



WEATHER-RESPONSIVE MANAGEMENT STRATEGIES

FACTSHEET

Source: Federal Highway Administration.

Pathfinder: Arizona's Coordinated Messaging on Snowstorm Impacts

Background

Pathfinder is a collaborative effort for proactive system management ahead of, during, and after adverse weather events. It facilitates partnerships between the National Weather Service (NWS), State departments of transportation (DOTs), and State DOT private weather-service providers who provide road weather information. Through its efforts, Pathfinder enables the **sharing and translation of weather forecasts and road conditions into consistent transportation impact messaging for the general public**. As a result, weather events' impacts are minimized, lives are saved, and traffic demand is reduced.

The Arizona Department of Transportation (ADOT) and the NWS formally established Pathfinder in the 2019–2020 winter season to facilitate the coordination of winter weather event messaging. Pathfinder in Arizona is implemented statewide for larger weather events across all ADOT Districts and the four NWS Weather Forecast Offices (WFOs) that cover Arizona, and also between individual Districts and WFOs for smaller weather events with medium impacts. Pathfinder coordination, which includes preseason meetings and postseason after-action meetings, occurs for winter weather events and major rain events that will affect burn scar areas and/or cause flooding. This factsheet provides an overview of recent efforts in Arizona to further strengthen Pathfinder practices in relation to snowstorm impact messages.

IMPACTFUL PATHFINDER MESSAGING

Staff at ADOT and NWS wanted to build on existing Pathfinder efforts and to develop winter weather messaging that was fresh, attention-grabbing, and simple to understand for the traveling public. NWS came up with impacts and wording, and ADOT developed the graphics and text to help the public understand the road condition issues. ADOT and NWS staff collaborated through several iterations over a few weeks to generate three graphics, which included content and images that depict increasingly severe impacts from winter weather events. ADOT notes that this effort would not have been possible prior to formalizing a Pathfinder relationship with NWS.

This series of snowstorm impact messages will be disseminated online via social media, as depicted in figure 1, as well as traditional broadcast media (i.e., major news networks). Each of these graphics is intended to provide a message that is easy for the traveling public to quickly read and understand to make an informed decision about travel. Three graphics were developed that could be issued based on the forecast snowstorm severity: extreme impact

(shown in figure 2), major impact, and moderate impact. Each message includes the following elements:

- The severity of snowstorm (e.g., extreme impact snowstorm).
- Recommendations for travelers to consider, such as avoiding travel and packing a winter survival kit.
- A brief description of anticipated road conditions, such as “expect slippery road and limited visibility” or “dangerous travel conditions.”
- A summary of the forecast snowstorm, including an estimated snowfall rate and types of warnings or advisories that are expected to be issued.
- ADOT and NWS logos to signify that both agencies endorse the message.
- A graphic that generally depicts snow-covered roadways that relate to the snowstorm severity.

To date, these graphics were featured on several news media stations in the Phoenix Metro Area as part of a preseason media event. ADOT is using the graphics during the 2021–2022 winter season to better understand how impactful they are as a tool to help the traveling public make better decisions. Specifically, ADOT will examine how often the graphics are posted, “liked,” reshared, and clicked on by users on social media to help assess how useful they are to travelers. Additionally, ADOT staff have used these graphics internally to inform ADOT District staff, including snowplow operators, supervisors, and superintendents, to help them understand and categorize the winter weather event so they know what to expect. This is helpful since ADOT staff from Tucson and Phoenix routinely work in other areas of the State that need additional support for winter weather response.

Available Resources

FHWA Road Weather Management Program Pathfinder Resources: <https://ops.fhwa.dot.gov/weather/resources/publications.htm#edc4>



Figure 1. Arizona Department of Transportation uses the developed major impact snowstorm graphic on social media to alert the public about an upcoming weather event. Image source: Arizona Department of Transportation.



Figure 2. The Extreme Impact Snowstorm graphic developed by Arizona Department of Transportation and NWS communicates the anticipated travel impact and description of the forecast weather event. Image source: Arizona Department of Transportation.

<https://highways.dot.gov>

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