



Resilient Fairfax
June 2021
Public Survey Results Report

Fairfax County
Office of Environmental and Energy Coordination



A Fairfax County, Virginia publication. To request an accessible version of this document, please contact the Office of Environmental and Energy Coordination at 703-324-7136 TTY 711.

Contents

I.	Acknowledgments.....	1
II.	Overview and Purpose	1
III.	Survey Results	2
III.I.	Demographics	2
III.I.I.	Connection to Fairfax County.....	2
III.I.II.	Race	2
III.I.III.	Age.....	3
III.I.IV.	Gender Identity	3
III.I.V.	Annual Household Income	3
III.I.VI.	Health Conditions.....	4
III.II.	Climate Concerns	4
III.III.	Flooding.....	5
III.IV.	Temperature	6
III.V.	Storms and Power Outages	9
III.VI.	Emergencies or Natural Disasters.....	10
III.VII.	People and Places Experiencing Vulnerability	12
III.VIII.	Open Comments	18
IV.	Appendix	19

I. Acknowledgments

This survey results report was written by The Cadmus Group and NspireGreen, on behalf of the Fairfax County Office of Environmental and Energy Coordination (OEEC). Cadmus and NspireGreen are members of the consultant team hired to assist OEEC with the Resilient Fairfax initiative. The consulting team also includes WSP, Inc.



This survey was written by the OEEC in coordination with the consulting team, the Fairfax County Office of Public Affairs, the Fairfax County Health Department, and the Fairfax County Department of Family Services. Translation of the survey was provided by United Language Group.

The survey was administered by the Fairfax County Office of Public Affairs.

II. Overview and Purpose

The Fairfax County Office of Environmental and Energy Coordination (OEEC) is developing its first-ever climate adaptation and resilience plan under the Resilient Fairfax initiative. The purpose of Resilient Fairfax is to help prepare the Fairfax County community, infrastructure, and services for impacts of climate change such as increasing storm severity, precipitation and flooding, and extreme heat.

The Resilient Fairfax climate adaptation and resilience planning process includes a series of analyses, including:

- Climate Projections Report
- Climate Vulnerability and Risk Assessment (VRA)
- Audit of Existing Policies, Plans, and Programs
- Strategies for Adaptation and Resilience
- Implementation Roadmap

To help inform the climate Vulnerability and Risk Assessment (VRA), OEEC administered an electronic, web-based public survey of county residents from June 8 to July 2, 2021, to better understand the community's current climate concerns and vulnerabilities. The county was especially interested in gathering information that may not be captured in existing GIS or quantitative data. The survey questions are listed in Appendix A. The County received 606 survey responses. The survey was translated into Spanish, Korean, and Vietnamese, in addition to English.

This survey is one component of a larger climate vulnerability and risk assessment, which includes extensive and sophisticated data analyses, mapping, policy reviews, and additional stakeholder engagement.

The purpose of this report is to synthesize and visually summarize the public survey responses. This report largely follows the structure of the survey: Demographics, General Climate Concerns, Flooding, Temperature, Storms and Power Outages, Emergencies or Natural Disasters, and People and Places Experiencing Vulnerability.

III. Survey Results

III.I. Demographics

The tables and graphs below summarize key demographic information of the survey respondents. Demographic data was captured to gauge whether the survey responses were representative of the Fairfax County population, and to determine which community groups are currently included in the process and where additional engagement may be needed.

III.I.I. Connection to Fairfax County

Table 1 demonstrates that nearly all survey takers live in Fairfax County (91%), and roughly half of the survey respondents work within the county (55%). The majority of respondents indicated they shop and recreate in the county. Only community members with some connection to Fairfax were able to take the survey.

Table 2 outlines how long the survey taker has been connected to Fairfax County. Respondents were asked to select their longest affiliation (e.g., if they have worked in the county for 10 years, but only lived in the county for 5 years, then they were instructed to select 10 years). The majority of survey respondents have been connected to the county for over 20 years.

III.I.II. Race

The majority (73%) of survey participants were White, as displayed in **Table 3**.¹ The survey was not proportionately representative of the county’s racial groups; the county as a whole is 64.7% White, 10.6% Black or African American, 16.5% Hispanic or Latino/a/x, 20.1% Asian, 0.1% Native Hawaiian or Other Pacific Islander, 0.5% American Indian or Alaska Native, and 3.9% biracial or multiracial.² The following groups were underrepresented in this survey: Black or African American, Hispanic or Latino/a/x, and Asian. This indicates that improved and more representative outreach is needed.

Table 1. "How are you connected to Fairfax County?"

Response	%
Live in Fairfax County	91%
Work in Fairfax County	55%
Worship in Fairfax County	35%
Shop in Fairfax County	78%
Recreate/play in Fairfax County	71%
Other	4%
None of the Above	0%

Table 2. "How long have you been connected to Fairfax County?"

Response	%
0 – 5 years	9%
6 – 10 years	9%
11 – 15 years	9%
16 – 20 years	9%
21 years or more	64%

Table 3. Race of Survey Respondents

Response	Survey %	County %
White	73.0%	64.7%
Black or African American	3.7%	10.6%
Hispanic or Latino/a/x	4.6%	16.5%
Asian	5.8%	20.1%
Middle Eastern or North African	2.3%	Not in census
Native Hawaiian or Other Pacific Islander	1.2%	0.1%
American Indian or Alaska Native	1.5%	0.5%
Biracial or multiracial	3.1%	3.9%
Prefer not to answer	12.0%	
Other	3.9%	

¹ Total exceeds 100% because respondents were able to select multiple responses.

² Data from U.S. Census Bureau population estimates (2019). No data is available for "Middle Eastern or North African."

III.I.III. Age

Table 4 outlines the age distribution of survey respondents. Survey age distribution was relatively even between ages 30 and 70+, with a slightly higher percentage of people between 50-59 (25.54%) and 60-69 (22.79%). The lowest response was among the under 18 (0.39%) and 18-29 (5.11%) age groups. The response was not proportionately representative of the county population. The following age groups were underrepresented: Under 18, and 18-29. All other age groups were overrepresented.

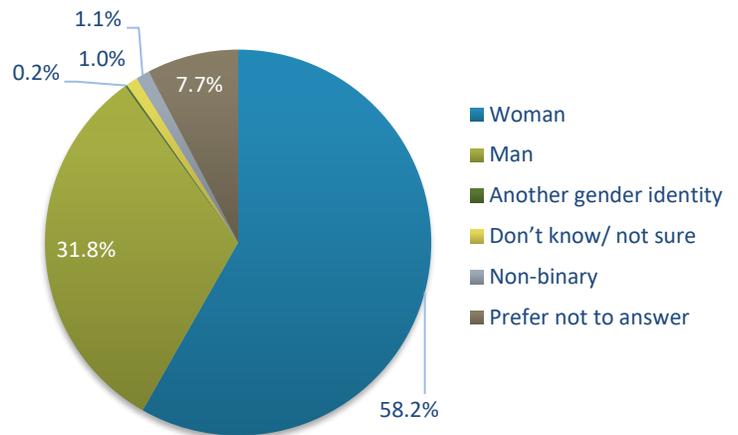
Table 4. Age of Survey Respondents

Response	Survey %	County %
Under 18	0.39 %	23.3 %
18 – 29	5.11 %	14.8 %
30 – 39	15.3 %	14.5 %
40 – 49	15.1 %	13.9 %
50 – 59	25.5 %	13.5 %
60 – 69	22.8 %	10.7 %
70+	15.7 %	9.4 %

III.I.IV. Gender Identity

As illustrated in **Figure 1**, more than half of the survey takers (58.2%) identify as female and approximately one-third (31.8%) as male. The remaining 10% fall into “Don’t know” (1.0%), “Another gender identity” (0.2%) “non-Binary” (1.1%) or “Prefer not to answer” (7.7%). The gender identity of survey respondents does not represent an even distribution in relation to the Fairfax County population.

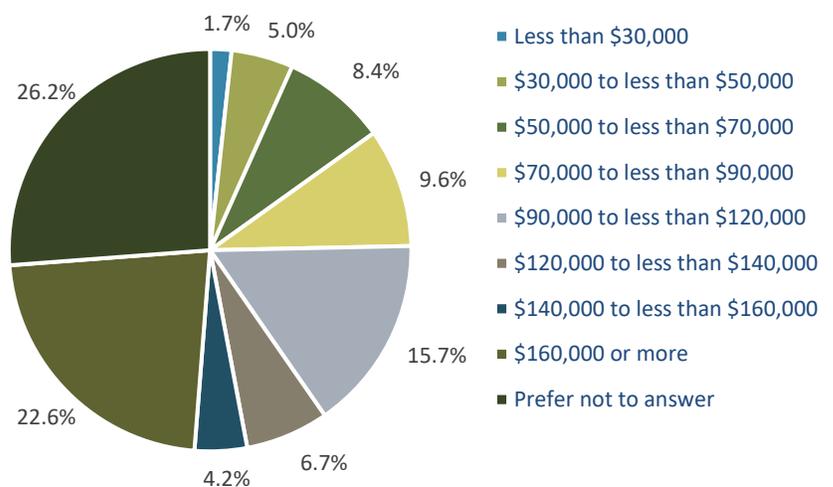
Figure 1. Gender Identify of Survey Respondents



III.I.V. Annual Household Income

Figure 2 shows annual household income distribution. Approximately 26% of survey respondents elected not to answer this question. For those survey respondents who reported their annual income, the most common income bracket (23% of respondents) was the highest income option (\$160,000 or more). The next most common income bracket was \$90,000 to \$120,000 (15.7%). Very few (1.7% of respondents) reported making less than \$30,000 per year. This indicates that the lower income brackets are underrepresented in this survey, as approximately 8.5% of Fairfax County residents make less than \$30,000, and approximately 8.4% of residents fall within the \$30,000 to \$50,000 annual income bracket.

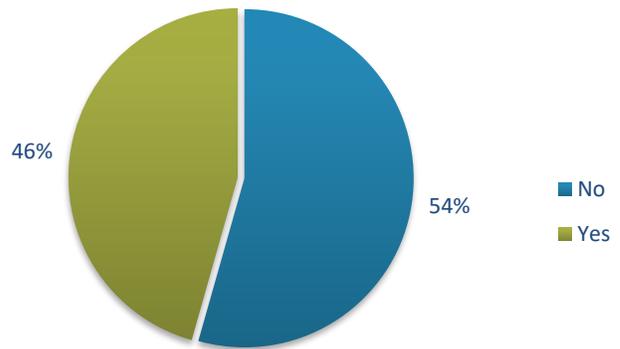
Figure 2. Average Annual Income of Survey Respondents



III.I.VI. Health Conditions

As seen in **Figure 3**, nearly half (46%) of all survey respondents noted that they or someone in their household have a health condition that makes them more sensitive to climate impacts.

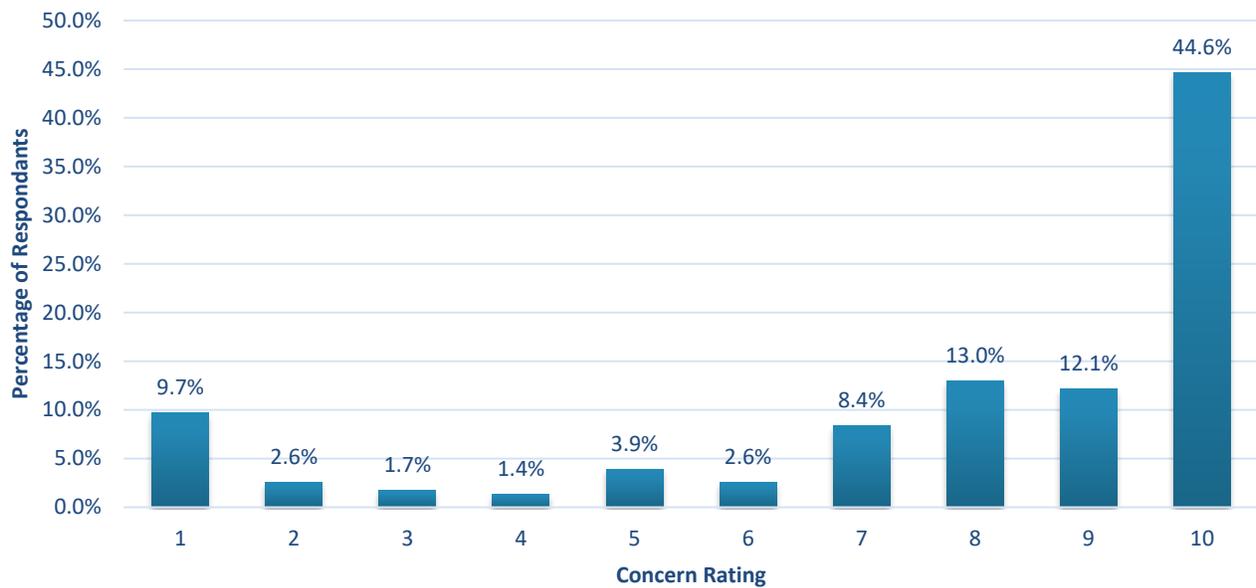
Figure 3. “Do you or do members of your household have any health conditions that make you more sensitive to cold, heat, or air pollution?”



III.II. Climate Concerns

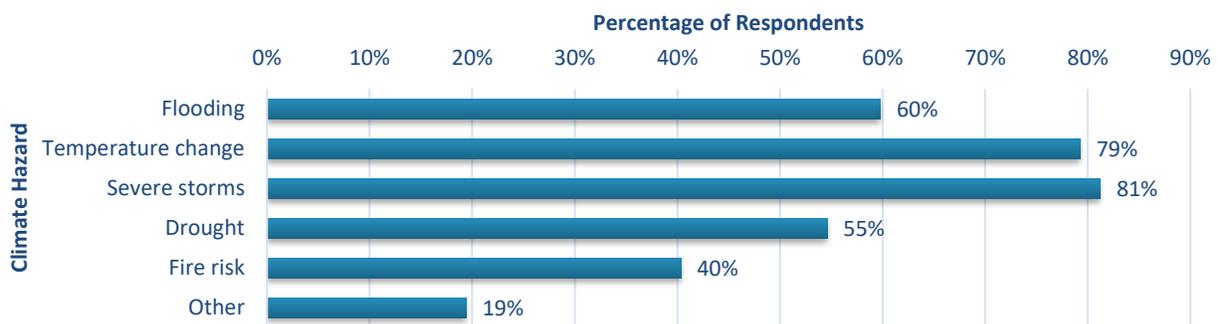
Figure 4 demonstrates how concerned survey respondents are about climate change. Nearly half (44.6%) of survey respondents are "extremely concerned" about climate change. Additionally, 70% of all respondents ranked their concern as an '8,' '9,' or '10,' suggesting residents are likely to be supportive of the county acting on climate adaptation and resiliency strategies. However, it should be noted that it is likely that respondents who were interested in taking the survey already hold a stronger opinion either for or against climate action than the general population.

Figure 4. “On a scale of 1-10, how concerned are you about climate change? (1 = “not at all”, 10 = “extremely concerned”)”



According to **Figure 5**, the top two climate hazards of concern to survey respondents are severe storms (81%) and temperature change (79%), followed by flooding (60%), drought (55%) and fire risk (45%). Respondents who selected “Other” (19%) varied in their responses, but frequent responses include: air quality/pollution, water quality, effects on native animals and plants, health impacts, and none of the above.

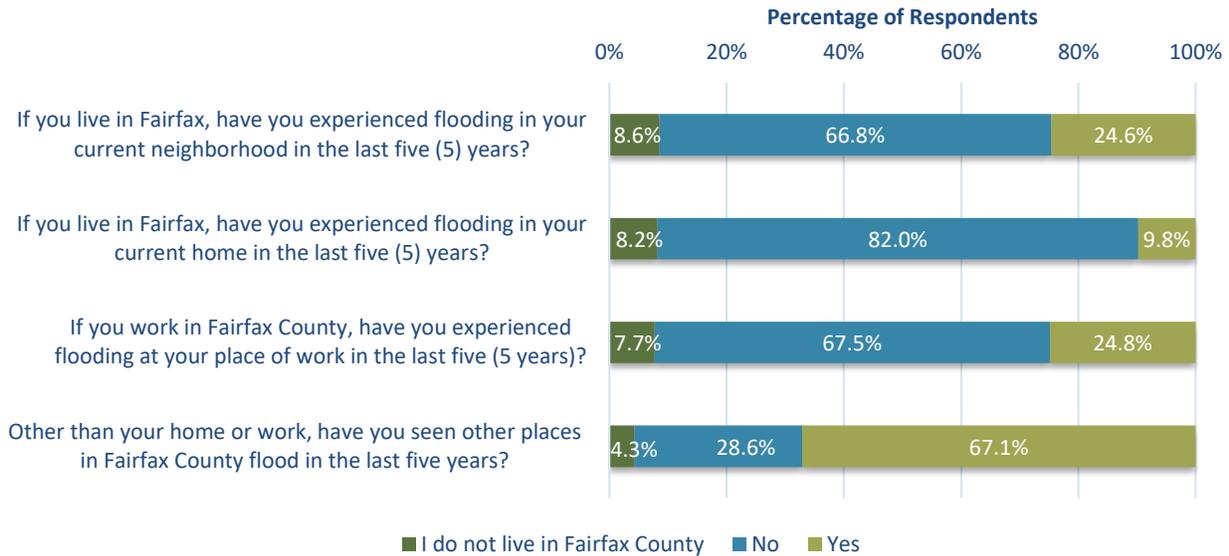
Figure 5. “Are you concerned about any of the following climate hazards in Fairfax County?”



III.III. Flooding

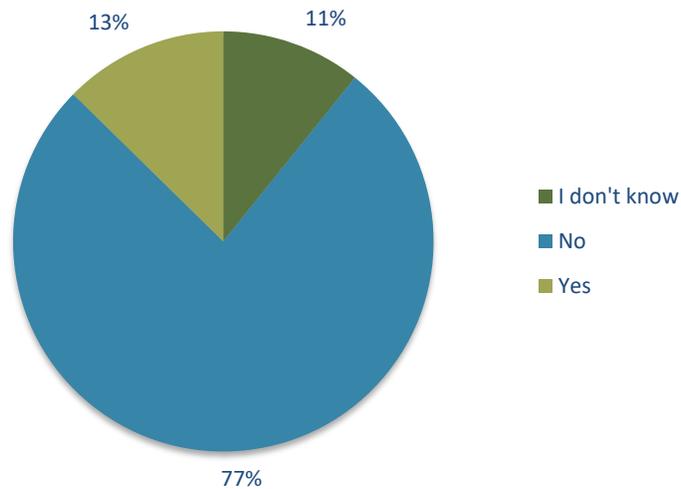
As seen in **Figure 6**, in the past five years, roughly 25% of survey respondents experienced flooding in their neighborhoods. Nearly 10% experienced flooding in their current homes specifically. Approximately 25% have experienced flooding in their place of work, and nearly 70% have seen flooding in some other place within the county.

Figure 6. Experience with flooding in Fairfax County



In total, 77% of survey respondents do not have flood insurance. A relatively small percentage (13%) of survey respondents responded that they hold flood insurance. Some (11%) are unsure, as shown in Figure 7.

Figure 7. "Do you currently have flood insurance?"

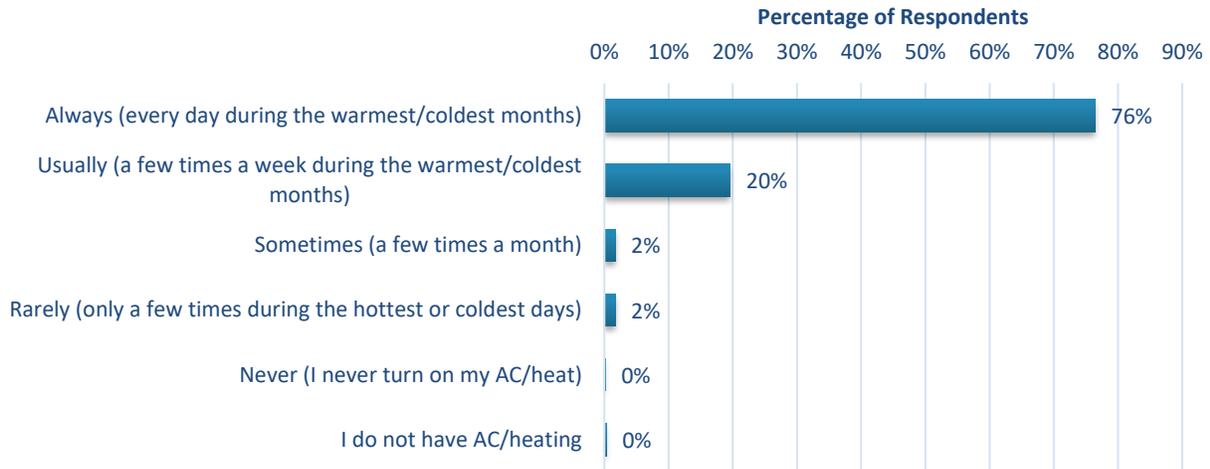


III.IV. Temperature

As temperatures change, access to air conditioning and heat can be very important for public health, especially for populations with vulnerabilities such as elderly populations or those with pre-existing health conditions. During periods of extreme heat or extreme cold, access to air conditioning and heating units respectively allow residents to better adapt.

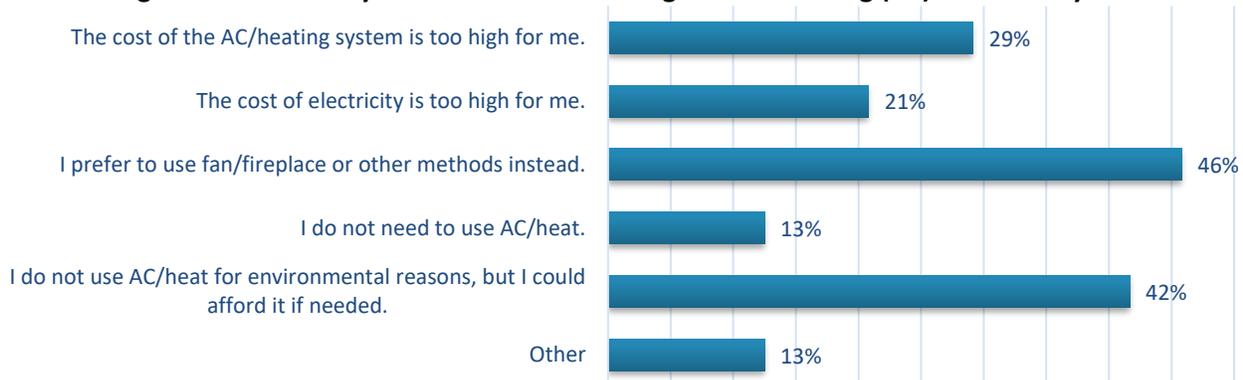
When asked how often they use air conditioning or heating in their homes, 96% of survey respondents said “Always (every day during the warmest/coldest months)” or “Usually (a few times a week during the warmest/coldest months).” See **Figure 8**. Almost none of the respondents (0.34%) reported living without air conditioning or heat at their home. It’s worth noting that because lower income groups were not proportionately represented in this survey, these percentages do not represent the county’s population as a whole.

Figure 8. “How often do you use air conditioning (AC) /heating in your home?”



As illustrated in **Figure 9**, of the 4% of survey respondents who do not use air conditioning (AC) or heat often, most do so willingly out of a preference for other methods and/or for environmental reasons. They could afford it if needed. Roughly 30% of this group cited the cost of the AC/heating system specifically as a reason for not using A/C or heat often, and 21% of this group responded that the cost of electricity specifically is too high.

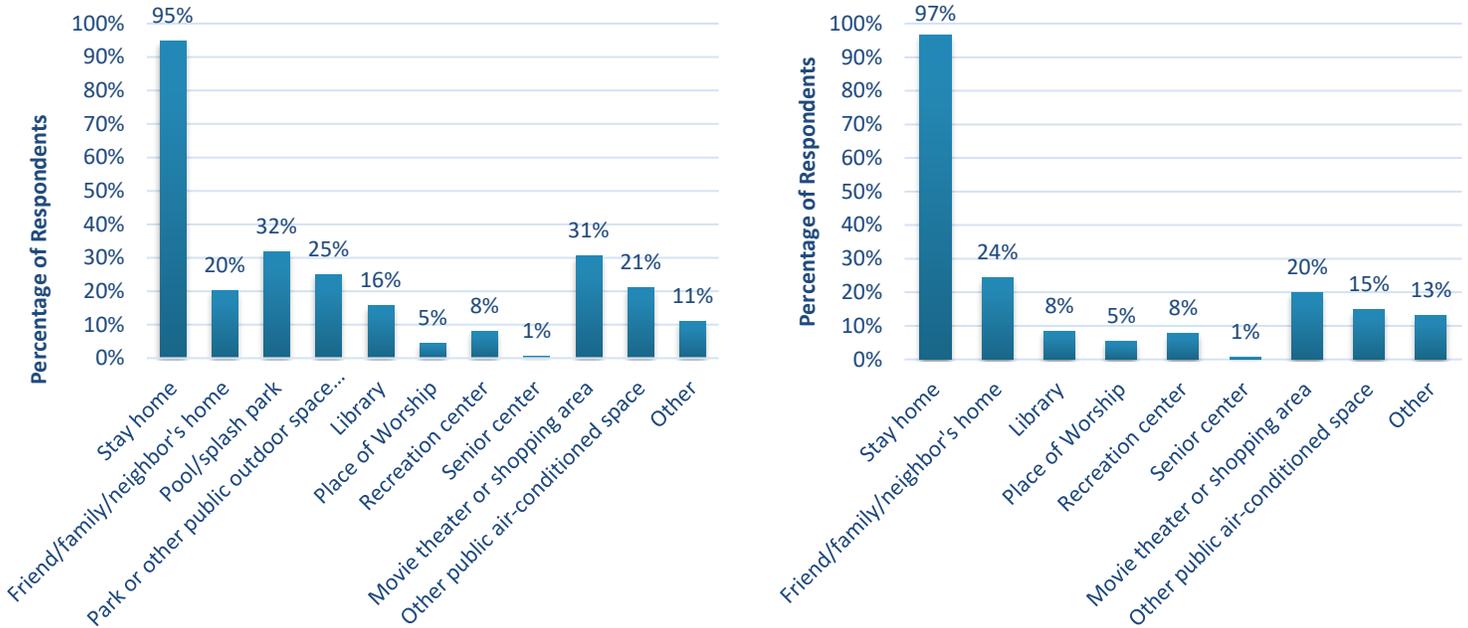
Figure 9. “What are your reasons for not using air conditioning (AC) or heat very often?”



It is important to understand where residents go during periods of extreme temperature when planning implementation and targeting resources. As shown in **Figure 10**, an overwhelming majority of survey respondents prefer to stay in their homes during periods of extreme heat and cold.

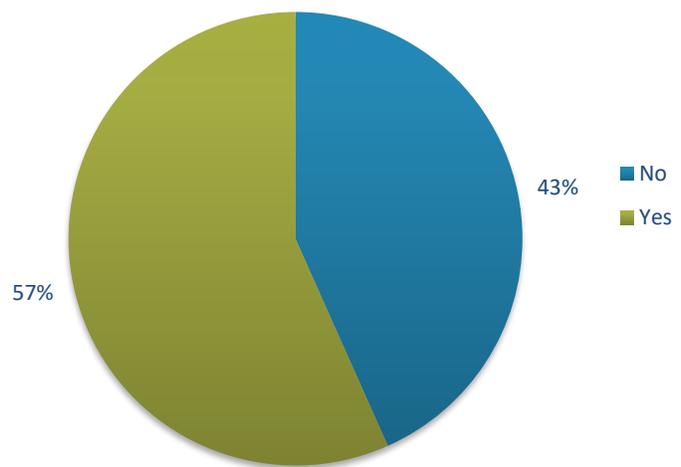
When individuals do leave their homes, they tend to visit public spaces (e.g. pools or splash parks and movie theatres or shopping areas) during periods of extreme heat, and a friend, family or neighbor’s home during periods of extreme cold.

Figure 10. Where survey takers go during periods of extreme heat (left) and extreme cold (right).



Running air conditioning or heat during during peak summer and winter months can strain income-limited households. To alleviate the financial burden, Fairfax County offers energy assistance to support those unable to pay for their heating or cooling bills. As seen in **Figure 11**, 57% of the respondents are familiar with the County’s Energy Assistance programs.

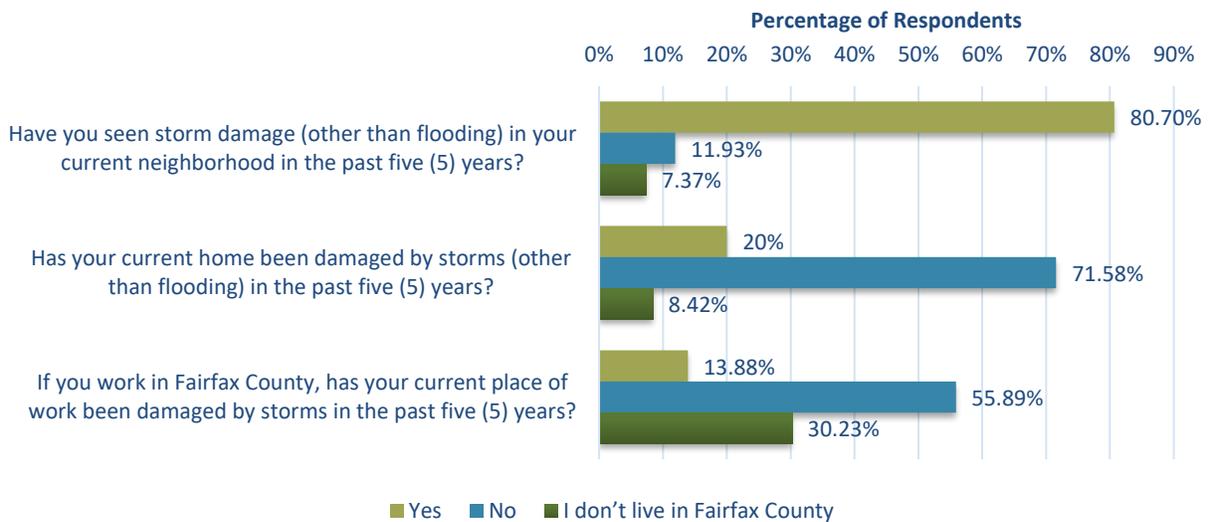
Figure 11. “Have you heard of the county’s energy assistance programs that help residents pay for heating and air conditioning when they cannot afford it?”



III.V. Storms and Power Outages

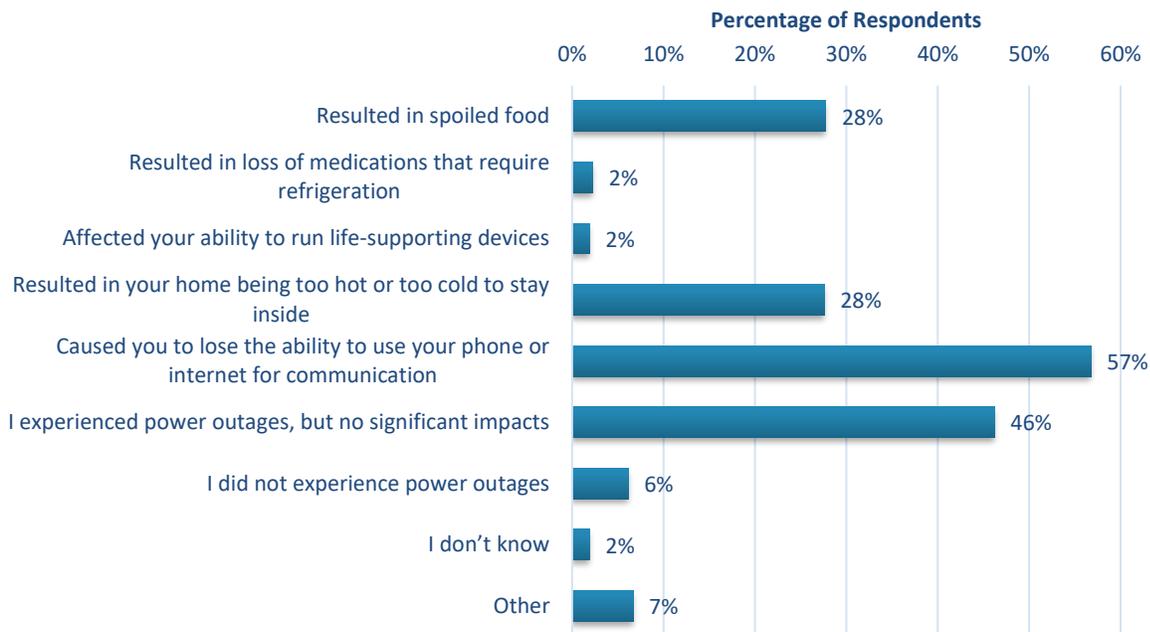
Severe storms can cause damage to infrastructure and buildings, downed trees, power outages, and other effects. Roughly 81% of survey respondents have seen storm damage (other than flooding) in their current neighborhood in the past five years. Twenty percent of respondents reported damage to their current home, and nearly 14% of those working in Fairfax County experienced damage to their workplace as shown in **Figure 12**.

Figure 12. Experience with storm damage in Fairfax County



Power outages can lead to dangerous impacts. In total, 94% of survey respondents experienced a power outage in the past five years in Fairfax County, as shown in **Figure 13**. The majority of those who experienced a power outage affirmed that they lost phone or internet connection (57%). Moreover, nearly 30% of those who experienced a power outage also found that their home was too hot or too cold to stay inside or the outage caused food to spoil. Those who selected "Other" (7%) overwhelmingly mentioned relying on a generator during a power outage. Of all respondents, 46% experienced power outages but did not classify their power outage impacts as significant. It should be noted that these percentages do not add up to 100% because some respondents noted specific impacts *and also* noted that their impacts were not significant.

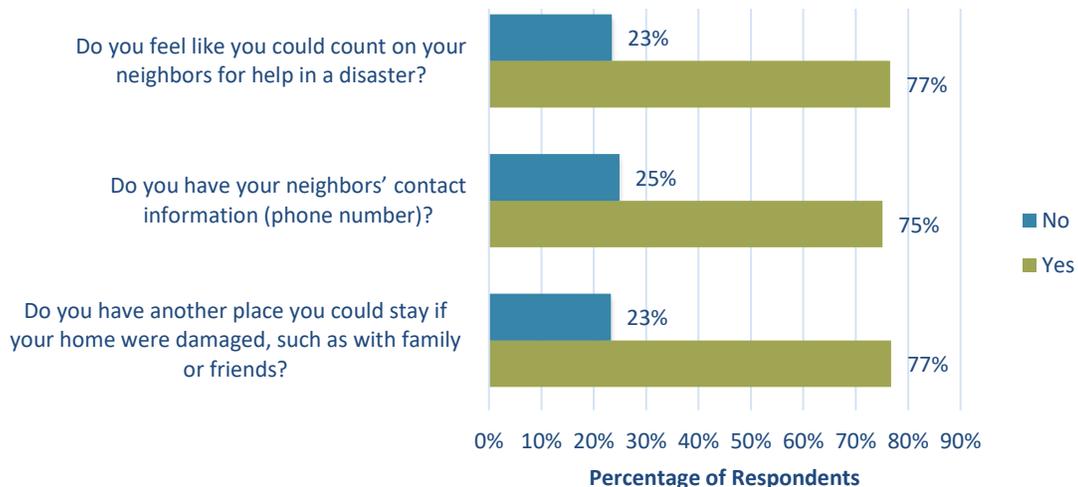
Figure 13. “In the past five (5) years, have you experienced a power outage in Fairfax County that has:”



III.VI. Emergencies or Natural Disasters

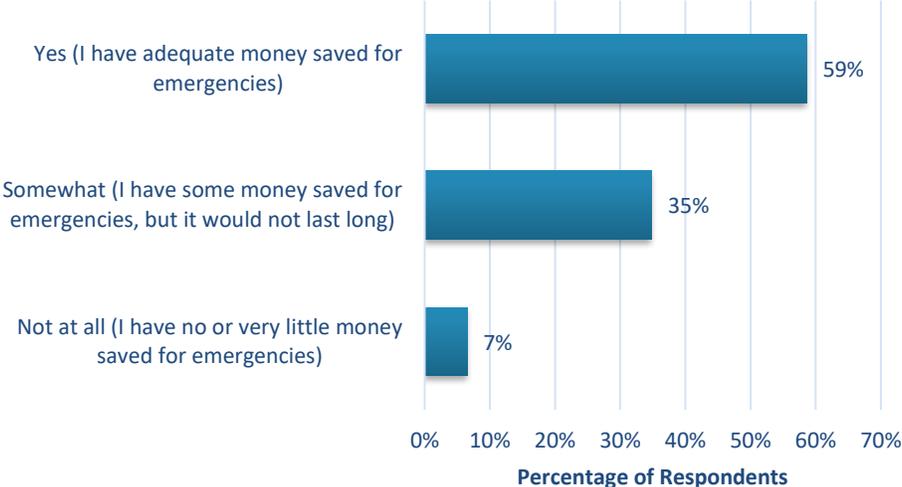
During emergencies, social networks help ensure that people are not left behind and that help is delivered quickly. In the event of an emergency or natural disaster, roughly a quarter of residents feel that they could *not* count on their neighbors for help, do *not* have their neighbors' contact information, and/or do *not* have another place to stay if their home were damaged, as depicted in **Figure 14**. Fortunately, most respondents (75-77%) did report having neighbor connections and access to an alternative place to stay.

Figure 14. “In the event of an emergency or natural disaster”



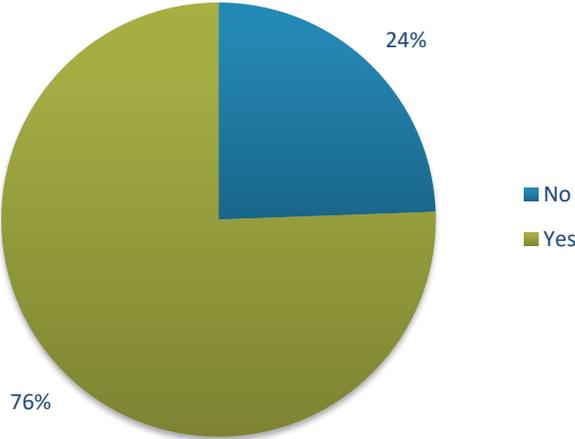
Financial capacity is also an important factor in personal resilience to climate hazards. Understanding the population’s financial capacity in the event of climate hazard emergencies can help the county better understand the degree to which assistance may be needed. As shown in **Figure 15**, a majority of survey respondents feel they have adequate (59%), or somewhat adequate (35%) money saved for emergencies. Seven percent have no, or very little money saved for use in the event of an emergency.

Figure 15. "Do you have money saved that you could use in case a natural disaster forced you to temporarily relocate or caused significant damage to your home?"



Access to prompt emergency information is critical to ensuring personal safety during climate hazard events. Three-quarters (76%) of the survey respondents are signed up for Fairfax Alerts, as displayed in **Figure 16**.

Figure 16. "Are you signed up for Fairfax Alerts?"



III.VII. People and Places Experiencing Vulnerability

The survey discussed characteristics that may make some residents more at-risk to climate hazards than others. Some of these factors are physical, such as a physical disability that may make it more difficult for a person to evacuate a flooded home. Some of these factors are systemic and are not a reflection of any individual person, such as historic under-investment in communities of color that may translate to unequal access to high-quality, resilient infrastructure today.

The survey listed examples of populations to which the county may need to pay extra attention:

- Children
- Seniors
- People of color (due to historic under-investment in the infrastructure of these communities)
- People with disabilities and/or chronic illnesses
- Individuals or families with low to moderate income
- Individuals or families without access to a vehicle
- Individuals or families with limited English proficiency

The survey then asked participants to identify *additional* demographics that deserve special consideration or attention. The following additional groups were identified by survey respondents as being vulnerable to climate hazards:

- Homeless population (and homeless veterans)
- Pregnant women,
- Parents of small children
- Frontline workers
- New residents without social networks
- College students
- People without internet/mobile access
- Undocumented immigrants, refugees
- People experiencing food or housing insecurity
- Outdoor workers
- People in low-lying areas
- Renters relying on goodwill of landlords
- Incarcerated people
- Pets
- Individuals reliant upon electrically dependent medical equipment
- People suffering from substance abuse
- Individuals living alone/socially isolated

The survey then asked for specific locations in Fairfax County that have been observed as especially vulnerable to climate change impacts. Respondents were able to identify locations that are vulnerable to flooding, heat, and power outages, in addition to general climate vulnerability due to socioeconomic factors.

In response to this question, respondents provided a variety of location types, including addresses, neighborhoods, intersections, and roadways. To protect the anonymity of specific addresses, and to enable consistent mapping of these locations, all responses were converted into representative roadways for the purposes of this survey report. However, it is acknowledged that climate effects are not limited to roadways. The maps below are intended to provide a general visualization of responses; they are not intended to convey that only the roadways themselves are affected.

It should be noted that in addition to these survey maps, the Resilient Fairfax climate vulnerability and risk assessments will include GIS layers from numerous county departments as well as data from regional, state, and federal partners.

Figure 17. Locations survey takers identified as especially vulnerable to flooding

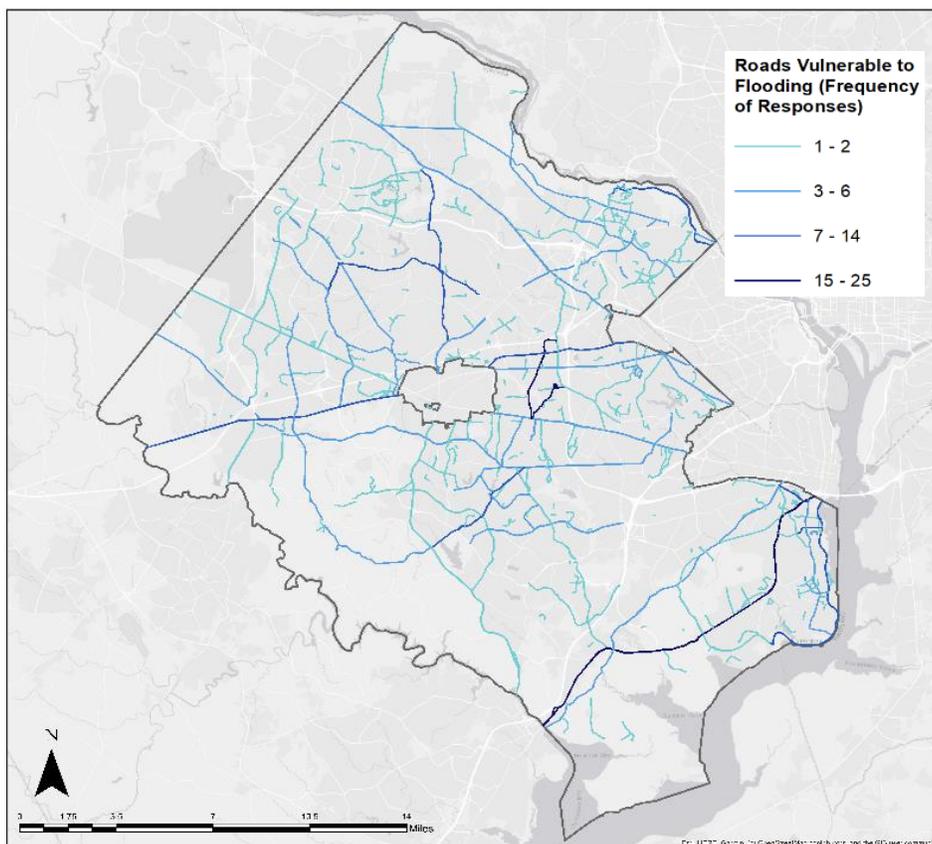


Figure 17 shows locations that survey respondents identified as vulnerable to flooding. The most frequent responses included Prosperity Avenue, Woodburn Rd, Belle View Boulevard, Richmond Highway, Hunter Mill Road, Lawyers Road, Lee Highway, Huntington Avenue, Burke Lake Road, George Washington Memorial Parkway, Braddock Road, Old Dominion Drive, Burke Road, Clifton Road, Fox Mill Road, and Little River Turnpike.

Please note that this map is based only on survey responses and should not be interpreted as a complete representation of flood vulnerability in Fairfax County. More comprehensive flood-related databases are maintained by numerous county departments.

Figure 18. Locations survey takers identified as especially vulnerable to storm damage and power outages

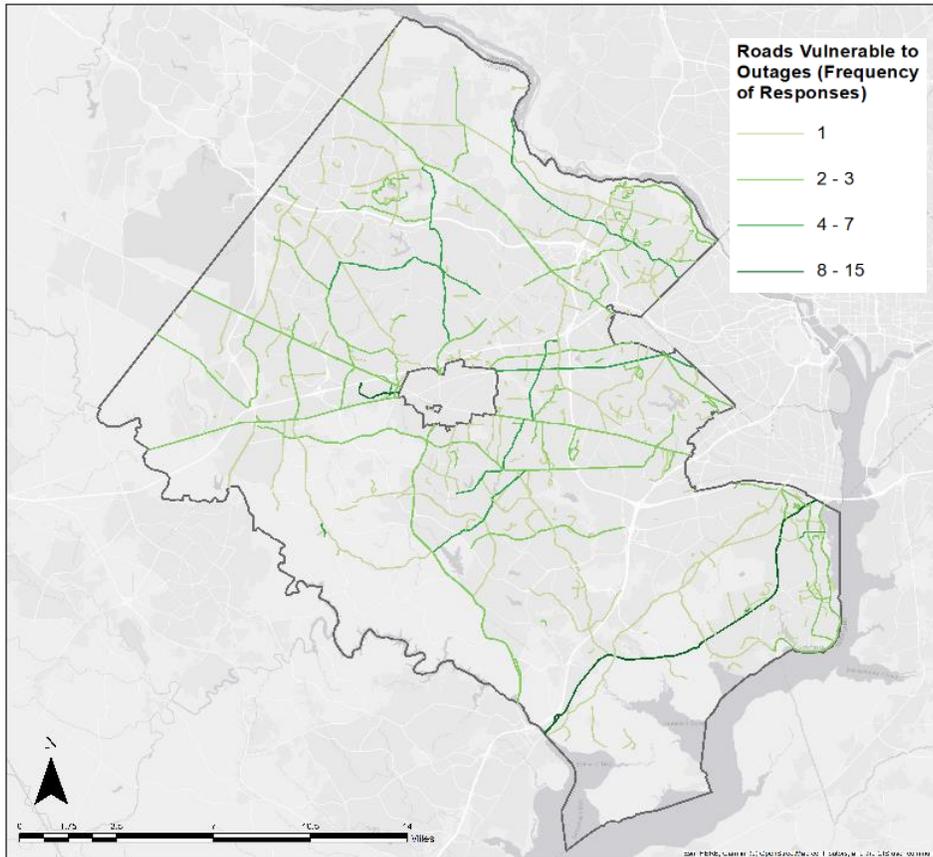


Figure 18 shows locations that survey respondents identified as vulnerable to storm damage including power outages. The most frequent responses included Richmond Highway, Government Center Parkway, Belle View Blvd, Burke Lake Road, Prosperity Ave, Hunter Mill Rd, Old Dominion Drive, Lawyers Rd, and Main Street.

Please note that this map is based only on survey responses and should not be interpreted as a complete representation of storm and power outage vulnerability in Fairfax County. Comprehensive power outage maps are available from electricity providers.

Figure 19. Locations survey respondents identified as vulnerable to heat

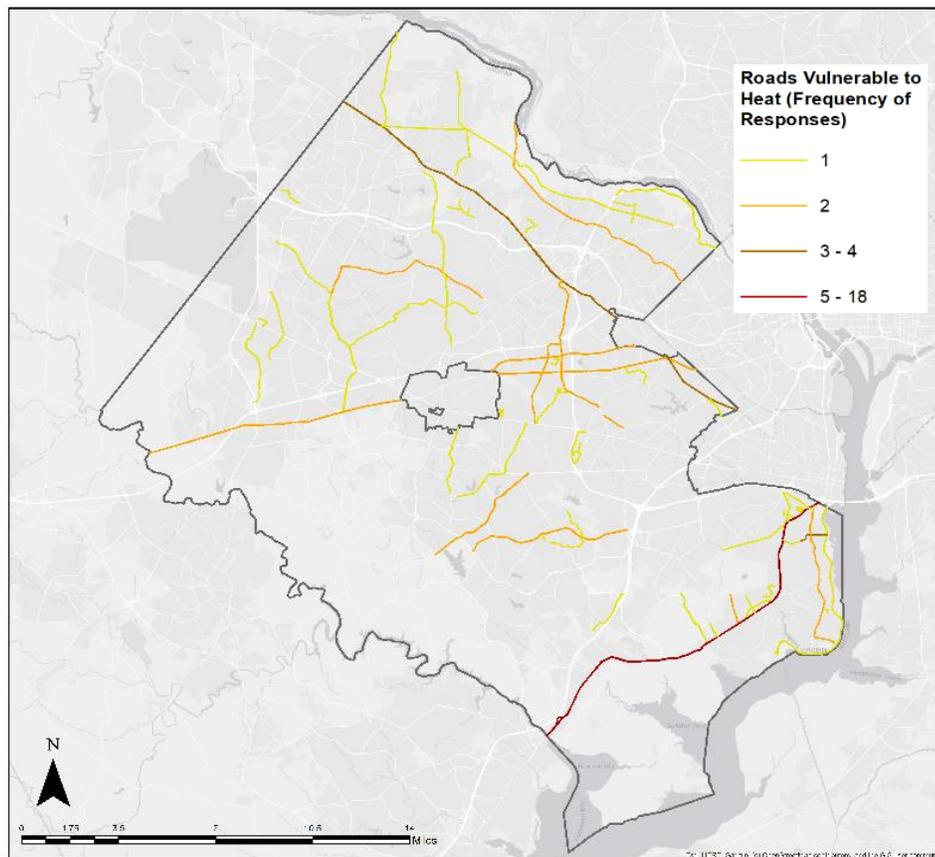


Figure 19 shows a map of locations survey respondents identified as especially vulnerable to extreme heat. Common responses included Richmond Highway, Leesburg Pike, Lee Highway, Prosperity Avenue, Gallows Road, Frye Road, Old Keene Mill Road, Lawyers Road, Old Dominion Drive, Burke Lake Road, and Belle View Boulevard.

Please note that this map is based on survey responses only and should not be interpreted as a complete representation of extreme heat issues or urban heat island effect in Fairfax County. A comprehensive analysis of the urban heat island effect in Fairfax County using land surface temperature data is available from the Fairfax County Office of Environmental and Energy Coordination, in partnership with NASA Develop.

Figure 20. Locations survey respondents identified as socioeconomically vulnerable to climate effects

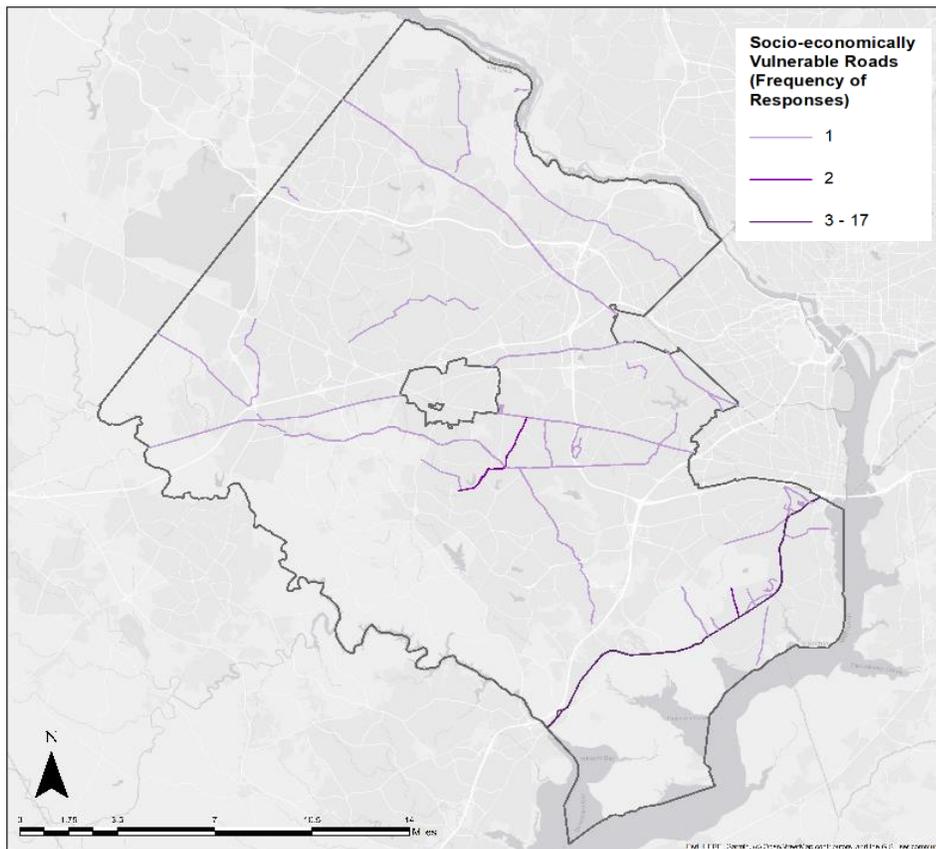


Figure 20 shows a map of locations identified by survey respondents as potentially more vulnerable to climate effects due to socioeconomic factors. Common responses included Richmond Highway, Frye Road, Guinea Road, Leesburg Pike, and Little River Turnpike.

Please note that this map is based on survey responses only and should not be interpreted as a complete representation of socioeconomic vulnerability in the county. Comprehensive socioeconomic vulnerability analyses and maps are available from One Fairfax.

Next, survey participants were asked to identify physical infrastructure that may be at risk of climate effects, *in addition* to those listed below:

- Homes
- Businesses
- Critical response buildings like emergency operations centers, hospitals and urgent care facilities, police stations, fire stations, and government buildings.
- Government Buildings & Operations like offices, libraries, schools, service centers, and community centers.
- Energy and communications infrastructure like electricity lines, cellular towers, gas lines, substations, and data centers.
- Natural infrastructure like parks, protected areas, streams and water bodies, forests, wetlands, and green infrastructure.
- Transportation infrastructure like airports, bicycle and pedestrian infrastructure, rail and transit, roadways and highways, and bridges
- Waste management infrastructure like landfills, hazardous storage facilities, refuse facilities, and collection areas.
- Water infrastructure such as drinking water, stormwater, and wastewater infrastructure.
- Farms and agricultural areas
- Other community services buildings such as non-governmental service centers and essential services.

Survey respondents noted the following additional physical infrastructure that may be at risk of damage due to climate effects.

- Small, distributed stormwater facilities
- Hazardous trees
- Essential retail services (grocery stores, pharmacies, etc.)
- Transportation structures (bike lanes, EV charging stations)
- Animal shelters
- Streams, creeks, etc., that normally handle run-off
- Undeveloped land
- Historic structures
- Homeless shelters
- Detention centers
- Long-term care facilities (skilled nursing facilities and assisted living facilities), dialysis centers, and intermediate care facilities for the intellectually disabled.
- Churches and faith-based institutions
- Green infrastructure
- Day cares
- Marinas and other waterfront areas
- Universities

III.VIII. Open Comments

The following open-ended question was posed to close out the survey: “Do you have any other questions or comments for us?”

The full spreadsheet of comments can be found on the OEEC website.

Comments made in response to this question were mixed. While many comments offered support for the climate resiliency efforts being undertaken by the County, others voiced concern about this effort, about climate action more generally, and about the spending of taxpayer money on this work.

Many comments described existing climate concerns and voiced interest in several adaptation and resiliency strategies. The bullets below summarize the main themes from the strategies identified:

- **Parks and trees:** Provide incentives for homeowners to preserve trees and natural habitat on their properties; instate protection for mature trees; increase shading structures and tree canopy cover in parks; conduct wide-scale tree planting across the county.
- **Flooding:** Prohibit development in the floodplain and resource protection areas; buy out properties located in the floodplain; make infrastructure improvements in low-lying areas and along the shoreline; invest in the protection of stream valleys from increasing damage from storms and floods; limit construction in places intended for stormwater management.
- **Emergency planning:** In the event of an emergency, the county must be resilient against communications disruptions too (i.e., back-up plan in case the internet fails). One comment cited an example of when the internet went down during the derecho and the radio directed its listeners to websites that could not be reached for emergency supplies and information.
- **Adaptive capacity:** The Board of Supervisors need to hire more staff to manage and administer emerging programs related to climate resiliency.
- **Public health:** With milder winters, insects and pest control will become an important concern.
- **Collaboration:** Coordinate with local, state, and federal powers on zoning and building codes.
- **Other concerns:** Many comments used this platform to bring to light a number of related climate, environment, and social issues. For example, many survey respondents identified the need to take action to decarbonize, reduce emissions, and promote clean energy (e.g., incentives for solar PV and electric vehicles). Other requests included: efforts to reduce pollution and prevent waste from being dumped into the county’s waterways, zero-waste and composting initiatives, strategies to address rising crime and lawlessness, and COVID-19 procedures (e.g., pushing for continued telework).

IV. Appendix

Resilient Fairfax Climate Adaptation and Resilience Plan Public Survey #1

Thank you for taking the time to provide your feedback on climate resilience and adaptation in Fairfax County. This survey is issued by the Fairfax County Office of Environmental and Energy Coordination (OEEC). OEEC is responsible for the [Resilient Fairfax](#) initiative, which is a county-wide effort to help prepare our community, infrastructure, and services for climate change effects such as extreme storms, heat, and flooding. Your input is critical to that preparation. Many questions on this survey are yes/no or multiple choice. The survey should take approximately 10 minutes to complete. Your answers to this survey will remain anonymous.

General

1. What is your connection to Fairfax County? **(Required Question)*

(Select all that apply)

- Live in Fairfax County
- Work in Fairfax County
- Worship in Fairfax County
- Shop in Fairfax County
- Recreate/play in Fairfax County
- Other _____
- All of the above
- None of the above

2. How long have you been connected to Fairfax County?

(Choose your longest affiliation. For example, if you have worked in Fairfax County for 20 years but only lived here for 10 years, choose 20 years.)

- 0 – 5 years
- 6 – 10 years
- 11 – 15 years
- 16 – 20 years
- 21 years or more

3. On a scale of 1-10, how concerned are you about climate change?

(1 = “not at all” and 10 = “extremely concerned”)

Climate change is defined as long-term change in the average weather patterns that define Earth’s local, regional, and global climates. These changes are attributed directly or indirectly to human activity that alters the composition of the atmosphere. These changes have a range of observed effects. In this region, example effects include increased storm severity, flooding, temperature change, and other effects.

- 1-10

4. Are you concerned about any of the following climate hazards in Fairfax County?

(Check all that apply)

- Flooding** *(sea level rise & tidal flooding, stormwater, inland flooding, etc.)*

- Temperature change** (*extreme heat, extreme cold, general change in temperature patterns throughout the year, etc.*)
- Severe storms** (*wind, hurricanes, tornadoes, derechos, severe thunderstorms, etc.*)
- Drought** (*lack of rain, reduced water supply*)
- Fire risk** (*dry conditions, wind, and heat making fires more likely*)
- Other** _____

Flooding

5. **If you live in Fairfax County, have you experienced flooding in your current neighborhood in the last five (5) years?**
 - Yes
 - No
 - I do not live in Fairfax County

6. **If you live in Fairfax County, have you experienced flooding in your current home in the last five (5) years?**
 - Yes
 - No
 - I do not live in Fairfax County

7. **If you work in Fairfax County, have you experienced flooding at your place of work in the last five (5) years?**
 - Yes
 - No
 - I do not work in Fairfax County

8. **Other than your home or work, have you seen other places in Fairfax County flood in the last five years? (For example, your place of worship, recreation site, shopping center, or place you drive through, or another place)?**
 - Yes
 - No
 - I don't know

9. **Do you currently have flood insurance?**
 - Yes
 - No
 - I don't know

Temperature

10. **As temperatures change, access to air conditioning and heat can be very important, especially for groups experiencing vulnerabilities. How often do you use air conditioning (AC) /heating in your home?**
 - Always** (every day during the warmest/coldest months)
 - Usually** (a few times a week during the warmest/coldest months)
 - Sometimes** (*a few times a month*)

- Rarely (only a few times during the hottest or coldest days)
- Never (I never turn on my AC/heat)
- I do not have AC/heating

If they selected “always” or “usually,” skip straight question 11.

If they selected “sometimes, rarely, never, or I do not have AC/heating, send to this follow-up question:

10A. What are your reasons for not using air conditioning (AC) or heat very often??

(Select all that apply)

- The cost of the AC/heating system is too high for me.
- The cost of electricity is too high for me.
- I prefer to use fan/fireplace or other methods instead.
- I do not need to use AC/heat.
- I do not use AC/heat for environmental reasons, but I could afford it if needed.
- Other (please specify). _____

11. On days that are extremely hot, where do you go?

(Select all that apply and include places you would visit prior to COVID-19).

- Stay home
- Friend/family/neighbor's home
- Pool/splash park
- Park or other public outdoor space (cemetery, waterfront, the beach)
- Library
- Place of Worship
- Recreation center
- Senior center
- Movie theater or shopping area
- Other public air-conditioned space
- Other _____

12. On days that are extremely cold, where do you go?

(Select all that apply and include places you would visit prior to COVID-19).

- Stay home
- Friend/family/neighbor's home
- Library
- Place of Worship
- Recreation center
- Senior center
- Movie theater or shopping area
- Other public heated space
- Other _____

13. Have you heard of the county's [Energy Assistance](#) programs that help residents pay for heating and air conditioning when they cannot afford it?

- Yes
- No

Storms, Power Outages, and Other

14. If you live in Fairfax County, have you seen storm damage (other than flooding) in your current neighborhood in the past five (5) years?

- Yes
- No
- I don't live in Fairfax County.

15. If you live in Fairfax County, has your current home been damaged by storms (other than flooding) in the past five (5) years?

- Yes
- No
- I don't live in Fairfax County.

16. If you work in Fairfax County, has your current place of work been damaged by storms in the past five (5) years?

- Yes
- No
- I don't work in Fairfax County

17. In the past five (5) years, have you experienced a power outage in Fairfax County that has:

- Resulted in spoiled food
- Resulted in loss of medications that require refrigeration
- Affected your ability to run life-supporting devices
- Resulted in your home being too hot or too cold to stay inside
- Caused you to lose the ability to use your phone or internet for communication
- Other significant impacts _____
- I experienced power outages, but no significant impacts
- I did not experience power outages
- I don't know.

In the event of an emergency or natural disaster:

18. Do you have another place you could stay if your home were damaged, such as with family or friends?

- Yes
- No

19. Do you have your neighbors' contact information (phone number)?

- Yes
- No

20. Do you feel like you could count on your neighbors for help in a disaster?

- Yes
- No

21. Do you have money saved that you could use in case a natural disaster forced you to temporarily relocate or caused significant damage to your home?

- Not at all (*I have no, or very little money saved for emergencies*)
- Somewhat (*I have some money saved for emergencies, but it would not last long*)
- Yes (*I have adequate money saved for emergencies*)

22. Are you signed up for Fairfax Alerts? [Fairfax Alerts](#) is a free alert system offered by Fairfax County to share information during emergency situations.

- Yes
- No

People and Places Experiencing Vulnerability in Fairfax County

23. We are all at risk of climate change effects, but some are more at risk than others. Which of your neighbors might have extra difficulty during climate emergency? Please take a look at the list below and let us know if there are additional populations we should consider.

- Children
- Seniors
- People of color
- People with disabilities and/or chronic illnesses
- Individuals or families with low to moderate income
- Individuals or families without access to a vehicle
- Individuals or families with limited English proficiency

What additional demographics deserve special consideration/attention?"

- Please also consider _____

24. Do you know about specific locations in Fairfax County that are especially vulnerable to climate change effects?

Certain places in the County may be more vulnerable to climate change effects. For example, some streets may be more likely to flood because they are closer to the water or have drainage challenges. Some areas may be hotter because they have more asphalt and fewer trees.

- Yes
- No, or not that I can think of

(If no, please direct them to Question 26.)

(If yes), please direct them to these questions:

25A. To help us map these vulnerable areas, please type in an intersection or street name in that area. For example, "Chesterbrook Road and N. Albemarle Street."

25B. To which climate effects is this area especially vulnerable? (Check boxes)

- Flooding
- Extreme Heat
- Storms/ power outages
- General socioeconomic vulnerability
- Other _____

25. We want to help prepare our physical infrastructure for the impacts of climate change. Please see our proposed list of physical focus areas below. Are we missing anything?

- Homes
- Businesses
- **Critical response buildings** (Emergency Operations Centers, Hospitals and Urgent Care, Police Stations, Fire Stations, Government Buildings)
- **Government Buildings & Operations** (Offices, libraries, schools, service centers, community centers)

- **Energy & Communications Infrastructure** (*Electricity lines, cellular towers, gas lines, substations, data centers etc.*)
- **Natural Infrastructure** (*Parks, protected areas, streams and water bodies, forests, wetlands, green infrastructure*)
- **Transportation Infrastructure** (*Airports, bicycle and pedestrian, rail and transit, roadway and highway, bridges*)
- **Waste Management Infrastructure** (*landfills, hazardous storage facilities, refuse facilities and collection areas*)
- **Water Infrastructure** (*Drinking water, stormwater, and wastewater infrastructure*)
- **Farms & agricultural areas**
- **Other Community Services Buildings** (*Non-governmental service centers, essential services*)

Please also consider _____

Questions about you

We have just a few more questions, about you. This will help us know who participated in the survey, where we may need further outreach, and which areas of the county we should potentially examine further for climate vulnerabilities.

26. If you live in Fairfax County, what is your address or street name?

(Your results will remain anonymous. We are using this information only to identify areas that may need County attention for issues such as flooding and power outages.)

27. If you work in Fairfax County, what is your work address or street name?

(Your results will remain anonymous. We are using this information only to identify areas that may need County attention for issues such as flooding and power outages.)

28. How do you describe yourself? Please select all answers that apply to you.

- White
- Black or African American
- Hispanic or Latino/a/x
- Asian
- Middle Eastern or North African
- Native Hawaiian or Other Pacific Islander
- American Indian or Alaska Native
- Biracial or multiracial
- Other _____
- Prefer not to answer

29. What is your age?

- Under 18
- 18 – 29
- 30 – 39
- 40 - 49
- 50 – 59
- 60 – 69

- 70 and above

30. What is your gender?

- Man
- Woman
- Non-binary
- Another gender identity
- Don't know/ not sure
- Prefer not to answer

31. What is your yearly income? (If your family shares income in the household, choose the total income from all family members. If you are an individual who relies only on your own income, choose your income only.)

- Less than \$30,000
- \$30,000 to less than \$50,000
- \$50,000 to less than \$70,000
- \$70,000 to less than \$90,000
- \$90,000 to less than \$120,000
- \$120,000 to less than \$140,000
- \$140,000 to less than \$160,000
- \$160,000 or more
- Prefer not to answer

32. Do you or do members of your household have any health conditions that make you more sensitive to cold, heat, or air pollution? Examples include asthma and other breathing problems, heart disease, poor circulation, migraines, multiple sclerosis, and certain mental illnesses.

(Your responses will remain anonymous).

- Yes
- No

33. Do you have any other questions or comments for us?