



UtahStateUniversity

## Start

### Utah Snow Clearance Study – Winter 2024

**Welcome!** Please fully review the following Letter of Information before deciding whether or not participate in this study.

### **Letter of Information – Utah Winter Snow Clearance Study**

You are invited to participate in a research study by Patrick Singleton, an Associate Professor in the Department of Civil and Environmental Engineering at Utah State University. This work is being done on behalf of the Utah Department of Transportation.

**The purpose of this research is to understand public perceptions about snow clearance.** Specifically, we are interested in learning about your experiences, perceptions, and satisfaction regarding snow and ice on Utah's

transportation system. You are being asked to participate in this research because you are an adult resident of Utah, and you may have experienced a recent winter storm.

**Your participation in this study is voluntary** and you may withdraw your participation (for any reason) only during your active participation, by closing out a browser. Once you submit the survey, you are unable to withdraw because the researchers will not be able to connect you with your survey response.

If you take part in this study, you will be asked to complete a 10-minute online survey.

**The possible risks of participating in this study** include loss of confidentiality. We cannot guarantee that you will directly benefit from this study, but it has been designed to learn more about snow clearance and winter maintenance activities.

**We will make every effort to ensure that the information you provide remains confidential.** We will not reveal your identity in any publications, presentations, or reports resulting from this research study.

**We will collect your information through** Qualtrics, an online survey platform. Online activities always carry a risk of a data breach, but we will use systems and processes that

minimize breach opportunities. This survey data will be securely stored in a restricted-access folder on Box.com, an encrypted, cloud-based storage system. Any potentially-identifying information you share with the researchers (for example, in open-text responses) will be removed when creating an anonymized version of the survey responses, once data collection is complete. This anonymized dataset will be retained indefinitely in an open-data repository (e.g., Zenodo).

**For your participation in this research study you will receive** an amount as defined in your agreement with Qualtrics or their partners, not directly from USU. To receive payment, you must complete the entire survey.

You can decline to participate in any part of this study for any reason and can end your participation at any time prior to submitting the survey.

If you have any questions about this study, you can contact Patrick Singleton at 435-797-7109 or [patrick.singleton@usu.edu](mailto:patrick.singleton@usu.edu). Thank you again for your time and consideration. If you have any concerns about this study, please contact Utah State University's Human Research Protection Office at (435) 797-0567 or [irb@usu.edu](mailto:irb@usu.edu).

**By continuing to the survey, you agree that you are 18 years of age or older, and wish to participate.** You agree

that you understand the risks and benefits of participation, and that you know what you are being asked to do. Please be sure to retain a copy of this form for your records: [download the Letter of Information](#).

Please select "Accept" if you have read the letter of information and agree to participate in this study.

- ☐ Accept
- ☐ Decline

Do you live in Utah?

- ☐ Yes
- ☐ No

Which **zip code** do you live in?

Are you 18 years or older?

☐ Yes

☐ No

You have declined to participate in this study. If you change your mind, click "Accept" above. Otherwise, please click "Next" to end.

Unfortunately, this survey is only available to Utah residents who are at least 18 years old. Please click "Next" to end.

## Winter storm

First, we have some questions for you about a recent winter storm in your area. **This storm affected northern Utah (Box Elder and Cache Counties) on Thursday February 8 and Friday February 9.**

**How much snow and ice fell** in your area during the total duration of the winter storm?

- ☐ Less than 1 inch
- ☐ 1 inch
- ☐ 2 inches
- ☐ 3 inches
- ☐ 4-6 inches
- ☐ 7-11 inches
- ☐ 1 foot or more

For the following questions: **How did this winter storm compare** to typical winter storms in your area?

Did this winter storm bring **more or less snow and ice** than normal?

- ☐ Much more
- ☐ Somewhat more
- ☐ About the same
- ☐ Somewhat less
- ☐ Much less

Was this winter storm **longer or shorter** than normal?

- ☐ Much longer
- ☐ Somewhat longer
- ☐ About the same
- ☐ Somewhat shorter
- ☐ Much shorter

Was this winter storm **more or less intense or severe** than normal?

- ☐ Much more
- ☐ Somewhat more
- ☐ About the same
- ☐ Somewhat less
- ☐ Much less

Did this winter storm happen at a **worse or better time of day or day of week** than normal?

- ☐ Much worse
- ☐ Somewhat worse
- ☐ About the same
- ☐ Somewhat better
- ☐ Much better

## Travel behavior

Now, we have some questions about **how you traveled (or didn't travel)** during/after this recent winter storm.

**Did you travel (leave your home)** for any reason during or soon after this recent winter storm?

- ☐ Yes
- ☐ No



**Why** didn't you travel (leave home)? Select all that apply.

- ☐ I had no reason to travel
- ☐ Things were cancelled (work, school, meetings, appointments, events).
- ☐ The roads, streets, and sidewalks were not in good condition.
- ☐ I had no transportation options.
- ☐  Other (please specify)

**Why** did you travel (leave home)? For what **purpose(s)**?  
Select all that apply.

- ☐ Work
- ☐ Attend school
- ☐ Work- or school-related activities
- ☐ Eat meal at restaurant
- ☐ Service private vehicle (gas, oil, repairs, etc.)
- ☐ Shopping (groceries, clothing, convenience store, etc.)
- ☐ Drop off or pick up passenger(s)
- ☐ Civic or religious activities
- ☐ Other errands or appointments (bank, professional office, doctor/dentist, etc.)
- ☐ Outdoor or indoor exercise (sports, jogging, bicycling, walking dog, gym, etc.)
- ☐ Social or entertainment activities (friends/relatives, movie, etc.)
- ☐  Other (please specify)

What **transportation mode(s)** did you use? Select all that apply.

- ☐ Walk
- ☐ Bicycle
- ☐ Skateboard, scooter, wheelchair, or other small device
- ☐ Car/Van/Truck/SUV Driver
- ☐ Car/Van/Truck/SUV Passenger
- ☐ Motorcycle
- ☐ Public bus or train (examples: UTA, TRAX, FrontRunner)
- ☐ School bus
- ☐  Other (please specify)

Because of the winter storm, did you make any **changes to how you traveled** (got around)? Select all that apply.

- ☐ I did more activities / made more trips before the storm arrived.
- ☐ I canceled some of my planned activities / trips.
- ☐ I waited until after the storm to do some activities / trips.
- ☐ I changed the time-of-day when I did some activities / trips.
- ☐ I traveled using different transportation modes than normal.
- ☐ I traveled more slowly or cautiously than normal.
- ☐  Other (please specify)
- ☐ No changes

## Satisfaction

Next, we have some questions about how **satisfied** you were with **snow and ice clearance during this winter storm**.

How would you rate (1-5 stars) snow and ice clearance on the following **types of transportation facilities**?

	☆☆☆☆☆ (1)	☆☆☆☆☆ (2)	☆☆☆☆☆ (3)	☆☆☆☆☆ (4)	☆☆☆☆☆ (5)	I don't know, or Not applicable
Limited-access highways (example: I-15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Major roads with more traffic (example: US-89)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local neighborhood streets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sidewalks and pedestrian crossings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bus stops and train stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bike lanes and trails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you rate (1–5 stars) snow and ice clearance by the following **groups**?

	☆☆☆☆☆ (1)	☆☆☆☆☆ (2)	☆☆☆☆☆ (3)	☆☆☆☆☆ (4)	☆☆☆☆☆ (5)	I don't know, or Not applicable
A building owner or property manager	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local businesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
City or county government	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State government (UDOT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

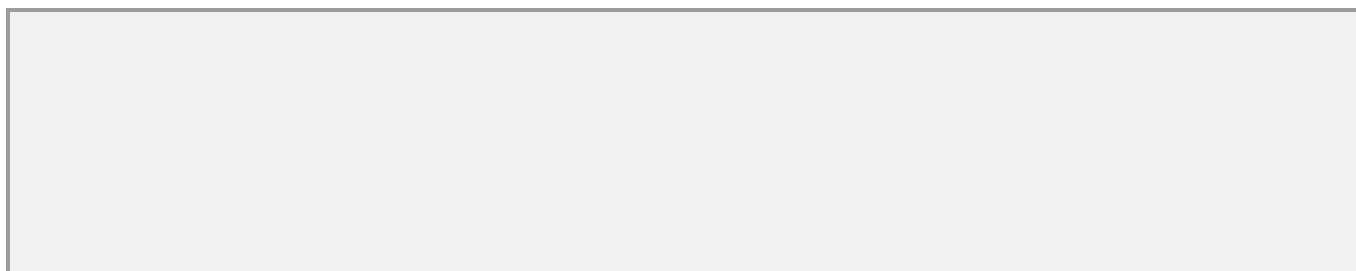
Overall, how **satisfied** were you with snow and ice clearance during this recent winter storm?

- ☐ Extremely dissatisfied
- ☐ Somewhat dissatisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Somewhat satisfied
- ☐ Extremely satisfied

What specific locations (which highways, roads, streets, sidewalks, paths, places) were **better than expected**?

A large, empty rectangular box with a thin black border, intended for a response.

What specific locations (which highways, roads, streets, sidewalks, paths, places) were **worse than expected**?

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## Information

Now, we want to know how you learn about winter storms and transportation conditions.

How much did you **hear** about this winter storm before it happened?

- ☐ None at all
- ☐ A little
- ☐ A moderate amount
- ☐ A lot
- ☐ A great deal

How do you normally get **information about winter storms and transportation conditions**? Select your top 3 sources of information.

- ☐ TV
- ☐ Radio
- ☐ Newspaper
- ☐ Road signs
- ☐ App
- ☐ Alert
- ☐ Online
- ☐ Social media
- ☐ Email
- ☐ Word-of-mouth
- ☐  Other (please specify)

Please provide details about these **information sources**.

TV (which channels?)

Radio (which stations?)

Newspaper (which?)

Road signs (where?)

App (which?)

Alert (who from?)

Online (which websites?)

Social media (which platforms?)

Email (which organizations?)

Word-of-mouth (who from?)

Have you used the **new UDOT Traffic app or website**?



Welcome to UDOT Traffic

Get started to discover new and exciting features!

- ☐ Yes, a lot
- ☐ Yes, a little
- ☐ No

**Why** did you used the new UDOT Traffic app/website? What **features** did you use?



What **feedback** do you have about using the new UDOT Traffic app/website?

## Priorities

The following series of questions ask about **your thoughts on snow and ice clearance in general**.

How would you prioritize clearing snow and ice from the following types of **transportation facilities**? Drag to rank in order of priority (first to last):

Bike lanes and trails

Limited-access highways (example: I-15)

Bus stops and train stations

Major roads with more traffic (example: US-89)

Sidewalks and pedestrian crossings

Local neighborhood streets

How would you prioritize clearing snow and ice from the following types of **places**? Drag to rank in order of priority (first to last):

In industrial areas

Near parks and recreational areas

In downtowns and major business districts

Near bus and rail transit centers

In residential neighborhoods

Near schools and hospitals

## Personal and household characteristics

We have a few final questions about **you and the other people you live with in your household**. This information will be used to compare your responses to others.

What is your **age** (in years)?

How would you describe yourself?

- ☐ Male
- ☐ Female
- ☐ Nonbinary/nonconforming
- ☐  Other:
- ☐ Prefer not to answer

How would you describe yourself? (Select all that apply)

- ☐ African American or Black
- ☐ Asian
- ☐ Hispanic or Latino/a/x
- ☐ Middle Eastern
- ☐ Native American or Alaskan Native
- ☐ Pacific Islander or Native Hawaiian
- ☐ South Asian or Indian
- ☐ White or Caucasian
- ☐  Other(s):
- ☐ Prefer not to say

Are you currently enrolled in any type of **school**?

- ☐ Yes
- ☐ No

What is the highest **degree** or level of school you have completed?

- ☐ Less than a high school diploma
- ☐ High school diploma or equivalent (e.g. GED)
- ☐ Bachelor's or associate degree
- ☐ Master's degree, doctorate degree, or professional degree beyond bachelor's degree
- ☐ Prefer not to answer

Are you currently employed in any type of **job or work**?

- ☐ Yes
- ☐ No

Last year, what was your approximate total **household income**? Include pre-tax earnings from you and all other members of your household.

- ☐ Less than \$10,000
- ☐ \$10,000 to \$14,999
- ☐ \$15,000 to \$24,999
- ☐ \$25,000 to \$34,999
- ☐ \$35,000 to \$49,999
- ☐ \$50,000 to \$74,999
- ☐ \$75,000 to \$99,999
- ☐ \$100,000 to \$149,999
- ☐ \$150,000 or more
- ☐ Don't know
- ☐ Prefer not to answer

Which of the following best describes your **type of home**?

- ☐ Single-family house, detached from any other house
- ☐ Single-family house, attached to other houses (row house)
- ☐ Building with 2 apartments/condos (duplex)
- ☐ Building with 3 or 4 apartments/condos
- ☐ Building with 5 to 9 apartments/condos
- ☐ Building with 10 to 19 apartments/condos
- ☐ Building with 20 or more apartments/condos
- ☐ Mobile home or trailer
- ☐ Other (please specify)

Does your household **own or rent** your home?

- ☐ Owned or mortgaged
- ☐ Rented

Including yourself, how many **adults** (age 18+ years) are there in your household?

- ☐ 1 (just me) ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+

How many **children** (age 0 to 17 years) are in your household?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

How many **bicycles** are available at your home?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

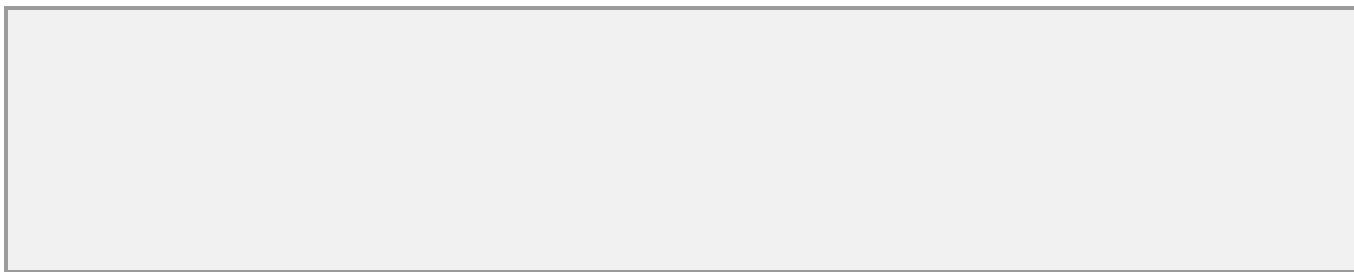
How many **motor vehicles** (cars, vans, trucks, SUVs, motorcycles, etc.) are available at your home?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

**End**

Thank you very much for completing this survey! If you have any **final comments** for the research team, please provide them below. Otherwise, **click "Submit" to end.**





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