



Esri® Solutions for Weather Maintenance

Snow and Ice Management

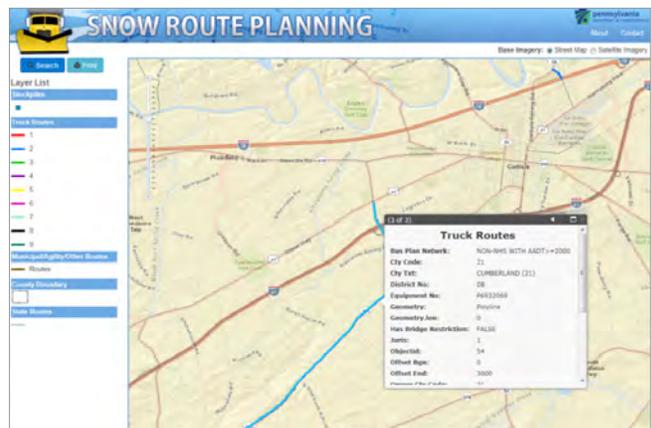




Become a Modern Snow Fighter

Today's winter maintenance professionals use geographic information system (GIS) technology to meet the challenges of planning for, responding to, and mitigating the effects of snow storms and ice storms. A geospatial overview results in smoother operations, efficient use of limited resources, optimized use of time and the workforce, and improved communication with the public. For these reasons, public works and transportation organizations use the Esri® geospatial mapping and analysis platform to strengthen their winter operations activities.

Modern snow fighters know that their job is critical to keeping a community moving. Mobility, the economy, and public safety count on the work they do. The public expects them to be able to respond in real time and achieve open communication with their staff and the community at large.



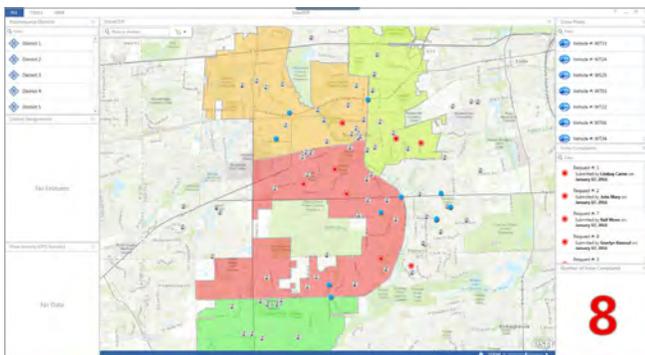
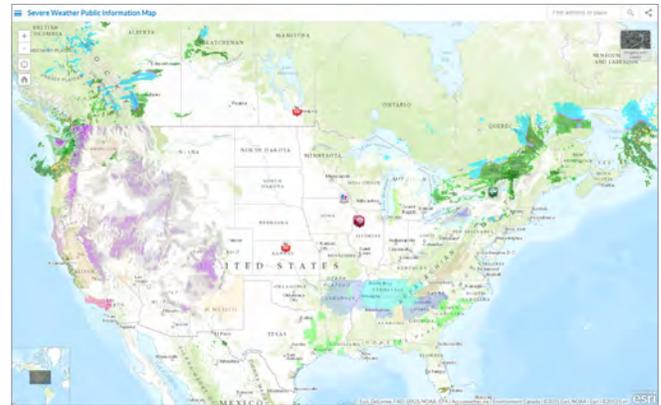
Pennsylvania Department of Transportation (DOT) uses its Snow Route Planning application to generate routes and monitor winter service gaps across the state.

“Monitoring and routing snow incident response through a dashboard allows us to get our vehicles precisely where they need to be.”

—Patrick Callahan
GIS Manager, Office of Information Technology
Prince George's County, Maryland

Improving Your Snow and Ice Control Plan

A smart winter operations plan starts with the best data and analysis tools. The ArcGIS® platform gives you a solid foundation with access to high-quality, live data and advanced tools that improve your decision making. By having access to incident reports and real-time conditions, you're able to monitor the amount of money, resources, and assets required for response. Integrating planning and weather services allows complete coordination of all moving pieces and departments.

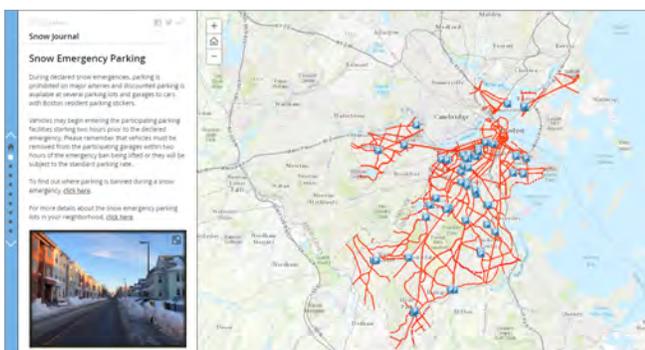


More Efficient Operations

Knowing where assets are—crews, materials, snowplows—is half the battle. With the Snow Common Operational Picture (SnowCOP), you can manage all your activities in real time, resulting in better placement and monitoring of personnel, materials, and efforts. A comprehensive dashboard is a superior, data-driven management tool that helps you easily shift resources when and where they're needed.

Controlling Costs

Knowing when and where to allocate your resources and materials is the key to keeping costs low and under budget. Optimize your assets to ensure that your money is spent effectively. Use Esri solutions to make material prioritization easy by determining where your snow and ice management activities are most urgently needed. The ArcGIS platform allows you to do more with less, using modern technology to help you make smarter decisions, faster.



Increasing Communication

Even minor communication breakdowns can cause chaos. GIS helps improve internal and external communication with a single system that allows staff, stakeholders, and the entire community to access, view, and share information. GIS ensures that your departments coordinate their efforts, inform stakeholders and elected officials about what's going on, and are transparent with the public.

ArcGIS: A Complete Winter Weather Solution

ArcGIS is the industry standard for managing assets, increasing fleet and field crew efficiency, maintaining infrastructure, and keeping a community running safely and smoothly. Snow and ice management becomes easier and more efficient when departments use a foundational system like GIS to provide data, planning tools, analysis, and real-time situational awareness. Public works and transportation departments that use GIS know that winter doesn't have to disrupt response time or operations. With a trusted solution like the ArcGIS platform, this is a reality.

Getting Started in Four Steps

Step 1: Build a Location Strategy

Where can spatial analysis be used to improve your overall success and efficiency? Every organization is different, and implementations of the location platform will vary based on business needs, but it is critical that you recognize where location is an essential component and which business units—like work order management, finance, customer relationship management (CRM), and operations—will benefit from GIS the most. Take advantage of the data, planning tools, and analysis the ArcGIS platform provides.

Step 2: Leverage the Esri Platform

Support your organization and improve operations by giving your enterprise access to the ArcGIS platform, which will support your major workflows including data collection, analysis, operational awareness, communication, and field operations.

Step 3: Deploy Real-World Solutions and Applications

Esri's ArcGIS for State Government and ArcGIS for Local Government applications help extend solutions for the public and your organization to increase communication and transparency. Utilize ready-to-use templates that can be delivered on mobile devices to the stakeholders who need it. Esri works with governments to create and deliver the tools they need to improve their job. For snow and ice management, Esri has developed the Snow Common Operational Picture, which provides a direct solution to real-time snow and ice operations. In addition, you can leverage featured applications, like Esri Story Map, that work to inform and educate your organization, the public, and elected officials.

Step 4: Look to the Esri Partner Network

ArcGIS is an open platform that allows your organization to grow and mature when it's ready. Esri has a strong network of partners that help you deliver sophisticated solutions. These solutions are built on top of the ArcGIS platform and can extend customized solutions that scale to fit your needs.



ArcGIS: The Platform for Winter Maintenance

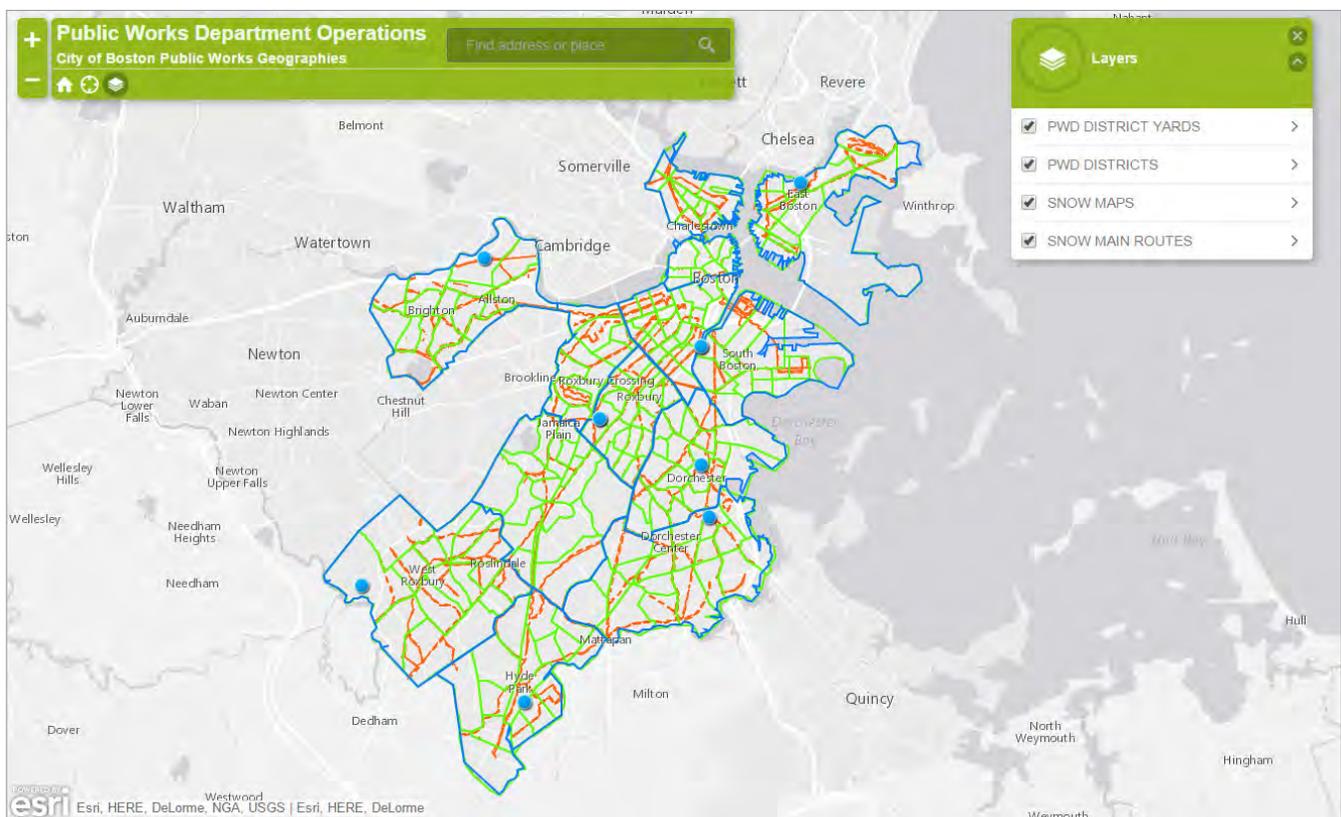
Understanding how and where GIS technology applies to winter maintenance starts with addressing the entire workflow rather than tackling individual functions. Once you understand how the ArcGIS platform supports forecasting weather, establishing parking regulations, navigating to snow storage sites, monitoring snowplowing, and interacting with the public, you quickly see GIS as mission critical to coordinating and managing all of these winter operations in a single system.

Transform the Way You Work

Public works officials recognize that winter maintenance is a series of connected functions and workloads. Connecting the work of all snow maintenance personnel keeps your department two steps ahead of Mother Nature. The Esri ArcGIS platform integrates offices, people, and divisions so that they can fight winter with a united front.

GIS for Snow and Ice Management

- Create and collect data
- Stay informed by relying on trusted data providers and weather services
- Analyze performance to ensure that your operations are optimized
- Increase efficiency of snowplowing operations
- Manage ice and sidewalk safety
- Increase communication within your organization and with the public
- Effectively plan routes based on weather and analytics
- Optimize the time it takes to respond to citizen concerns
- Make better decisions in real time



The Boston Public Works Department monitors its district yards and snowplow routes.



Understanding our world.

Esri inspires and enables people to positively impact their future through a deeper, geographic understanding of the changing world around them.

Governments, industry leaders, academics, and nongovernmental organizations trust us to connect them with the analytic knowledge they need to make the critical decisions that shape the planet. For more than 40 years, Esri has cultivated collaborative relationships with partners who share our commitment to solving earth's most pressing challenges with geographic expertise and rational resolve. Today, we believe that geography is at the heart of a more resilient and sustainable future. Creating responsible products and solutions drives our passion for improving quality of life everywhere.



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