding, extended high heat, or other relevant hazards.**

Link to background info:

- <https://toolkit.climate.gov/topics/human-health/building-climate-resilience-health-sector>

- ✓ **Work to educate your population, with special attention to special needs communities, to be prepared for addressing extreme weather or other hazards at a family and neighborhood level.**

Link to background info:

- <https://www.disasterassistance.gov/information/disabilities-access-and-functional-needs>
- [www.vaemergency.gov/Readyvirginia](http://www.vaemergency.gov/Readyvirginia)

- ✓ **Designate community leaders to respond to crisis situations to ensure cohesive and engaged communities.**

Link to background info:

- City of Baltimore Resiliency Plan: [www.baltimoresustainability.org/make-a-kit-build-a-plan-help-each-other/](http://www.baltimoresustainability.org/make-a-kit-build-a-plan-help-each-other/)
- CERT Programs of your local emergency preparedness office: [www.vaemergency.gov/volunteer/cert](http://www.vaemergency.gov/volunteer/cert)

- ✓ **Identify and strengthen programs that increase quality of life, such as recreational facilities, continuous learning opportunities, and community volunteer options.**

Link to background Info:

- Virginia Rural Health Association: <http://www.vrha.org/>
- Virginia Rural Health Plan: <https://www.vdh.virginia.gov/omhhe/primarycare/ruralhealth/rural-health-plan.html>
- New River Valley Livability Initiative: [www.nrvrc.org](http://www.nrvrc.org)