

## Gauging Awareness of Salt Use

Thank you for taking the time to complete this survey! This 27 question survey should take about 11 minutes to complete.

Responses to this survey will help inform future efforts to better manage snow and ice in the Northern Virginia region. When filling out this survey, please make sure to answer with what you truly feel/think and refrain from responding with what you think the answer should be. Our goal here is to understand the expectations and perspectives of the Northern Virginia general public.

If you know of any person or group of people who would be willing to complete this survey, please share this link with them (<https://www.surveymonkey.com/r/SaltUseAwareness>) to help us hear from more Northern Virginians!

1. What type of residence do you live in?
  - a. Apartment/condo
  - b. Townhouse
  - c. Single family home
  - d. Other (e.g. dorm, group home, etc.)
  
2. Please enter your zip code: (fill in the blank)
  
3. How many years have you lived in this region?
  - a. Less than 1 year
  - b. 1 to 3 years
  - c. 4 to 9 years
  - d. 10 to 19 years
  - e. 20 or more years
  
4. Please select all the places where you have lived.
  - a. I have always lived in Northern Virginia
  - b. Great Lakes (e.g. MN, WI, IL, OH etc.)
  - c. Mid-Atlantic (e.g. MD, NC, PA, VA, etc.)
  - d. Midwest (e.g. NE, MO, KS, etc.)
  - e. Northeast (e.g. NJ, NY, VT, NH, etc.)
  - f. Rocky Mountains (e.g. CO, MT, ID, WY etc.)
  - g. Southeast/Gulf Coast (e.g. FL, GA, LA, MS, SC, etc.)
  - h. Southwest (e.g. TX, NM, AZ, etc.)
  - i. West Coast (e.g. CA, OR, WA, etc.)
  - j. Other: \_\_\_\_\_
  
5. What is your primary mode of transportation to get to work or another destination on a daily or regular basis?
  - a. Personal vehicle

- b. Car/Vanpool
  - c. Public transportation (e.g. train, metro, bus)
  - d. Bicycle
  - e. Walk
  - f. I do not need to leave my residence on a daily/regular basis
6. How far (in miles) do you typically travel (to work or another destination) on the roads on a daily/regular basis?
- a. 0-5 miles
  - b. 6-15 miles
  - c. 16-30 miles
  - d. 31 miles or more
7. What jurisdictions in Northern Virginia do you typically travel (such as to work or another destination) in or through on a daily or regular basis (select all that apply)?
- a. City of Alexandria
  - b. Arlington County
  - c. District of Columbia
  - d. City of Fairfax
  - e. Fairfax County
  - f. City of Falls Church
  - g. Town of Leesburg
  - h. Loudoun County
  - i. City of Manassas
  - j. City of Manassas Park
  - k. Prince William County
  - l. Town of Vienna
8. Do you typically clear snow or ice from your driveway and/or sidewalk of your residence?
- a. Yes, I do it myself
  - b. I have a snow/ice removal service that does it
  - c. I don't clear the snow/ice (I let it melt)
  - d. Other: \_\_\_\_\_
9. If you answered "Yes, I do it myself" to the above answer (or if you have a service and understand their practice), please number (in order of steps taken) the applicable steps you typically take when clearing snow or ice from your driveway and/or sidewalk (only number which steps apply).
- a. Apply deicer (i.e. rock salt, brine, etc.) prior to winter storm event
  - b. Remove snow (i.e. shoveling or other mechanical method)
  - c. Apply deicer (e.g. rock salt, brine, etc.) – on entire surface
  - d. Apply deicer (e.g. rock salt, brine, etc.) – only on icy areas, slopes or high traffic areas
  - e. Apply an abrasive for tracking (e.g. sand, kitty litter, etc.)
10. Do you think there are action(s) residents can take to use less salt around their residence?

- a. Yes
- b. No

11. If you answered “Yes” to the above question, what are some actions you think residents can take to use less salt around their residence (select all that apply)?

- a. Apply deicer (i.e. rock salt, brine, etc.) at recommended application rates prior to winter storm event
- b. Remove snow (i.e. shoveling or other mechanical method)
- c. Do not apply deicer (e.g. rock salt, brine, etc.)
- d. Apply minimal amount of deicer (e.g. rock salt, brine, etc.) on icy areas, slopes or high traffic areas
- e. Apply an abrasive for traction (e.g. sand, kitty litter, etc.)
- f. Educate oneself on optimized practices residents can take
- g. Be patient and wait for deicer to work or snow/ice to melt
- h. If a snow/removal service is hired, inquire on methods used and request optimizing practices.
- i. Do not remove snow/ice (wait for it to melt)
- j. Other: \_\_\_\_\_

12. On a scale of 1 to 5, please indicate your willingness to take one or more of the above actions.

0 (Not willing) – 3 (Consider it, if convenient or able to do it) – 5 (Willing / Already doing it)

13. Please indicate (on a scale of 1 to 5) how strongly you agree or disagree with the following statements:

- a. When treating my own residence or when I am out shopping or at a place of business, the parking lot and sidewalks are properly treated when I see and feel the salt under my feet.

(Strongly Disagree) – 3 (Depends on the storm) – 5 (Strongly Agree)

- b. Interstates/major highways should be maintained to bare pavement (i.e. no snow or ice) during a winter storm event or immediately after precipitation stops.

0 (Strongly Disagree) – 3 (Depends on the storm) – 5 (Strongly Agree)

- c. Local/neighborhood roads should be maintained to bare pavement (i.e. no snow or ice) during a winter storm event or immediately after precipitation stops.

0 (Strongly Disagree) – 3 (Depends on the storm) – 3 (Strongly Agree)

- d. I do not think it is necessary to stay off the roads during a winter storm event.

0 (Strongly Disagree) – 3 (Depends) – 5 (Strongly Agree)

14. During a winter storm event or immediately after one ends, which of the following reasons would cause you to leave your residence and travel on the roads (select all that apply)?
- If there is an emergency
  - To get to work (when teleworking isn't an option)
  - Shopping for essential food or medicine
  - Run an errand / go to the store
  - Keep an appointment (e.g. doctor's or other)
  - Social outing (e.g. meet up with friends, see a movie, go out for food, etc.)
  - Recreation (e.g., sledding, photography, hiking, etc.)
  - I never leave during or immediately after a winter storm event
  - Other: \_\_\_\_\_
15. During a winter storm event (e.g. snow, sleet, freezing rain) what is your expectation for the condition of MAIN roads (e.g. interstates and major highways)?
- Completely clear with visible salt to prevent refreeze
  - Mostly clear with some slick patches and visible salt to prevent refreeze
  - Part of the road cleared, with minimal visible salt
  - Not clear with no visible salt
  - Other: \_\_\_\_\_
16. During a winter storm event (e.g. snow, sleet, freezing rain) what is your expectation for the condition of SECONDARY roads (e.g. local highways, residential/neighborhood roads)?
- Completely clear with visible salt to prevent refreeze
  - Mostly clear with some slick patches and visible salt to prevent refreeze
  - Part of the road cleared, with minimal visible salt
  - Not clear with no visible salt
  - Other: \_\_\_\_\_
17. How soon after a winter storm event (e.g. snow, sleet, freezing rain) do you expect the MAIN roads (e.g. interstates and major highways) to be cleared?
- During the storm
  - As soon as the snow/ice stops falling
  - < 12 hours after the storm event
  - < 24 hours after the storm event
  - It depends on the amount of snow, but generally within 72 hours after snow/ice stops falling
  - Other: \_\_\_\_\_
18. How soon after a storm event do you expect the SECONDARY roads (e.g. local highways, residential/neighborhood roads) to be cleared?
- During the storm
  - As soon as the snow/ice stops falling
  - < 12 hours after the storm event

- d. < 24 hours after the storm event
- e. It depends on the amount of snow, but generally within 72 hours after snow/ice stops falling
- f. Other: \_\_\_\_\_

19. Do you think the driving public can take action(s) that help transportation authorities carry out optimized snow/ice removal services?

- a. Yes
- b. No

20. If you answered “Yes” to the above question, what are some actions you think the driving public can take (select all that apply)?

- a. Work at home when possible
- b. Reduce travel or stay at home during winter storms
- c. Drive at reduced speeds during winter storms
- d. Use snow tires during the winter months
- e. Be patient and accept that not all roads will be cleared immediately after precipitation stops falling
- f. Listen to the recommendations from transportation authorities
- g. Ensure essential food/medicine/supplies are on hand prior to a storm
- h. Other: \_\_\_\_\_

21. On a scale of 1 to 5, please indicate your willingness to take one or more of the above actions.

0 (Not willing) – 3 (Consider it, if convenient or able to do it) – 5 (Willing / Already doing it)

22. Looking at the picture below, do you think the amount of salt used is sufficient?

- a. Yes
- b. No, more should have been used
- c. No, too much was put down
- d. Not sure

23. Do you think there could be harmful impacts from the salt applied (looking at the picture below)?

- a. Yes
- b. No

c. Not sure



24. What impacts do you think are related to the use of salt on roads, parking lots and walkways?

(select all that apply)

- a. Damage/rust to cars
- b. Pollution of local streams
- c. Contamination of drinking water
- d. Irritates dogs' paws
- e. Damages infrastructure (such as roads, bridges, concrete)
- f. Bad for plants/landscaping
- g. None
- h. Other: \_\_\_\_\_

25. What other ideas do you have for safely reducing the impacts from salts used to manage snow and ice?

OPTIONAL: Demographics Survey

Please consider answering the below questions.

1. Are you:
  - a. Male
  - b. Female
  - c. Non-binary / Third Gender
  - d. Prefer to self-describe: \_\_\_\_\_
  - e. Prefer not to answer
  
2. Which of the following categories includes your age?
  - a. Under 16
  - b. 16 to 19
  - c. 20 to 24
  - d. 25 to 39
  - e. 40 to 54
  - f. 55 to 69
  - g. 70 or older
  - h. Prefer not to answer